

The Relationship Between Childhood Trauma and Physical and Mental Quality of Life in Patients with Severe Mental Disorders



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ABSTRACT

Objective: We investigated the relationship between health-related quality of life (HRQoL), childhood trauma (CT), sociodemographic factors, and clinical characteristics in patients with severe mental disorders.

Method: A total of 158 patients diagnosed with schizophrenia spectrum disorders or bipolar disorder were evaluated. Data were collected using the Short Form-12 (SF-12), Childhood Trauma Questionnaire, Clinical Global Impression-Severity Scale, and sociodemographic information form.

Results: CT was reported in 62.7% of participants. SF-12 physical component scores were lower in women ($p=0.012$), married individuals ($p=0.002$), and patients with comorbidities ($p=0.005$). SF-12 mental component scores were lower in patients who smoked ($p=0.013$) and used substances ($p=0.030$), treated with long-acting injectable antipsychotics ($p=0.008$), and had a history of suicide attempts ($p=0.014$). Physical HRQoL scores were negatively correlated with age ($r=-0.222$, $p=0.006$), body mass index ($r=-0.277$, $p=0.002$) and illness duration ($r=-0.215$, $p=0.010$); mental HRQoL scores were negatively correlated with antipsychotic dose ($r=-0.166$, $p=0.041$) and CGI-S scores ($r=-0.376$, $p<0.001$). Emotional neglect ($\beta=0.220$, $p=0.018$) and physical abuse ($\beta=0.252$, $p=0.006$) were associated with lower physical HRQoL scores; emotional neglect ($\beta=0.212$, $p=0.019$) and sexual abuse ($\beta=0.299$, $p<0.001$) were associated with lower mental HRQoL scores.

Conclusion: CT was found to be a key factor contributing to lower HRQoL in individuals with severe mental disorders. Our findings emphasize the importance of screening for CT and trauma-focused care approaches in mental healthcare services.

Keywords: Childhood trauma, community mental health services, health-related quality of life, severe mental disorder

INTRODUCTION

Severe mental disorders (SMD) are defined as long-term, recurrent mental disorders characterized by significant impairment in functioning or loss of capacity, and their treatment is generally considered to be long-term (Ruggeri et al. 2000, Woods et al. 2008, Zumstein and Riese 2020). Schizophrenia spectrum disorders and bipolar disorder are among the common SMD diagnoses (Woods et al. 2008).

In modern psychiatry, there is a shift from traditional symptom-based treatment approaches to more holistic approaches centered on improving the patient's overall life satisfaction (Berghöfer et al. 2020). However, quality of life (QoL)

has become one of the key indicators used in assessing the impact of disease and measuring treatment response (Woods et al. 2008, Defar et al. 2023). Health-related quality of life (HRQoL) measurements provide important information for treatment planning and monitoring the recovery process by enabling the assessment of an individual's perceived physical and mental health (Haraldstad et al. 2019, Berghöfer et al. 2020, Jia and Lubetkin, 2024). Considering the relationship between low HRQoL and limited daily functioning, poor treatment adherence, and increased relapse rates, research into the factors affecting HRQoL has become a particular focus of interest in the field of SMD (Saarni et al. 2010, Watson et al. 2018, Berghöfer et al. 2020, Defar et al. 2023). Individuals

How to cite: Polat I, İnce Guliyev E (2025) The Relationship Between Childhood Trauma and Physical and Mental Quality of Life in Patients with Severe Mental Disorders. *Türk Psikiyatri Derg* 36:564-575. <https://doi.org/10.5080/u27790>

Received: 01.08.2025, **Accepted:** 15.09.2025, **Available Online Date:** 06.10.2025

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diagnosed with SMD have been found to have limitations in daily living activities, decreased independence levels, and low self-esteem, which are associated with low SMD (Berghöfer et al. 2020, Defar et al. 2023).

Childhood trauma (CT) refers to traumatic life experiences such as physical abuse, emotional abuse, neglect, and sexual abuse (Leeb 2008, Inyang et al. 2022, Trott et al. 2024). Childhood trauma is considered a cross-diagnostic risk factor contributing to the development of various mental disorders in adulthood (e.g., psychotic disorders, borderline personality disorder, mood disorders, alcohol and/or substance use disorders) (Weibel et al. 2017, Madigan et al. 2023, Scott et al. 2023, Bull et al. 2024, Trott et al. 2024). Epidemiological studies have shown that all subtypes of CT are significantly associated with hospital admissions due to mental illness and contact with community mental health services between the ages of 16 and 40. History of CT has been associated with cognitive impairments, complications in treatment management, high recurrence rates, longer hospital stays, low HRQoL, and reduced life expectancy in individuals diagnosed with SMD (Barile et al. 2015, Kaufman and Torbey 2019, Oymak Yenilmez et al. 2021, Vivalya et al. 2022, Vivalya et al. 2023, Jia and Lubetkin 2024, Trott et al. 2024).

The relationship between CT and SMD is being examined through various biological mechanisms, including excessive or insufficient activation of the hypothalamic-pituitary-adrenal axis, weakened limbic-prefrontal connections, disruption of white matter integrity, increased neuroinflammatory processes, and alterations in monoaminergic neurotransmitter systems (Cullen et al. 2024). However, these biological models generally focus on the onset of disease and its association with poor prognosis; the direct effects of CT on HRQoL are relatively limited in the literature. This situation highlights the need for research aimed at understanding the relationship between trauma and not only clinical symptoms but also long-term well-being and life satisfaction (Grubaugh et al. 2011, Adams et al. 2015, Emmerink and Roeg 2016, Weibel et al. 2017).

Community Mental Health Centers (CMHC) aim not only to reduce hospital admissions but also to improve HRQoL in SMD management (Bond et al. 2001, Emmerink and Roeg 2016, Soygür 2016, Defar et al. 2023). However, in the current literature, HRQoL and related factors, particularly the potential effects of CT on HRQoL, have been addressed in a limited number of studies in the population receiving community-based care services (Adams et al. 2015, Emmerink and Roeg 2016, Trott et al. 2024). To our knowledge, the relationship between CT and HRQoL has not been studied in individuals diagnosed with SMD receiving CMHC services in Türkiye.

Our study aimed to examine the relationships between health-related quality of life and childhood trauma, sociodemographic and clinical variables in individuals diagnosed with SMD who applied to CMHC in our country.

METHODOLOGY

Participants

This cross-sectional, survey-based study was conducted at a Community Mental Health Center affiliated with Erenköy Mental and Nervous Diseases Training and Research Hospital between September 2022 and March 2023, and included a total of 158 patients diagnosed with SMD. By definition, CMHC are treatment centers that provide psychiatric, psychosocial, and rehabilitation services outside of hospitals but through hospital-affiliated units to individuals diagnosed with severe and chronic mental disorders such as schizophrenia spectrum disorders (SSD) and bipolar disorder (BD).

The study included adult SMD patients aged 18–65 years who had received at least five years of formal education and were undergoing routine follow-up at a CMHC. Individuals who had experienced a psychotic episode or manic/depressive episode within the last four weeks, had a serious neurological disease, physical illnesses directly affecting quality of life, or co-occurring intellectual disability, autism spectrum disorder, or alcohol/substance use disorder were excluded from the study (Fig. 1).

After the purpose and method of the study were explained to the participants in detail, their written consent was obtained. The study was conducted in accordance with the principles of the Declaration of Helsinki and approved by the Ethics Committee of Erenköy Mental and Nervous Diseases Training and Research Hospital (Approval Date: 12.09.2022, Protocol No: 51).

Tools

The data were collected using the sociodemographic and clinical information form, Short Form-12 (SF-12), Childhood Trauma Questionnaire (CTQ) and Clinical General Impression – Severity Scale (CGI-S), which was applied in the accompaniment of the interviewer.

The sociodemographic and clinical information form prepared by the researchers assesses participants' sociodemographic characteristics such as age, gender, marital status, education level, duration of education, and employment status, as well as body mass index (BMI), comorbid medical conditions, presence of family members with a history of psychiatric illness, and addiction behaviors such as tobacco, alcohol, and substance use. Additionally, psychiatric diagnosis, age of onset of the illness, duration of illness, previous hospitalizations, suicide attempts, and other characteristics related to the

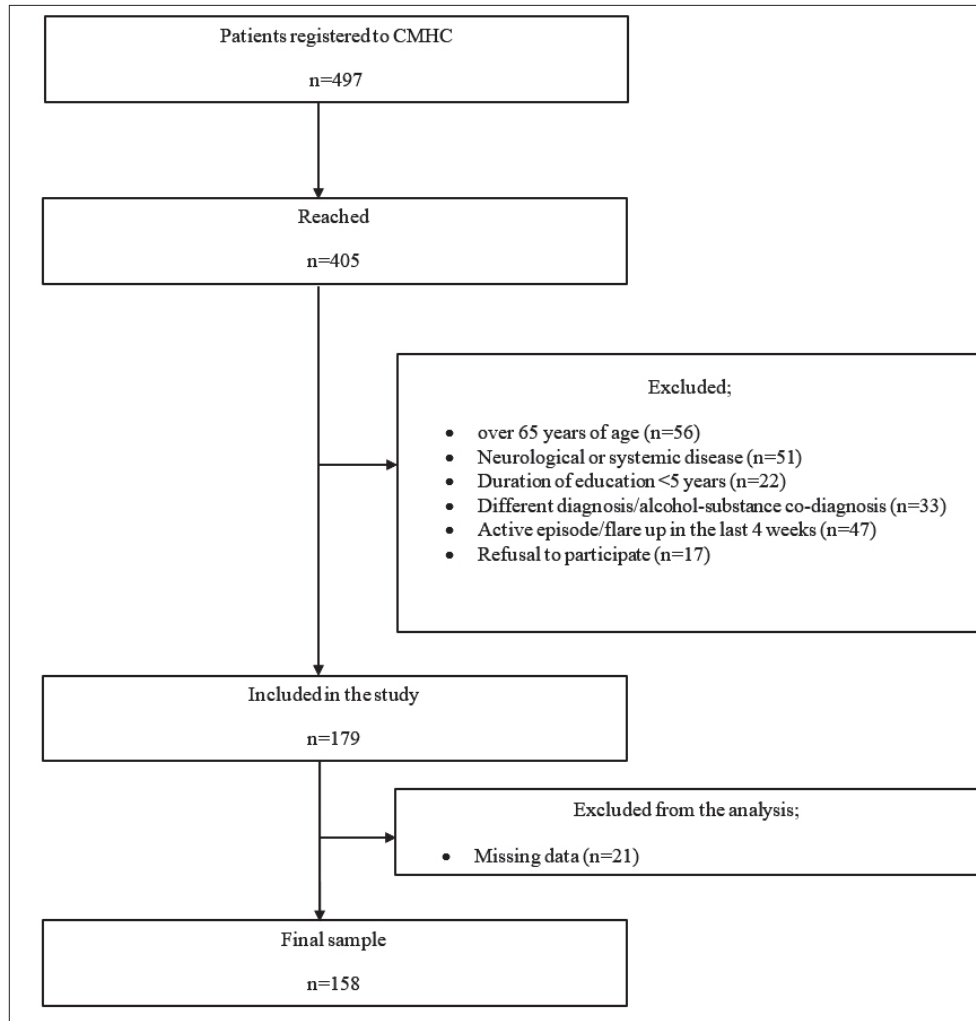


Figure 1. Flow diagram of the determination process of the study sample.

illness, as well as current treatment information, are also included in this form.

Short Form-12 (SF-12)

Short Form-12 is the short form of the commonly used Short Form-36 (SF-36) and is a 12-item quality of life assessment scale containing the same subscales (Ware et al. 1996). The Physical Component Summary (PCS-12) score is obtained from the general health, physical functionality, physical role limitation and body pain subscales, while the Mental Component Summary (MCS-12) score is obtained from the social functionality, emotional role limitation, mental health and vitality subscales. PCS-12 and MCS-12 scores range from 0 to 100, with higher scores indicating a better physical and mental quality of life. The Turkish adaptation of the scale was carried out by Soyly and Kütük (Soyly and Kütük 2021).

Childhood Trauma Questionnaire-28 (CTQ-28)

Childhood trauma questionnaire is a 28-item self-report scale used to retrospectively screen traumas related to abuse

and neglect experienced during childhood and adolescence (Bernstein et al. 2003). The scale consists of five subscales; emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. Each item is rated on a 5-point Likert-type scale ranging from 1 (never true) to 5 (very often true). Therefore, while each subscale can score between 5 and 25 points, the total score ranges from 25 to 125 points. Higher scores indicate a more severe childhood trauma in the relevant trauma domain. Furthermore, the presence of each type of trauma was determined based on the cut-off points proposed in the Turkish validity and reliability study of the scale. Exceeding the cutoff score set for any subscale is also defined as the presence of a CT history. The Turkish adaptation of the scale was conducted by Şar and colleagues (Şar et al. 2012).

Clinical Global Impression - Severity Scale (CGI-S)

Clinical global impression is a three-dimensional Likert-type scale (severity, improvement, and side effects) scored by the interviewer to assess the clinical course of mental disorders

and can be applied to patients of all ages (Busner and Targum 2007). In our study, only the first dimension (CGI-Severity), which assesses the severity of the disease on a 7-point scale (1: normal, not at all ill; 2: borderline mentally ill; 3: mildly ill; 4: moderately ill; 5: markedly ill; 6: severely ill; 7: among the most extremely ill patients) (Busner and Targum 2007) based on symptoms, behaviors, and functioning observed and reported within the last seven days, was used.

Statistical analysis

Statistical analysis was performed using IBM Statistical Package for Social Sciences (SPSS) program version 29.0 (IBM Corp. 2022). The Pearson Chi-square (χ^2) test was used to compare categorical data, while the independent samples t-test was used to analyze normally distributed continuous variables. The correlation analysis was performed using Pearson correlation analysis. Univariate and multivariate linear regression models were developed to examine the relationship between childhood trauma questionnaire (CTQ) and SF-12 components (PCS-12 and MCS-12). Factors that have a significant relationship with each SF-12 domain were included in the model, thereby correcting the relationship between CTQ categories and SF-12 domains. Covariates to be included in multivariate linear regression models were first determined in correlation analyses for each SF-12 component (PCS-12 and MCS-12). Only variables showing statistically significant correlation with the dependent variable were included in the multivariate model. In this way, covariates showing a significant correlation with PCS-12 (e.g., age, gender, marital status, presence of physical illness, BMI) were included only in the physical HRQoL analysis; variables showing a significant correlation with the MCS-12 (e.g., LAI antipsychotic use, antipsychotic dose, previous suicide attempt, substance/tobacco use, CGI-S) were included only in the mental HRQoL analysis. Selecting covariates in this manner aims to prevent the model from being overly controlled by unnecessary variables and to preserve the model's power (Tabachnick and Fidell, 2013). To avoid multicollinearity among CTQ subtypes, each subtype was analyzed separately. Data are presented as means (standard deviation, SD) and percentages (%) where appropriate. The statistical significance level was accepted as $p < 0.05$.

RESULTS

Sociodemographic and clinical characteristics

The mean age of the study group was 40.8 (8.8) years, and women constituted 52.5% of the group. 37.2% of patients are married, 30.6% are employed, and 40.8% have family members with a history of serious mental illness (Table 1). Among psychiatric diagnoses, schizophrenia spectrum disorders (SSD) account for 52.5% and bipolar disorder

accounts for 47.5%. The mean age of onset of the disease (SD) was 25.0 (8.4) years, while the mean disease duration (SD) was determined to be 15.4 (7.3) years. Long-acting injectable (LAI) antipsychotics are used in 41.8% of patients, and the mean (SD) antipsychotic dose (olanzapine equivalent) was determined to be 15.9 (11.2) mg/day (Table 1).

SF-12 and CTQ-28 scores

The mean (SD) PCS-12 and MCS-12 scores were found to be 46.5 (8.1) and 44.5 (10.3), respectively (Table 2). Childhood trauma (CT) history was present in 94 participants (62.7%); this rate was determined based on exceeding the cutoff score for any subtype of trauma. The most commonly observed subtypes of CT were physical neglect (58.2%), emotional abuse (57.8%), and emotional neglect (54.2%), followed by physical abuse (44.8%) and sexual abuse (24.3%) (Table 2).

Health-Related Quality of Life (HRQoL) Scores According to Sociodemographic and Clinical Characteristics

Physical component summary-12 scores were higher in women (44.9 [8.7] vs. 48.2 [7.1], $p=0.012$), married individuals (43.7 [8.5] vs. 48.1 [7.6], $p=0.002$), and those with comorbid conditions (44.1 [9.2] vs. 48.0 [7.1], $p=0.005$) compared to men, single individuals, and those without comorbid conditions (Table 3). MCS-12 scores were significantly lower in tobacco users (42.9 [10.9] vs. 47.7 [8.7], $p=0.013$) and substance users (39.1 [10.9] vs. 45.2 [10.2], $p=0.030$) compared to non-users (Table 3). There was no significant difference in PCS-12 and MCS-12 scores between patients diagnosed with schizophrenia spectrum disorders and bipolar disorder (Table 3).

Mental component summary-12 scores were lower in patients using LAI antipsychotics (41.9 [10.8] vs. 46.4 [9.5], $p=0.008$) and those with a history of suicide attempts (41.2 [11.8] vs. 45.9 [9.5], $p=0.014$) compared to those without these characteristics (Table 3).

Patients with a family history of serious mental illness had significantly lower PCS-12 scores compared to those without such a history (44.6 [9.0] vs. 47.6 [7.6], $p=0.037$) (Table 3).

Correlation of Health-Related Quality of Life (HRQoL) Scores with Continuous Variables

Physical component summary-12 scores showed a negative correlation with age ($r=-0.222$, $p=0.006$), BMI ($r=-0.277$, $p=0.002$), and disease duration ($r=-0.215$, $p=0.010$). MCS-12 scores showed a negative correlation with antipsychotic dose ($r=-0.166$, $p=0.041$) and CGI-Severity scores ($r=-0.376$, $p < 0.001$) (Table 4).

Table 1. Sociodemographic and clinical characteristics (n=158)

Sociodemographic characteristics	
Age (years), mean (SD)	40.8(8.8)
Sex, n (%)	
Female	83(52.5)
Male	75(47.5)
Education (years), mean (SD)	9.5(4.9)
Marital status (married), n (%)	55(37.2)
Employment status (employed), n (%)	41(30.6)
Anthropometric characteristics and medical history	
BMI (kg/m ²), mean (SD)	30.2(5.6)
Comorbidity, n (%)	61(42.7)
Family history of mental illness, n (%)	84(58.7)
Family history of severe mental illness, n (%)	58(40.8)
Addictive behaviors, n (%)	
Tobacco use	93(67.4)
Substance use	17(12.3)
Alcohol use	23(16.7)
Psychiatric diagnosis, n (%)	
Schizophrenia spectrum disorders (SSD)	83(52.5)
Schizophrenia	57(68.7)
Non-organic psychotic disorder	13(15.7)
Schizoaffective disorder	11(13.3)
Delusional disorder	2(2.4)
Bipolar disorder	75(47.5)
Disease characteristics	
Age of onset of the disease, mean (SD)	25.0(8.4)
Duration of the disease (year), mean (SD)	15.4(7.3)
Follow-up period (month)	92.7(62.2)
Number of hospitalizations, mean (SD)	2.4(2.8)
History of suicide attempt, n (%)	44(31.0)
Treatments	
LAI antipsychotics, n (%)	66(41.8)
Clozapine, n (%)	31(19.6)
Antipsychotic dose (OLZ equivalent; mg/day), mean (SD)	15.9(11.2)
BMI: body mass index; LAI: long-acting injectable; OLZ: olanzapine, n: number of people; SD: standard deviation	

Table 2. Data on scale scores

Short Form (SF-12), mean (SD)	
Physical Component Summary (PCS-12) score	46.5(8.1)
Mental Component Summary (MCS-12) score	44.5(10.3)
Childhood Trauma Questionnaire (CTQ-28)	
Total score, mean (SD)	44.21(14.69)
Presence of childhood trauma, n (%)	
Overall	94(62.7)
Physical neglect	89(58.2)
Emotional neglect	83(54.2)
Physical abuse	69(44.8)
Emotional abuse	89(57.8)
Clinical Global Impression-Severity (CGI-S) score, mean (SD)	
	2.2(1.2)

SD: standard deviation; n: number of people

Table 3. Analysis of HRQoL scores according to sociodemographic and clinical characteristics

Sociodemographic characteristics, n (%)	PCS-12 scores (physical HRQoL)		MCS-12 scores (mental HRQoL)	
	mean (SD)	p-value	mean (SD)	p-value
Sex				
Male	48.2(7.1)	0.012	43.9(10.2)	0.542
Female	44.9(8.7)		45.0(10.5)	
Marital status				
Unmarried	48.1(7.6)	0.002	44.0(10.4)	0.500
Married	43.7(8.5)		45.3(10.7)	
Physical comorbidity				
Yes	44.1(9.2)	0.005	43.7(11.4)	0.511
No	48.0(7.1)		44.9(9.9)	
Tobacco use				
Yes	46.4(8.2)	0.971	42.9(10.9)	0.013
No	46.4(7.9)		47.7(8.7)	
Substance use				
Yes	46.8(9.9)	0.830	39.1(10.9)	0.030
No	46.4(7.9)		45.2(10.2)	
Alcohol use				
Yes	48.1(8.3)	0.341	45.1(11.2)	0.782
No	46.1(8.1)		44.3(10.4)	
Clinical characteristics, n (%)	mean (SD)	p-value	mean (SD)	p-value
Psychiatric Diagnosis				
Schizophrenia spectrum disorders (SSD)	47.0(8.1)	0.398	43.5(10.1)	0.204
Bipolar disorder	45.9(8.1)		45.7(10.5)	
LAI antipsychotics				
Yes	46.5(8.0)	0.937	41.9(10.8)	0.008
No	46.4(8.2)		46.4(9.5)	
Clozapine				
Yes	48.1(8.8)	0.226	42.4(10.9)	0.207
No	46.1(7.9)		45.1(10.1)	
Past suicide attempts				
Yes	44.9(8.7)	0.129	41.2(11.8)	0.014
No	47.3(7.9)		45.9(9.5)	
Serious mental disorder in the family				
Yes	44.6(9.0)	0.037	45.2(10.6)	0.418
No	47.6(7.6)		43.7(10.3)	

PCS: physical component summary; MCS: mental component summary; HRQoL: health-related quality of life; LAI: long-acting injectable; Pearson's Chi square test; SD: standard deviation; n: number of people

HRQoL Scores According to the Presence of Childhood Trauma (CT)

Physical component summary-12 scores were significantly lower in patients with CT (45.3 [8.4] vs. 48.7 [6.7], $p=0.009$). Patients with emotional neglect (45.5 [8.1] vs. 47.9 [7.6],

p=0.049) and physical abuse (44.3 [9.3] vs. 48.2 [6.6], p=0.005) had significantly lower PCS-12 scores (Table 5).

Mental component summary-12 scores were also significantly lower in those with CT (42.9 [10.7] vs. 46.6 [9.3], p=0.032). Additionally, MCS-12 scores were significantly lower in patients with physical neglect (43.1 [10.7] vs. 46.4 [9.5], p=0.048), emotional neglect (42.4 [10.8] vs. 46.8 [8.9], p=0.008), emotional abuse (42.9 [10.9] vs. 46.8 [9.1], p=0.021), and sexual abuse (39.4 [9.9] vs. 46.1 [10.0], p<0.001)(Table 5).

Linear Regression Analysis on the Relationships Between Physical Health-Related Quality of Life (HRQoL) and Childhood Trauma (CT)

Linear regression analysis revealed that, in general, the presence of CT ($\beta=0.202$, p=0.013), emotional neglect ($\beta=0.220$, p=0.018), and physical abuse ($\beta=0.252$, p=0.006) are significantly negatively associated with physical HRQoL. Relationships with emotional neglect ($\beta=0.173$, p=0.046) and physical abuse ($\beta=0.238$, p=0.006) remained significant after controlling for other meaningful covariates associated

Table 4. Correlation of HRQoL scores with continuous variables

Variables		PCS-12 scores (physical HRQoL)	MCS-12 scores (mental HRQoL)
Age	r	-0.222	-0.035
	p	0.006	0.671
Education years	r	0.078	-0.097
	p	0.362	0.259
BMI	r	-0.277	-0.066
	p	0.002	0.473
Antipsychotic dose	r	-0.011	-0.166
	p	0.894	0.041
Duration of illness	r	-0.215	-0.094
	p	0.010	0.261
Age of onset	r	-0.073	0.045
	p	0.380	0.592
Number of hospitalizations	r	-0.105	-0.105
	p	0.215	0.213
CGI-S score	r	-0.137	-0.376
	p	0.122	<0.001

PCS: physical component summary; MCS: mental component summary; BMI: body mass index; CGI-S: clinical global impression-severity; HRQoL: health-related quality of life; r: correlation coefficient; Pearson correlation analysis.

Table 5. Comparison of health- related quality of life scores related to the presence of childhood trauma

			PCS-12 scores (physical HRQoL)		MCS-12 scores (mental HRQoL)	
Childhood trauma		n	mean (SD)	p-value	mean (SD)	p-value
Total	Yes	93	45.3(8.4)	0.009	42.9(10.7)	0.032
	No	56	48.7(6.7)		46.6(9.3)	
Physical neglect	Yes	88	46.1(8.3)	0.531	43.1(10.7)	0.048
	No	64	46.9(7.9)		46.4(9.5)	
Emotional neglect	Yes	82	45.5(8.1)	0.049	42.4(10.8)	0.008
	No	70	47.9(7.6)		46.8(8.9)	
Physical abuse	Yes	68	44.3(9.3)	0.005	44.1(11.6)	0.622
	No	85	48.2(6.6)		44.9(9.2)	
Emotional abuse	Yes	89	45.4(8.6)	0.051	42.9(10.9)	0.021
	No	65	47.9(7.3)		46.8(9.1)	
Sexual abuse	Yes	37	44.7(9.4)	0.126	39.4(9.9)	<0.001
	No	114	47.0(7.6)		46.1(10.0)	

PCS: physical component summary; MCS: mental component summary; HRQoL: health-related quality of life; independent samples t-test.

Table 6. Linear regression analysis for the relationships between childhood trauma and HRQoL

Childhood trauma		PCS-12 scores ^a (physical HRQoL)				MCS-12 scores ^b (mental HRQoL)			
		β	SEM	t	p	β	SEM	t	p
Total (yes)	unadjusted	0.202	1.350	2.503	0.013	0.151	2.002	1.650	0.102
	adjusted [#]	0.104	1.513	1.150	0.253	0.059	1.854	0.696	0.488
Physical neglect (yes)	unadjusted	0.051	1.494	0.562	0.575	0.147	1.949	1.617	0.109
	adjusted [#]	0.007	1.415	0.080	0.936	0.059	1.861	0.687	0.494
Emotional neglect (yes)	unadjusted	0.220	1.508	2.397	0.018	0.212	1.874	2.369	0.019
	adjusted [#]	0.173	1.408	2.015	0.046	0.168	1.699	2.069	0.041
Physical abuse (yes)	unadjusted	0.252	1.526	2.776	0.006	0.036	1.929	0.400	0.690
	adjusted [#]	0.238	1.426	2.813	0.006	0.002	1.729	0.030	0.976
Emotional abuse (yes)	unadjusted	0.158	1.475	1.752	0.082	0.172	1.949	1.915	0.058
	adjusted [#]	0.121	1.445	1.370	0.173	0.113	1.774	1.383	0.169
Sexual abuse (yes)	unadjusted	0.125	1.713	1.375	0.172	0.299	2.110	3.398	<0.001
	adjusted [#]	0.084	1.619	0.972	0.333	0.226	1.978	2.740	0.007

PCS: physical component summary; MCS: mental component summary; ^ahas been adjusted according to age, gender, marital status, physical comorbidity, body mass index, family history of serious mental illness, and duration of illness for physical HRQoL; ^bhas been adjusted according to long-acting injectable antipsychotics, suicide, tobacco use, substance use, antipsychotic dose (olanzapine equivalent), and Clinical Global Impression – Severity (CGI-S) scores for emotional HRQoL; HRQoL: health-related quality of life; β : standard “beta” regression coefficient; SEM: standard error of the mean.

with PCS-12, such as age, gender, marital status, comorbid physical illness, BMI, family history of serious mental illness, and duration of illness (Table 6).

Linear Regression Analysis on the Relationships Between Mental Health-Related Quality of Life (HRQoL) and Childhood Trauma (CT)

Linear regression analysis showed that emotional neglect ($\beta=0.212$, $p=0.019$) and sexual abuse ($\beta=0.299$, $p<0.001$) were significantly negatively associated with mental HRQoL. Relationships with emotional neglect ($\beta=0.168$, $p=0.041$) and sexual abuse ($\beta=0.226$, $p=0.007$) remained significant even after controlling for other meaningful covariates associated with MCS-12, such as LAI antipsychotic use, antipsychotic dose, previous suicide attempt, smoking and substance use, and CGI-S scores (Table 6).

DISCUSSION

In our study, various factors associated with low quality of life were examined in individuals diagnosed with SMD who are being followed at CMHC, which provides community-based mental health services in our country. Our findings indicate that different subtypes of CT play a significant role in HRQoL. Emotional neglect is associated with both physical and mental HRQoL impairment, while physical abuse is significantly linked to physical HRQoL impairment and sexual abuse to mental HRQoL impairment. Additionally, among sociodemographic and clinical factors, age, gender, marital status, comorbid physical illness, body mass index (BMI), family history of serious mental illness, and duration of illness were found to be significantly associated with physical

HRQoL. Mental HRQoL was found to be significantly associated with LAI antipsychotic use, antipsychotic dosage, previous suicide attempts, smoking and substance use, and Clinical Global Impression - Severity scores. These results reveal that the determining factors of quality of life in SMD are not only clinical symptoms but also childhood traumas showing that the history of trauma has a profound and multidimensional effect on HRQoL.

Our findings indicate that the quality of life of patients diagnosed with SMD is moderate. This finding is consistent with previous studies reporting a significant decline in quality of life in patients diagnosed with SMD compared to the general population (IsHak et al. 2012, Carr et al. 2013, Dong et al. 2019, Berghöfer et al. 2020, Çıtak and Erten 2021, Defar et al. 2023). History of CT was observed in two-thirds of the study sample, with at least half of the patients showing signs of physical neglect, emotional abuse, or emotional neglect. The prevalence of CT in our sample (62.7%) falls within the range of 30.5% to 82.0% reported in patients diagnosed with schizophrenia and 45% to 68% reported in patients diagnosed with bipolar disorder (Alvarez et al. 2011, Larsson et al. 2013, Baudin et al. 2016, Bell et al. 2019, Çıtak and Erten 2021, Trott et al. 2024). Our findings are consistent with previous studies reporting that CT is associated with low quality of life in patients with SMD (Baudin et al. 2016). It is noteworthy that more than half of our patients have experienced physical neglect, emotional abuse, and emotional neglect; as it is known that traumatic events in childhood increase the incidence of mental disorders in later life and negatively affect quality of life (Weber et al. 2016, Hughes et al. 2017, Dhungana et al. 2022, Vivalya et al. 2022, Vivalya et al. 2023).

Low quality of life is associated with negative clinical outcomes in schizophrenia patients, such as chronicity of symptoms, more severe symptoms, increased risk of relapse, and more hospital admissions (Boyer et al. 2013, Choo et al. 2018, Watson et al. 2018). In many studies, it has been reported that CT is associated not only with impaired quality of life but also with adverse clinical outcomes such as higher antipsychotic doses, increased hospital admissions, increased risk of suicide attempts, higher positive symptom and emotional distress scores, and lower remission rates in patients diagnosed with SSD. (Lysaker and LaRocco 2009, Alvarez et al. 2011, Carr et al. 2013, Çakır et al. 2015, Baudin et al. 2016, Andrianarisoa et al. 2017, Carbone et al. 2019, Pruessner et al. 2019, Duarte et al. 2020, Kilian et al. 2020, Guillén-Burgos et al. 2023). Among our participants, certain types of CT, such as emotional neglect and sexual abuse, were found to be significantly associated with low mental HRQoL. Additionally, LAI antipsychotic treatment, high antipsychotic dose, symptom severity, and previous suicide attempts were also independently associated with low mental HRQoL. Our findings differ from previous studies by Sağlam Aykut and colleagues (2017), which reported that patients treated with second-generation LAI antipsychotics had a higher quality of life compared to those receiving oral antipsychotics (Sağlam Aykut et al. 2017). The possible reason for this difference may be methodological differences between studies. For instance, 62.7% of our sample had a history of CT, and 31% had a history of suicide attempts. Furthermore, while our sample consists of patients followed up at CMHC and presenting a chronic course, the participants in the other study were drawn from outpatient clinic visits. The fact that stressors such as adverse childhood experiences and a history of suicide attempts were not assessed, along with differences in the sample groups, may have led to different results between the studies. Our findings highlight the possibility of an interaction between low HRQoL and CT, particularly in terms of mental HRQL, in SMD patients, and the potential contribution of this interaction to adverse clinical outcomes, disease progression, and treatment failure.

It has been reported that patients diagnosed with schizophrenia report less CT, daily stress, or chronic difficulties compared to patients with other primary psychiatric diagnoses, and also compare themselves more to other patients rather than to the general population (Franz et al. 2000, Adams et al. 2015, Berghöfer et al. 2020). In this context, the negative correlation between MCS-12 scores and CGI-S scores in patients is noteworthy; as this highlights the relationship between mental HRQoL and symptom severity as assessed by physicians in patients with SMD. Similarly, in a study conducted among SMD patients receiving comprehensive care, significant differences in quality of life levels were found among the main psychiatric diagnosis groups, and it was

noted that the CGI score is a potential predictor of quality of life (Berghöfer et al. 2020).

In our study, emotional neglect was found to be significantly associated with both low physical and mental HRQoL. Furthermore, physical abuse and sexual abuse have been associated with physical HRQoL and mental HRQL, respectively. Similarly, in a study evaluating HRQoL in adults with a history of CT, emotional neglect was reported to be the factor most negatively affecting HRQoL among the five subtypes of CT, followed by sexual and physical abuse (Corso et al. 2008). In a study evaluating the relationship between CT and psychological resilience with HRQoL in psychiatric patients receiving outpatient treatment, approximately one-third of patients reported low HRQoL, and emotional neglect and low psychological resilience were identified as independent predictors of low HRQoL (Dhungana et al. 2022). While all forms of neglect are considered as harmful as physical and sexual abuse, they receive less attention in research and clinical practice (Gilbert et al. 2009, Spinazzola et al. 2014, Dhungana et al. 2022).

Our study demonstrated that a history of emotional neglect in patients is associated with both physical HRQoL and mental HRQoL. Although attachment styles were not specifically assessed in our study, the literature indicates that emotional neglect during childhood can lead to insecure attachment styles such as anxious or avoidant, negatively impacting mental and physical well-being (Widom et al. 2018, Müller et al. 2019, Eren Sarıkaya et al. 2024). Studies indicating that insecure attachment styles commonly seen in patients with a history of CT act as mediators between traumatic experiences and psychotic disorders are noteworthy (Liotti and Gumley 2008, Baudin et al. 2016). Furthermore, it has been suggested that attachment-related anxiety and avoidance in patients diagnosed with bipolar disorder mediate the negative effects of CT on psychological resilience and quality of life (Çıtak and Erten 2021).

Socio-demographic variables (age, gender, marital status, education level) and clinical factors (comorbid depression, positive and negative symptoms, inadequate social support, and loss of functioning) are associated with impaired mental HRQoL in individuals with mental illness (Ruggeri et al. 2005, Berlim et al. 2008, Wang et al. 2017, Defar et al. 2023). In our sample, sociodemographic characteristics (advanced age, female gender, being married, presence of comorbidities) and increased disease duration were associated with low physical HRQoL; while treatment-related factors (use of LAI antipsychotics, high antipsychotic dosage), addictive behaviors (smoking and substance use), and previous suicide attempts were associated with low mental HRQoL. These results indicate that sociodemographic factors have a greater effect on HRQoL than treatment-related factors and disease severity. Our findings are consistent with previous studies indicating

that being single, female gender, and young age are associated with higher HRQoL in SMD patients (Trompenaars et al. 2005, Han et al. 2014, Defar et al. 2023). Furthermore, the association between tobacco and substance use and low mental HRQoL is supported in the literature (Cogle et al. 2015, Manning et al. 2019, Evans-Polce et al. 2022). A meta-analysis examining quality of life studies in schizophrenia patients reported that sociodemographic factors have significant regulatory effects on quality of life, while disease duration, severity, long-term treatment, and side effects associated with pharmacotherapy show a negative correlation with quality of life (Dong et al. 2019). In studies conducted on patients with bipolar disorder, no significant relationship was found between sociodemographic factors (age, gender, employment status) and quality of life; however, a negative relationship was found between quality of life and clinical factors such as the number of psychotic symptoms, early onset of the disease, and other comorbid mental disorders (Sierra et al. 2005, Goossens et al. 2008, Gutiérrez-Rojas et al. 2008).

In general, CT has been found to be associated with low HRQoL in our SMD participants. Furthermore, this relationship persisted in analyses that also considered other meaningful covariates for physical HRQoL and mental HRQoL. It is not expected that SMD patients will remain symptom-free for the rest of their lives. Stressors that negatively affect quality of life in these patients are mostly based on internal factors related to living with the disease and uncomfortable sensations beyond the control of symptoms (Connell et al. 2012, Berghöfer et al. 2020, Collins et al. 2023). Most components of the healthcare system aim only to reduce symptoms, accepting the low quality of life expectations of people living with SMD and approaching them accordingly (Myers et al. 2016). However, our findings emphasize the critical importance of healthcare services that not only meet symptom management needs but also improve quality of life (Myers et al. 2016, Berghöfer et al. 2020). Therefore, healthcare services provided to individuals with SMD should aim to improve quality of life rather than focusing solely on managing basic symptoms. Since improving patients' quality of life has become an important goal in community-based mental health care, routine screening for CT in SMD patients and the development of interventions such as trauma-focused care tailored to individuals with a history of CT are considered fundamental areas that need to be improved in community mental health practices (Adams et al. 2015, Emmerink and Roeg 2016, Lorenc et al. 2020, Aldomini et al. 2025).

Our study has several strengths. The assessment of participants within the scope of community-based mental health services has increased the adaptability of the findings to real-life conditions. The relatively large sample size supported the statistical power of the analyses. Furthermore, examining childhood trauma at the subtype level has revealed in greater detail the effects

of specific types of trauma on health-related quality of life. However, our study has some limitations. First, the fact that the study was conducted in a single center and within the scope of formal mental health services limits the generalizability of the findings. Secondly, due to the cross-sectional design, causal relationships between variables cannot be determined. Thirdly, the fact that the HRQoL and CT assessments are based on self-reporting questionnaires may have led to response bias, resulting in exaggerated or underreported results in some cases. Fourth, the fact that the sample consisted only of individuals in the stable phase of the illness (those who had not experienced a psychotic flare-up or manic/depressive episode in the last four weeks) prevented the examination of the entire spectrum of the illness. Fifth, the lack of individual-level data on participants' involvement in psychosocial interventions (e.g., occupational therapy, individual counseling, skills training, etc.) beyond medication treatment partially limits the interpretation of the findings. Finally, only individuals with at least five years of formal education were included in our study. This criterion has been established to ensure the minimum literacy level required for the accurate and reliable completion of self-report scales (CTQ, SF-12, etc.). However, given the known negative relationship between childhood trauma and low educational level (Deng et al. 2024), this criterion may limit the sociodemographic distribution of the sample and the generalizability of the results.

In conclusion, our findings indicate that the prevalence of CT is high and HRQoL is moderate in SMD patients who apply to the CMHC. Emotional neglect was associated with both low physical and mental HRQoL, while physical abuse and sexual abuse were associated with low physical and mental HRQoL, respectively. The fact that CT was found to be significantly associated with low HRQoL in our patient group highlights the importance of routinely screening for CT in CMHC (Cusack et al. 2004). In the context of improving HRQoL, it is recommended that CMHC applications be developed with a focus on training all CMHC staff to adopt a trauma-sensitive approach, preventing re-traumatization of patients, creating safe environments, providing peer support, planning social work activities in a trauma-sensitive manner, and incorporating trauma-focused psychotherapies into the treatment process (Saunders et al. 2023, Berring et al. 2024).

Ethics Committee Approval: The study was approved by the Ethics Committee of Erenköy Mental and Nervous Diseases Training and Research Hospital (Approval Date: 12.09.2022, Protocol No: 51).

Conflict of Interest: The authors declare that there is no conflict of interest to be disclosed.

Funding: This research has not received any private funding from public, commercial or non-profit organizations.

Acknowledgments: Author, Ezgi İnce Guliyev, worked as a consultant psychiatrist at Erenköy Mental and Nervous Diseases Training and Research Hospital during the data collection period of this research. Authors would like to thank Prof. Ömer Aydemir, MD, for his contributions to the analysis and interpretation of the data, and Selcan Hun Gökçe, MD, for her support during the writing process.

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