

# The association between childhood trauma and adulthood depression

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## Abstract

**Aim:** Child maltreatment has negative long-term consequences for mental health, including an increased risk of depression. However, this phenomenon has not been adequately studied, especially in southeastern Turkey. In this study, the presence of childhood trauma was investigated in patients with depression.

**Methods:** This cross-sectional study was conducted between November 2019 and December 2019 in the psychiatry clinic of a university hospital located in the southeast region of Turkey. A total of 160 people, 80 of whom were patients with major depressive disorder (MDD) and 80 of whom were healthy controls, were included in the study. The data for the study were collected using the Sociodemographic Characteristics Questionnaire prepared by the researchers, the childhood trauma questionnaire (CTQ-28), and the Beck Depression Inventory (BDI).

**Results:** The scores of patients with MDD in both sub-dimensions and total scores were found to be statistically significantly higher than the healthy control group ( $p < 0.001$ ). There was no significant correlation between the scores of the patient group on the BDI and CTQ-28 scales.

**Conclusion:** It was found that exposure to childhood traumas is associated with depression in adulthood. As a result, childhood trauma in individuals with depression should be investigated because it will serve as guidance in terms of etiopathogenesis and treatment.

**Keywords:** Childhood trauma, depression, adulthood, abuse, neglect

## Introduction

Major depressive disorder (MDD) is a common mental disorder characterized by heterogeneous symptoms such as depressed mood, loss of interest, low self-esteem and energy level, weight change, insomnia or excessive sleepiness, and impairment in cognitive functions such as attention and memory [1]. MDD is an important public health problem with high prevalence rates [2]. At the same time, MDD is one of the leading causes of morbidity worldwide. In addition to the prevalence of MDD and the risk of chronicity, it is of great importance in terms of increasing the frequency of suicidal behavior, causing high levels of dysfunction and socioeconomic consequences [3, 4]. In addition, depression is one of the diseases with the highest cost among all mental health diseases [5].

Understanding the etiology of MDD, especially the variable factors that may play a causal role, is critical to reducing the risk of this relapsing and disabling disorder [6]. It is not possible to talk about a single risk factor in the etiopathogenesis of MDD. Risk factors for MDD are genetic susceptibility being affected by adverse environmental conditions, low education level, having a female gender, immigration, lack of social relations, physical diseases, and chronic or acute diseases resulting in disability [7, 8]. Studies show that the most important environmental factor of MDD is childhood maltreatment [7, 9, 10].

Childhood trauma has been associated with a variety of diseases in adulthood [11, 12]. Childhood trauma is defined as a child's experience of an emotionally painful or distressing event, often with long-term mental and physical effects. These experiences can be major natural events, terrorism, migration, war, domestic violence, neglect, or abuse [13]. It is estimated that 1 in 5 women and 1 in 13 men worldwide report sexual abuse during childhood, and 25% of all adults report being physically abused (WHO Media Centre, 2014) [14]. Childhood traumas have many psychological consequences that can occur in childhood, adolescence, and adulthood. Depending on the characteristics of the individual and the traumatic situation, both the occurrence of a mental disorder and the type and severity of the disorder may vary [15, 16].

Studies have found that experiences of childhood trauma, including physical, sexual, or emotional abuse, as well as physical or emotional neglect, are associated with the onset and persistence of MDD [17, 18]. Some meta-analyses examining child maltreatment and depression have shown that exposure to any form of maltreatment is associated with a more than twofold increase in the risk of depression in adulthood and is associated with the development of chronic or recurrent depression [19, 20]. In a study by Moskvina et al., including 324 recurrent MDD patients, it was found that

79.9% of MDD patients had at least one childhood trauma [21].

The structure of the relationship between abuse and major depression has not been fully explained. While some studies indicate that various variables such as inadequate parenting skills and family support mediate the relationship between childhood sexual abuse and major depression, some reviews state that there is a direct causal relationship between sexual abuse and depression, independent of other variables, and some studies mediate the neurotic personality [22, 23].

While several studies have assessed the association of childhood trauma and MDD in adulthood, there is limited published literature on this topic in Turkey [24, 25, 26]. Moreover, most of these studies were conducted with clinical samples in western Turkey.

According to the Socio-Economic Development Ranking of the provinces for 2017 made by the Ministry of Industry and Technology of Turkey, Şanlıurfa is ranked 77th among the 81 provinces in Turkey and is also below the average of Turkey in terms of education level [27].

Childhood traumas have not been investigated in adult MDD patients in Şanlıurfa before. Considering that negative life events in childhood are affected by environmental factors, we can say that people living in this region are at risk in terms of exposure to negative life events during childhood. At the same time, based on previous work from high-income countries (HICs), this study hypothesized that childhood trauma would be associated with a higher risk of developing MDD in this association.

Thus, this study aimed;

- a) to compare the rates of childhood trauma among Turkish patients with MDD and the control group,
- b) to compare self-reported symptoms of depression among Turkish patients with MDD and the control group.

## Materials and Methods

This study was approved by the Harran University Clinical Research Ethics Committee with the number 03 dated 14.10.2019. All procedures in the study were performed according to the World Medical Association Declaration of Helsinki.

## Participants and procedure

This cross-sectional descriptive study was conducted in a university hospital in Turkey between November 2019 and December 2019. The research was carried out with individuals followed up with the diagnosis of MDD in the Psychiatry Outpatient Clinics of Harran University Medical Faculty Hospital in Şanlıurfa City Center. One associate professor and two lecturer

doctors are actively working in the hospital. There is also an active 20-bed psychiatric service.

Eighty individuals who met the criteria for participation in the study and accepted to participate in the study between the specified dates according to the DSM-5 diagnostic criteria, who did not receive any psychiatric diagnosis other than MDD, were included in the patient group. At the same time, 80 people who were hospital staff and relatives of patients in non-psychiatry departments, who had no active psychiatric symptoms, no previous psychiatric history, and no psychiatric disease according to DSM-5 diagnostic criteria, were also included in the healthy control group.

The inclusion criteria of the study for the patient group were 18-65 years of age, no mental retardation, no diagnosis other than MDD according to DSM-5 diagnostic criteria, and non-alcohol substance use.

## Data collection tools

The data of the study were obtained using the Sociodemographic Data Form prepared by the researchers and the Beck Depression Scale and Childhood Trauma Questionnaire-28.

**Sociodemographic Data Form:** In this form prepared by the researchers, there are features such as age, gender, marital status, education and employment status, economic level, place of residence, and suicide attempt history of the participants.

**Beck Depression Inventory (BDI):** The inventory was developed by Beck, and its Turkish adaptation, validity, and reliability study was performed by Hisli [28]. The inventory is a self-evaluation scale consisting of 21 items. Each item gets an increasing score between 0-3, and the total score is obtained by summing each item's score. The total scale score ranges from 0 to 63. The classification has the following cutoff points:  $\leq 10$  (without depression or minimal depression), 10-18 (mild to moderate depression), 18-29 (moderate to severe depression), and 30- 63 (severe depression) [29].

**Childhood Trauma Questionnaire-28 (CTQ-28):** This scale consists of 28 items, three of them measuring the minimization of trauma [30]. With this scale, a total score consisting of five sub-scores on childhood sexual, physical, emotional abuse, and emotional and physical neglect and their combination is obtained. Response options are given as (1) never, (2) rarely, (3) sometimes, (4) often, (5) very often. Each question is given a score of 1-5. The emotional abuse subscale scores 12-60, the physical abuse subscale 7-35, the sexual abuse subscale 7-35, the emotional neglect subscale 16-80, and the physical neglect subscale 8-40 [31].

## Data collection

Before the study's data collection process started, permission from the ethics committee was obtained. Participation was done on a voluntary basis. Participants completed the sociodemographic data form, BDI, and CTQ-28, accompanied by the researcher. Completing the questionnaires took an average of 30 minutes.

## Statistical analysis

The data were analyzed using IBM SPSS V20.0 software (IBM, Armonk, New York, USA).

Compliance with normal distribution was evaluated with the Kolmogorov-Smirnov test. Standard deviation, mean, median, ratio, and frequency values were used in the statistics of the data. The chi-square test was used to compare categorized variables. The Mann-Whitney U Test was used for the variables that did not fit the Normal Distribution. Spearman correlation analysis was used to evaluate the relationship between the subscale scores of the scales and the total scale scores. A value of  $p < 0.05$  was accepted as a statistically significant result.

## Results

### Demographic characteristics of the patient and control group

A total of 160 individuals, 80 patients, and 80 control groups were included in this study. Females were 50% of the patient group and 50% of the control group ( $p = 1.00$ ). In the patient group, 29 (36.3%) individuals were primary school graduates, 8 (10.0%) were secondary school graduates, 19 (23.8%) were high school graduates, and 24 (30.0%) were university graduates. In the control group, 10 (12.5%) were primary school graduates, 13 (16.3%) were secondary school graduates, 24 (30.0%) were high school graduates, and 33 (41.3%) were university graduates. Other variables belonging to the patient and control groups are presented in Table 1.

Table 2 shows the scores of the patient and control group from CTQ-28. The scores of the patient group in both sub-dimensions and total scores were found to be statistically significantly higher than the healthy control group ( $p < 0.001$ ). While emotional neglect has the highest mean score in both groups, sexual abuse has the lowest mean score.

The relationship between the scores of the patient group on the BDI and CTQ-28 scales was evaluated by Spearman correlation analysis. Accordingly, there was no significant correlation between the scores of the patient group on the BDI and CTQ-28 scales ( $p > 0.05$ ) (Table 3).

**Table 1.** Demographic characteristics of the patient and control groups.

Characteristic	Patients		Controls		z	p
	Mean (SD)	Median	Mean (SD)	Median		
Age	34.98±11.576	33	30.40±9.918	27	-2.430	0.015
Height	168±8.494	170	168±8.313	169	0.185	0.853
Weight	70.01±12.981	70	70.13±16.153	66	0.137	0.891
	N	%	N	%	X <sup>2</sup>	p
<b>Gender</b>						
Female	40	%50	40	%50	0.000	1.000
Male	40	%50	40	%50		
<b>Marital status</b>						
Married	42	52.5	34	42.5	1.228	0.268
Single	38	47.5	46	57.5		
<b>Graduation</b>						
Primary school	29	36.3	10	12.5	12.44	0.006
Middle school	8	10.0	13	16.3		
High school	19	23.8	24	30.0		
University	24	30.0	33	41.3		
<b>Work status</b>						
Unemployed	45	56.3	32	40.0	3.605	0.058
Employed	35	43.8	48	60.0		
<b>Psychiatric family history</b>						
Yes	40	50.0	30	37.5	2.057	0.151
No	40	50.0	50	62.5		
<b>Living place</b>						
City	61	76.3	73	91.3	5.557	0.018
Country	19	23.8	7	8.8		

**Table 2.** Comparison of the scores of the patient and control groups from the CTQ-28 and BDI scales.

	Patients		Controls		z	p
	Mean (SD)	Median	Mean (SD)	Median		
BDI	28.60±10.047	28.00	5.20±4.04	4.50	-10.913	0.015
Emotional abuse	12.03±3.194	12.00	6.96±2.207	12.00	-9.005	0.000
Physical abuse	11.61±2.826	11.50	6.23±1.800	5.00	-9.770	0.000
Physical neglect	13.54±2.751	14.00	9.30±3.433	8.00	-7.102	0.000
Emotional neglect	14.79±2.809	15.00	11.10±4.474	10.00	-5.625	0.000
Sexual abuse	9.85±3.257	9.00	6.18±1.992	5.00	-7.831	0.000
CTQ-28 total	61.71±11.009	63.00	39.89±10.369	35.50	-9.184	0.000

BDI: Beck depression inventory; CTQ-28: Childhood Trauma Questionnaire

**Table 3.** Correlation analysis between CTQ-28 and BDI scales in the patient group.

		Emotional abuse	Physical abuse	Physical neglect	Emotional neglect	Sexual abuse	CTQ-28 total
BDI	Rho	0.061	0.063	0.098	0.188	0.045	0.139
	P	0.588	0.578	0.389	0.095	0.695	0.220

## Discussion

This study investigated whether childhood traumas are risk factors for the development of depression. Adult MDD patients had significantly higher scores on CTQ-28 than healthy controls.

The etiology of MDD is believed to be multifactorial, including biological, genetic, environmental, and psychosocial factors [7, 32]. Various environmental factors, from physical aspects to social environment, may increase the risk of depression in the environmental etiology of MDD. One of the most important environmental factors is childhood trauma [8]. The literature has revealed that childhood trauma is associated with higher rates of mental health disorders, including depression [18, 33-35].

Childhood traumas contribute to the emergence of psychopathology through many neurobiological mechanisms: Stress systems; structural changes in the hippocampus, amygdala, corpus callosum, and other white matter pathways and prefrontal cortex; functional brain changes; and contribute to psychopathology with genetic and epigenetic mechanisms of resilience and vulnerability [19, 36, 37]. Childhood traumas also threaten the optimal development of affective processing abilities, attachment relationships, self-system processes, and peer relationships [19].

A meta-analysis published in 2020 examined the relationship between the severity of child maltreatment and depression scores. The result of this research revealed that there is a significant relationship between child maltreatment and depressive symptoms. A significant relationship was found between all types of child maltreatment and depression scores [34]. In another study investigating exposure to early life stress and the risk of depression in childhood and adolescence, it was found that individuals who were exposed to early life stress were more likely to develop MDD symptoms before the age of 18 than those who were not exposed to early life stress [38]. In a meta-analysis of 184 articles reporting a relationship between childhood trauma and depression in an adult sample. Approximately half of patients with MDD reported a history of childhood trauma, and the likelihood of maltreated individuals developing depression in adulthood was 2.66 (95% CI 2.38-2.98) to 3.73 (95% CI 2.88-4.83). It has been found to be twice as likely to have an earlier onset of MDD, and to be twice as likely to develop chronic or treatment-resistant depression [39]. In a study conducted with 63 patients with a diagnosis of MDD in Turkey, it was found that childhood traumas are high in depressive disorder patients and lead to difficulty in emotion regulation (awareness, openness, acceptance, strategy development, impulsivity, and goals) in these patients [24]. Similar to the current study, in another study conducted with 100 patients diagnosed with MDD, high

rates of childhood trauma were reported in the group with MDD [25]. In the current study, childhood trauma was found to be significantly higher in MDD patients compared to healthy controls, in line with the literature. It can be concluded that experienced childhood trauma has adverse effects on individuals, and these lead to the development of MDD in older ages, even though the cross-sectional nature of the current study makes harder decisions.

In this study, no significant correlation was found between the self-reported BDI of patients with MDD and the scores they got from the CTQ-28. Although there are studies in the literature reporting significant relationships between self-reported depression symptoms and childhood traumas in patients with MDD, there are also studies that do not report a relationship [24, 34]. The different methodologies used in the studies might cause this result.

The current study has some limitations, such as the cross-sectional nature of the study and the fact that the information on childhood traumas was determined with a retrospective and self-reported scale. Especially in the reports of childhood traumas related to sexual abuse, the number of actual reports is likely to be less due to social prejudices and feelings of shame, and this problem is common in studies using self-report scales. The sufficient number of samples and comparison with the healthy control group are the strengths of this study.

## Conclusion

In conclusion, this study showed that exposure to childhood traumas is associated with current depression. MDD has a heterogeneous and multifactorial etiology, and there is insufficient information about which factors are prioritized in the development of MDD and how these factors affect each other. Prospective studies are needed to better understand the relationship between experienced childhood trauma and the development of MDD in adulthood.

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## Disclosures

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**Ethics Committee Approval:** Ethics committee approval was received for this study from Harran University Clinical Research Ethics Committee, in accordance with the World Medical Association Declaration of Helsinki, with the approval number: 2019-3.

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