

IMPLICATIONS OF CHILDHOOD TRAUMA ON SUICIDAL BEHAVIOR AND DELIBERATE SELF-HARM IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Fatma Gul Helvacı Celik & Cicek Hocaoglu²

¹Clinic for Psychiatry, Hitit University, Erol Olçok Training and Research Hospital, Çorum, Turkey

²Department of Psychiatry, Recep Tayyip Erdogan University, School of Medicine, Rize, Turkey

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SUMMARY

Background: Traumatic experiences in the first years of life have an important role in the occurrence of major depression as well as many psychiatric diseases. The aim of this study is to investigate the relationship between childhood trauma (CT), suicidal behavior and deliberate self-harm (DSH) behavior in patients who are diagnosed with major depressive disorder (MDD).

Subjects and methods: 106 patients who were admitted with depressive complaints to the psychiatry outpatient clinic of Recep Tayyip Erdogan University Training and Research Hospital in Turkey were included in the study. Sociodemographic and clinical features data form, Hamilton Depression Rating Scale (HAD-D), Childhood Trauma Questionnaire (CTQ-28) and Intentional Self-harm Questionnaire (DSHI) were applied to all of the cases.

Results: 86 (81.1%) of the cases were female and 20 (18.9%) were male. It was determined that 68.9% of the patients had CT, 49.1% had a history of DSH, and 52.1% had a suicide attempt history. It was determined that 75% of those with DSH behavior had a history of suicide attempt. There was a significant difference between the groups ($p < 0.001$). When the subtypes of CT, suicide ideation, suicide attempt and DSH behavior, were compared to each other, a significant relationship was found for all of the subtypes. A significant correlation was found between the number of CT and suicide attempts and DSH ($p < 0.001$).

Conclusions: In this study, high levels of CT and its subtypes were found in patients with MDD. In the presence of CT and all of its subtypes, suicide attempt and DSH were significantly higher. In the follow-up of cases diagnosed with MDD, questioning CT is important in terms of suicide attempt and prevention of DSH.

Key words: childhood trauma - major depressive disorder - suicide attempt - suicide ideation - deliberate self-harm

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INTRODUCTION

Stress which is experienced in the first years of life is an important risk factor for the occurrence and persistence of psychiatric disorders. The psychological effects of negative experiences in childhood continue for a long time (Oral et al. 2016). Facing such experiences which is defined as mental trauma, especially in childhood, has specific effects on mental health in adulthood (Russo et al. 2015, Burns et al. 2012). It was stated that sexual abuse and deprivation of family interest or early parental loss were associated with adult depression in early childhood (Huh et al. 2014, Boroughs et al. 2015). It has also been reported that the duration and severity of abuse are associated with the severity of adult depression (Negele et al. 2015). The history of the CT also affects the response to stress in depression. It has been reported that patients with depression who do not have CT have normal responses to stress, during depressive cases with CT, they respond excessively to stress (Sar et al. 2009). In light of all this, it is suggested that CT experiences may cause genetic, emotional, cognitive, behavioral sensitivity and predisposition (Penza 2003). It has been reported that depressive patients with a history of CT have lower remission and recovery rates, longer

depression periods, more chronic disease course, and earlier onset of depressive symptoms (Vallati et al. 2020, Hjelmseng et al. 2020). Similarly, the relationship between physical deliberate self-harm injury and suicidal behavior with CT has been clearly demonstrated by many different studies. Suicidal and DSH behavior in preschool children, adolescents and adults who were exposed to early traumatic experience was found to be significantly higher than those in the control group (Joiner et al. 2007, Glassman et al. 2007, Brodsky & Stanley 2008, Maloney et al. 2010).

It has been reported that there is a relationship between suicide attempt, impulsivity and self-harm behavior in children with a history of sexual, physical and emotional abuse (Brodsky et al. 2001, Yanik & Ozmen 2002, Cipriano et al. 2017). Some studies indicated that the relationship between childhood sexual abuse and depression was recorded with the increase in suicide risk (Zlotnick et al. 2001, Ullman, & Brecklin 2002). The relationship between CT and DSH behavior has been addressed in many studies (Zoroglu et al. 2003, Fliege et al. 2006, Madge et al. 2008). However, the relationship between suicide attempt and DSH behavior become complicated due to the fact that there are many different definitions of DSH behavior (Muehlenkamp et al. 2004, Andover et al. 2012).

The feeling of tension, intolerable affection and the desire to punish himself which are defined before the DSH behavior leave their place to feel better and relax after the behavior (Favazza 1992, Auerbach et al. 2014). Hopelessness and depression are more obvious in suicidal behavior. Although this basic difference and behaviors involving DSH-conscious suicidal intent are explicitly excluded, some researchers have argued that intent cannot always be reliably evaluated, patients may be ambivalent regarding their intent to die and/or hide their suicide ideation (Cooper et al. 2005). Moreover, both forms of behavior can be together in the same person. This situation misleadingly causes us to think that the behavior of the DSH is under the control of the person and that he deliberately does it (Gunderson & Ridolfi 2001). Therefore, there is a need for a better understanding of the behavior of DSH and the relationship between suicide attempts and CT.

The purpose of our study is to be able to contribute to the literature by examining the relationship between CT, DSH and suicidal behavior in patients with MDD.

SUBJECTS AND METHODS

Participants

The research consisted of 112 patients diagnosed with MDD who applied to Recep Tayyip Erdogan University Training and Research Hospital Psychiatry Outpatient Clinic in Rize/Turkey with depressive complaints. 6 patients were excluded from the study due to insufficient data.

The patients between the ages of 18-65, who were literate, who could understand what they read and who had not received any psychotropic medication for the last 6 months were included in the study. Patients with significant physical diseases (cancer, diabetes mellitus, liver failure, kidney failure, hypertension, endocrine disease, etc.), speech and hearing impaired, those who do not agree to participate in the study, mental retardation, severe psychotic disorder, organic mental disorders, dementia, currently taking antidepressant medication, comorbid alcohol and substance addiction history and post-traumatic stress disorder (PTSD) were not included in the study. The study was carried out in compliance with the Declaration of Helsinki. The study was approved by Recep Tayyip Erdogan University Faculty of Medicine Ethics Committee Decision No. 2012/121. All of the cases in the study were informed about the study and their written informed consents were obtained.

Tools

Sociodemographic and psychiatric history Data

Form: In this form which was prepared by us; gender, age, marital status, education level, employment status, psychiatric history (before psychiatric application, psychiatric treatments, family's psychiatric history, suicidal ideation and behavior, family's suicidal ideation and behavior etc.) were questioned.

Hamilton Depression Rating Scale (HAD-D): It was developed to measure the level of depression. It consists of seventeen questions. While 53 is the highest score that can be obtained from the scale, 14 points and above indicate depression. The validity and reliability study of the Turkish version of the scale was performed by Akdemir et al. This scale was applied by the researchers.

Trauma Questionnaire (CTQ): This evaluation tool, which was developed by Bernstein et al., consists of 28 questions. It has five subgroups including childhood sexual, physical, emotional abuse and emotional and physical neglect. The validity and reliability study of the Turkish version of the scale was performed by Sar et al. This is a self-report questionnaire and filled by patients.

Self-harm Inventory (DSHI): It is in the form of a behavior-based questionnaire filled out by individuals. It was developed by Gratz KL in 2001 to evaluate DSH behavior. It was prepared based on the conceptual definition of DSH. This criterion evaluates the characteristics of DSH behavior such as frequency, duration, severity and type. Specific actions of DSH behavior which were listed in the questionnaire were prepared depending on clinical observations, statements of individuals with self-harming behavior and common behaviors in the literature. There are a lot of evidences which provide reliable information about many internal conditions such as suicidal ideation that cannot be easily verified by other methods.

Statistical Analysis

The data which were obtained from this research were evaluated by transferring them to SSPS for Windows 18.0 database program. The suitability of the data which was obtained by the measurement to the normal distribution was examined with the Kolmogorov Smirnov test in each group. The analysis of variables that conform to the normal distribution was performed with the use of the Student's t test and the variables that did not fit the normal distribution were analyzed with the use of the Mann Whitney U test. Qualitative data were analyzed with the Chi-Square test. Data which was obtained by measurement are shown as arithmetic mean \pm standard deviation, and data which was obtained by count are shown as numbers (%). Significance level was taken as $p < 0.05$.

RESULTS

All of the cases 86 (81.13%) were female, 20 (18.87%) were male and the median age was 33.3 ± 11.1 years (range: 18-60 years). CT was present in 68.90% of the patients who were included in the study. CT was present in 68.60% of women and 70% of men. Emotional abuse was found in 59.30% of women and 45% of men; physical abuse was found in 37.21% of women and 40% of men; and a history of sexual abuse was found in 37.21% of women and 20% of men.

While emotional neglect was detected in 54.65% of women and 50% of men; it was determined that 40.70% of women and 60% of men had a history of physical neglect. It was found that 93.15% (n=68) of those with CT had more than one CT experience. It was determined that 45.20% of those with CT had suicide ideation and 52.10% had suicide attempt history. When the groups with and without CT were compared, a statistically significant difference was found in terms of suicide ideation and suicide attempt (p<0.001). No significant difference was found in terms of number and methods of suicide attempt (p>0.05). The comparison of suicide ideation, suicide attempts and methods with the CT is given in Table 1.

It was found that 49.1% of the cases had at least one of the behaviors of DSH. The most common self-harming method was determined to be cutting a part of his/her body, hitting, biting and scratching. It was determined that 50% of the group with DSH behavior

had suicide ideation and 75% had a history of suicide attempt. There was a significant difference between the groups (p<0.001). When the CT, suicide ideation and suicide attempt of groups with and without DSH behavior were compared, a statistically significant difference was obtained (p<0.001). There was no significant difference in depression levels between the groups (p=0.576). Comparison of DSH behavior with CT, suicide ideation, suicide attempt and depression level are given in Table 2. No significant correlation was found between the number of CT and suicide ideation (p>0.05). A significant correlation was found between the number of CT and suicidal attempt and DSH behavior (p<0.001). Comparison between the number of CT and suicide attempt and DSH is given in Table 3. A statistically significant relationship was found between suicide ideation, suicide attempt, and DSH with the subtypes of CT. Comparison of the CCT subtypes regarding suicide ideation, suicide attempt and DSH is given in Table 4.

Table 1. Comparison of CT with Suicide-Related Data

	with CT		without CT		P Value
	n	%	n	%	
Suicide ideation					0.001
Yes	33	45.20	3	9.10	
No	40	54.80	30	90.90	
Suicide attempt					<0.001
Yes	38	52.10	5	15.20	
No	35	47.90	28	84.80	
Number of suicide attempts					0.576
One	19	50.00	3	60.00	
Two	12	31.58	2	40.00	
Three	7	18.42	0	0.00	
Suicide attempt methods*					0.880
Poison	43	67.18	5	71.42	
Cutting	12	18.75	1	14.28	
Jumping from height	3	4.68	1	14.28	
Firearm	3	4.68			
Hanging	2	3.12			
Drowning	1	1.56			

* The ratios of the answers given to the question of suicide attempt methods are given

Table 2. Comparison of DHS with CT, suicidal ideation, suicide attempt and depression level

	Deliberate self-harm				P Value
	Yes		No		
	n	(%)	n	(%)	
Childhood Trauma					0.001
Yes	44	84.6	29	53.7	
No	8	15.4	25	46.3	
Suicide ideation					0.001
Yes	26	50.0	10	18.5	
No	26	50.0	44	81.5	
Suicide attempt					<0.001
Yes	39	75.0	4	7.4	
No	13	25.0	50	92.6	
Depression Level					0.576
Moderate (17-28)	37	71.2	42	77.8	
Severe (29 and above)	15	28.8	12	22.2	

Table 3. Comparison of the Number of CT with Suicide Attempt and DSH

Number of CT	Suicide Attempt				P Value
	Yes		No		
	n	(%)	n	(%)	
1-2	8	21.1	17	48.6	<0.001
3-5	30	78.9	18	51.4	
		Deliberate self-harm			
1-2	9	36.0	16	64.0	0.001
3-5	35	72.9	13	27.1	

Table 4. Comparison of the CTQ Subscales with suicidal behavior and DSH

	Emotional abuse n (%)			Emotional neglect n (%)			Physical abuse n (%)		
	Yes	No	P	Yes	No	P	Yes	No	P
Suicide ideation			0.003			0.034			0.038
Yes	28 (46.7)	8 (17.4)		25 (43.9)	11(22.4)		19(47.5)	17(25.8)	
No	32 (53.3)	38 (32.6)		32 (56.1)	38(77.6)		21(52.5)	49(74.2)	
Suicide attempt			<0.001			0.003			<0.001
Yes	35(58.3)	8 (17.4)		31 (54.4)	12(24.5)		27(67.5)	16 (24.2)	
No	25 (41.7)	38 (32.6)		26(45.6)	37(75.5)		13(32.5)	50(75.8)	
Deliberate self-harm			<0.001			0.011			<0.001
Yes	39 (75.0)	13 (25.0)		35 (67.3)	35 (67.3)		32 (61.5)	20 (38.5)	
No	29 (53.7)	25 (46.3)		22 (40.7)	22 (40.7)		8 (14.8)	46 (85.2)	
	Physical neglect n (%)			Sexual abuse n (%)					
	Yes	No	P	Yes	No	P			
Suicide ideation			0.022			0.022			
Yes	22(46.8)	14(23.7)		18 (50.0)	18(25.7)				
No	25(53.2)	45(76.3)		18 (50.0)	52(74.3)				
Suicide attempt			0.003			<0.001			
Yes	27(57.4)	16 (27.1)		26(72.2)	17(24.3)				
No	20(42.6)	43(72.9)		10(27.8)	53(75.7)				
Deliberate self-harm			0.012			<0.001			
Yes	30 (57.7)	22 (42.3)		29 (55.8)	23 (44.2)				
No	17 (31.5)	37 (68.5)		7 (13.0)	47 (87.0)				

DISCUSSION

In this study, the relationship between CT and suicidal behavior, DSH was investigated in patients with MDD. There is a significant relationship between suicide attempt and DSH and all of subgroups of the CT. It was determined that these behaviors were significantly higher in the patient group with CT than in the patient group without a history of CT. In the etiology of depression, the onset of CT at an earlier age has been reported to be a risk factor as the symptoms are more severe and chronic (Brodsky et al. 2001, Kim & Cicchetti 2006, 2010, Miniati et al. 2010). Retrospective studies have shown that the effects of abuse for the development of depression also continue in adulthood. In prospective studies, attention was drawn to the relationship between childhood abuse and depression (Hyun et al. 2000, Newbury et al. 2018). In their study with 324 recurrent major depression patients, Moskvina et al. (2007) detected at least one trauma history in 79.9% of patients. In the same study, the history of CT in male and female patients was found close to each other. Similarly, in our study, approximately 70% of patients diagnosed with MDD had a history of CT and there was no difference in terms of gender.

MDD is one of the most important mental disorders where suicide risk increases. In many studies which were conducted to date, CT experiences have been reported to pose a risk for suicide. For example, in a community-based study which were conducted in Brazil with 1380 individuals aged 14-35, all of subtypes of CT were reported to be associated with suicide risk (Barbosa et al. 2014). In another study, it was reported that physical abuse, which is a sub-type of CT, may be a risk factor that determines lifelong suicide ideation (Fuller-Thomson et al. 2012). Sarchiapone et al. (2007) reported that depressive patients with suicide attempts had significantly higher total CTQ scores and emotional abuse and emotional neglect scores than those without suicide attempts. In our study, in accordance with the literature data, suicide ideation and suicide attempt were found to be significantly higher in patients who were diagnosed with MD than those without CT.

DSH behavior, which is an important public health problem and which is seen at a higher rate in the general population, especially among adolescents, has been reported with varying lifetime prevalence of 16.9% to 42% in studies which were conducted in different

countries (Nixon et al. 2008, Laukkanen et al. 2009). In this study, it was determined that approximately half of the patients exhibited at least one DSH during their lifetime. These findings are higher than those in other studies. One of the reasons may be that this study was performed to the group with a clinical diagnosis (major depression). Similar to this study, in clinical studies which were conducted with adolescents with DSH, the most common Axis -I diagnosis was MDD and 42-68% of self-harming adolescents were diagnosed with MDD (Lloyd-Richardson et al. 2007).

In a study which were conducted in Europe, the most used method of DSH was reported to be self-cutting (Madge et al. 2008). Similarly, the most frequently used method in this study was determined to be self cutting and hitting. It is stated that there is a higher rate of suicide attempts in those with DSH behavior (Mangnall & Yurkovich 2008). For example, in a study, it was reported that suicide risk increased 30 times when it was compared to those without DSH, and in another study, it was reported that it increased 15 times when it was compared to those without DSH (Sakinofsky 2005, Cooper et al. 2005).

It has been determined that suicide attempts are increasing in self-harming individuals up to 1.7% in 5 years, 2.4% in 10 years and 3% in 15 years (Hawton et al. 2003). It has been reported that the behavior of DSH is one of the most important risk factors for suicide attempts (Andover et al. 2012). In this study, while suicide ideation was found in half of the patients with DSH, suicide attempt was found in three-quarters and both suicide ideation and suicide attempt were found to be significantly associated with DSH. The findings of this study support the literature data.

In many studies, the relationship between CT and DSH has been mentioned (Turell & Armsworth 2003, Gratz 2006). Particular attention was drawn to the relationship between sexual abuse and DSH (Joyce et al. 2006, Kapur et al. 2006, Tuisku et al. 2006, 2011). In another study which investigated the relationship between sexual and physical abuse and DSH, a stronger relationship was found between physical abuse and DSH than sexual abuse (Muehlenkamp et al. 2010). In our study, although emotional abuse, physical abuse and sexual abuse, which are subtypes of CT, were suggested much more, DSH was found to be significantly higher in cases with both abuse and neglect. These findings support the current literature results.

In our study, although emotional abuse, physical abuse and sexual abuse, which are subtypes of CT, were suggested much more, DSH was found to be significantly higher in cases with both abuse and neglect. These findings support the current literature results. Although there are many studies which evaluate the relationship between depression and suicidal behavior, there are few studies which evaluate the relationship between CT and suicide in patients with MDD. In addition, although there are many studies which examined the relationship between CT and DSH,

in the diagnosis of MDD, no study which examined the relationship between CT and all its subtypes and DSH was found. This study is an example of the studies that will be carried out in the future, with larger samples and more detailed analyses.

However, this study also has some limitations. The fact that the study was cross-sectional and the patients were selected from a single center makes it impossible to be generalized. The list of childhood traumas which was used in the study is a retrospective screening, and therefore many cases may have a bias to remember the events in a negative way. Suicide behavior has not been evaluated with separate scales and has been evaluated in a sociodemographic questionnaire.

CONCLUSION

In our study, CT were high in patients with MDD, and the presence of CT could predict the increased suicidal behavior and DSH. Presence of CT in patients with MDD is important for the clinical process, follow-up and treatment of the disease. Thus, evaluating individuals with CT as a separate group and establishing supportive interviews and new treatment approaches for this group, it is important to question the cases in terms of CT and to arrange the clinical follow-up, interviews and treatment of those detected accordingly.

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Contribution of individual authors:

Fatma Gul Helvacı Celik & Cicek Hocaoglu: literature searches and analysis, statistical analysis, interpretation of data, manuscript writing.

References

1. Akdemir A, Orsel S, Dag I: *The validity, reliability and clinical use of the Hamilton Depression Rating Scale (HDRS)*. *Psikiyatri Psikoloji Psikofarmakoloji Dergisi* 1996; 4:251-59
2. Andover MS, Morris BW, Wren A, Bruzzese ME: *The co-occurrence of non-suicidal self-injury and attempted suicide among adolescents: distinguishing risk factors and psychosocial correlates*. *Child Adolesc Psychiatry Ment Health* 2012; 6:11
3. Auerbach RP, Kim JC, Chango JM, Spiro WJ, Cha C, Gold J, et al.: *Adolescent nonsuicidal self-injury: examining the role of child abuse, comorbidity, and disinhibition*. *Psychiatry Res* 2014; 220:579-84
4. Barbosa LP, Quevedo L, da Silva Gdel G, Jansen K, Pinheiro RT, Branco J, et al.: *Childhood trauma and suicide risk in a sample of young individuals aged 14-35 years in southern Brazil*. *Child Abuse Negl* 2014; 38:1191-96
5. Bernstein DP, Stein JA, Newcomb MD, Walker E, Pogge D, Ahluvalia T, et al.: *Development and validation of a*

- brief screening version of the Childhood Trauma Questionnaire. *Child Abuse Negl* 2003; 27:169-90
6. Brodsky BS & Stanley B: Adverse childhood experiences and suicidal behavior. *Psychiatr Clin North Am* 2008; 31:223-235
 7. Brodsky BS, Oquendo M, Ellis SP, Haas GL, Malone KM, Mann JJ: The relationship of childhood abuse to impulsivity and suicidal behavior in adults with major depression. *Am J Psychiatry* 2001; 158:1871-77
 8. Boroughs MS, Valentine SE, Ironson GH, Shipherd JC, Safren SA, Taylor SW, et al.: Complexity of childhood sexual abuse: Predictors of current post-traumatic stress disorder, mood disorders, substance use, and sexual risk behavior among adult men who have sex with men. *Arch Sex Behav* 2015; 44:1891-902
 9. Burns EE, Fischer S, Jackson JL, Harding HG: Deficits in emotion regulation mediate the relationship between childhood abuse and later eating disorder symptoms. *Child Abuse Negl* 2012; 36:32-9
 10. Cipriano A, Cella S, Cotrufo P: Nonsuicidal self-injury: A systematic review. *Front Psychol* 2017; 8:1946
 11. Cooper J, Kapur N, Webb R, Lawlor M, Guthrie E, Mackway-Jones K, et al.: Suicide after deliberate self-harm: a 4-year cohort study. *Am J Psychiatry* 2005; 162:297-303
 12. Favazza AR: Repetitive self-mutilation. *Psychiatr Ann* 1992; 22:60-9
 13. Fuller-Thomson E, Baker TM, Brennenstuhl S: Evidence supporting an independent association between childhood physical abuse and lifetime suicidal ideation. *Suicide & Life-threatening Behavior* 2012; 42:279-91
 14. Fliege H, Kocalevent RD, Walter OB, Beck S, Gratz KL, Gutierrez PM, et al.: Three assessment tools for deliberate self-harm and suicide behavior: evaluation and psychopathological correlates. *J Psychosom Res* 2006; 61:113-121
 15. Glassman LH, Weierich MR, Hooley JM, Deliberto TL, Nock MK: Child maltreatment, non-suicidal selfinjury, and the mediating role of self-criticism. *Behav Res Ther* 2007; 45:2483-90
 16. Gratz KL: Measurement of deliberate self-harm: Preliminary data on the Deliberate Self-Harm Inventory. *J Psychopathol Behav Assess* 2001; 23: 253-63
 17. Gratz KL: Risk factors for deliberate self-harm among female college students: the role and interaction of childhood maltreatment, emotional inexpressivity, and affect intensity/reactivity. *Am J Orthopsychiatry* 2006; 76:238-250
 18. Gunderson JG & Ridolfi ME: Borderline personality disorder: suicidality and self-mutilation. *Ann NY Acad Sci* 2001; 932:61-73
 19. Hawton K, Zahl D, Weatherall R: Suicide following deliberate self-harm: long-term follow-up of patients who presented to a general hospital. *Br J Psychiatry* 2003; 82:537-542
 20. Hjelmseng IV, Vaskinn A, Ueland T, Lunding SH, Reponen EJ, Steen NE, et al.: Childhood trauma is associated with poorer social functioning in severe mental disorders both during an active illness phase and in remission. *Schizophr Res* 2020; 25. pii: S0920-9964(20)30118-3
 21. Huh HJ, Kim SY, Yu JJ, Chae JH: Childhood trauma and adult interpersonal relationship problems in patients with depression and anxiety disorders. *Ann Gen Psychiatry* 2014; 13:26
 22. Hyun M, Friedman SD, Dunner DL: Relationship of childhood physical and sexual abuse to adult bipolar disorder. *Bipolar Disord* 2000; 2:131-35
 23. Joiner TE, Sachs-Ericsson NJ, Wingate LR, Brown JS, Anestis MD, Selby EA: Childhood physical and sexual abuse and lifetime number of suicide attempts: A persistent and theoretically important relationship. *Behav Res Ther* 2007; 45:539-47
 24. Joyce PR, McKenzie JM, Mulder RT, Luty SE, Sullivan PF, Miller AL, et al.: Genetic, developmental and personality correlates of self-mutilation in depressed patients. *Aust N Z J Psychiatry* 2006; 40:225-29
 25. Kapur N, Cooper J, King-Hele S, Webb R, Lawlor M, Rodway C, et al.: The repetition of suicidal behavior: a multicenter cohort study. *J Clin Psychiatry* 2006; 67:1599-1609
 26. Kim J & Cicchetti D: Longitudinal trajectories of self-system processes and depressive symptoms among maltreated and nonmaltreated children. *Child Dev* 2006; 77:624-39
 27. Kim J & Cicchetti D: Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *J Child Psychol Psychiatry* 2010; 51:706-16
 28. Laukkanen E, Rissanen ML, Honkalampi K, Kylmä J, Tolmunen T, Hintikka J: The prevalence of self-cutting and other self-harm among 13- to 18-year-old Finnish adolescents. *Soc Psychiatry Psychiatr Epidemiol* 2009; 44:23-28
 29. Lloyd-Richardson EE, Perrine N, Dierker L, Kelley ML: Characteristics and functions of non-suicidal self-injury in a community sample of adolescents. *Psychol Med* 2007; 37:1183-1192
 30. Madge N, Hewitt A, Hawton K, Wilde EJD, Corcoran P, Fekete S et al.: Deliberate self-harm within an international community sample of young people: comparative findings from the Child & Adolescent Self-harm in Europe (CASE) Study. *J Child Psychol Psychiatry* 2008; 9:667-77
 31. Maloney E, Degenhardt L, Darke S, Nelson EC: Investigating the co-occurrence of self-mutilation and suicide attempts among opioid-dependent individuals. *Suicide Life Threat Behav* 2010; 40:50-62
 32. Mangnall J & Yurkovich E: A literature review of deliberate self-harm. *Perspect Psychiatr Care* 2008; 44:175-84
 33. Miniati M, Rucci P, Benvenuti A, Frank E, Buittenfeld J, Giorgi G, et al.: Clinical characteristics and treatment outcome of depression in patients with and without a history of emotional and physical abuse. *J Psychiatr Res* 2010; 44:302-09
 34. Moskvina V, Farmer A, Swainson V, O'Leary J, Gunasinghe C, Owen M, et al.: Interrelationship of childhood trauma, neuroticism, and depressive phenotype. *Depress Anxiety* 2007; 24:163-68
 35. Muehlenkamp JJ, Gutierrez PM: An investigation of differences between self-injurious behavior and suicide attempts in a sample of adolescents. *Suicide Life Threat Behav* 2004; 34:12-23
 36. Muehlenkamp JJ, Kerr PL, Bradley AR, Adams Larsen M: Abuse subtypes and nonsuicidal self-injury: preliminary evidence of complex emotion regulation patterns. *J Nerv Ment Dis* 2010; 198:258-63
 37. Negele A, Kaufhold J, Kallenbach L, Leuzinger-Bohleber M: Childhood trauma and its relation to chronic depression in adulthood. *Depress Res Treat* 2015; 2015: 650804

38. Nixon MK, Cloutier P, Jansson SM: Nonsuicidal self-harm in youth: a population-based survey. *CMAJ* 2008; 178:306-12
39. Newbury JB, Arseneault L, Moffitt TE, Caspi A, Danese A, Baldwin JR, et al.: Measuring childhood maltreatment to predict early-adult psychopathology: Comparison of prospective informant-reports and retrospective self-reports. *J Psychiatr Res* 2018; 96:57-64
40. Oral R, Ramirez M, Coohy C, Nakada S, Walz A, Kuntz A, et al.: Adverse childhood experiences and trauma informed care: the future of health care. *Pediatr Res* 2016; 79:227-33
41. Penza KM, Heim C, Nemeroff CB: Neurobiological effects of childhood abuse: implications for the pathophysiology of depression and anxiety. *Arch Womens Ment Health* 2003; 6:15-22
42. Russo M, Mahon K, Shanahan M, Solon C, Ramjas E, Turpin J, et al.: The association between childhood trauma and facial emotion recognition in adults with bipolar disorder. *Psychiatry Res* 2015; 229:771-6
43. Sakinofsky I: Attendance at accident and emergency for deliberate self harm predicts increased risk of suicide, especially in women. *Evid Based Ment Health* 2005; 8:97
44. Sar V, Islam S, Ozturk E: Childhood emotional abuse and dissociation in patients with conversion symptoms. *Psychiatry Clin Neurosci* 2009; 63:670-77
45. Sar V, Oztürk E, İkikardes E: Validity and reliability of the Turkish version of Childhood Trauma Questionnaire. *Turkiye Klinikleri J Med Sci* 2012; 32:1054-63
46. Sarchiapone M, Carli V, Cuomo C, Roy A: Childhood trauma and suicide attempts in patients with unipolar depression. *Depress Anxiety* 2007; 24:268-72
47. Trickett PK, Noll JG, Putnam FW: The impact of sexual abuse on female development: lessons from a multigenerational, longitudinal research study. *Dev Psychopathol* 2011; 23:453-76
48. Tuisku V, Pelkonen M, Karlsson L, Kiviruusu O, Holi M, Ruutu T, et al.: Suicidal ideation, deliberate self-harm behaviour and suicide attempts among adolescent outpatients with depressive mood disorders and comorbid axis I disorders. *Eur Child Adolesc Psychiatry* 2006; 15:199-206
49. Ullman SE & Brecklin LR: Sexual assault history and suicidal behavior in a national sample of women. *Suicide Life Threat Behav* 2002; 32:117-30
50. Vallati M, Cunningham S, Mazurka R, Stewart JG, Larocque C, Milev RV, et al.: Childhood maltreatment and the clinical characteristics of major depressive disorder in adolescence and adulthood. *J Abnorm Psychol* 2020; 2
51. Yanik M & Ozmen M: The relation of childhood trauma with suicide attempt and self-mutilation. *Anadolu Psikiyatri Derg* 2002; 3:140-46
52. Zlotnick C, Mattia J, Zimmerman M: Clinical features of survivors of sexual abuse with major depression. *Child Abuse Negl* 2001; 25:357-67
53. Zoroglu SS, Tuzun U, Sar V, Tutkun H, Savas HA, Ozturk M et al.: Suicide attempt and self-mutilation among Turkish high school students in relation with abuse, neglect and dissociation. *Psychiatry Clin Neurosci* 2003; 57:119-26

Correspondence:

Cicek Hocaoglu, MD

Department of Psychiatry, Recep Tayyip Erdogan University, School of Medicine

Rize, Turkey

E-mail: cicekh@gmail.com