Original article / *Araştırma*

The relationship between obsessive-compulsive symptoms and traumatic life events in adolescents

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ABSTRACT

Objective: *The primary aim of this study is to evaluate the possible relationship between obsessive-compulsive symptoms (OCS) and traumatic life events (TLEs) in this clinical sample of adolescents. The secondary objective is to evaluate the relationship between different clinical presentations and severities of OCS and specific TLEs.* ***Methods:*** *The study included 60 adolescents between 12-16 ages, with obsessive-compulsive disorder (OCD) according to DSM-V and 60 adolescents without any psychiatric diagnosis. Sociodemographic characteristics of cases were evaluated with detailed form; in addition, neuropsychological tests were applied to investigate development of ıntelligence and trauma characteristics of childhood. Turkish version of Schedule for Affective Disorders and Schizophrenia for School-Age-Children Present and lifetime version, Children's Yale-Brown Obsessive Compulsive Scale, Children's Depression Inventory and Childhood Trauma Questionnaire-short form were applied in order to assess psychopathology. Intelligence level of patients were assessed with Wechsler Intelligence Scale for Children-Revised.* ***Results:*** *It was determined that there was a strong relationship between TLEs and OCS in adolescents, especially in females. TLEs were associated with all OCS manifestations, most prominently with sexual, religious and harm obsessions. The sexual abuse showed stronger associations with OCS compared with other TLEs.* ***Discussion:*** *Due to limited number of patients, our findings couldn't be generalized to all adolescents with OCS; therefore there is a need for more studies in this area.* ***(Anatolian Journal of Psychiatry 2020; 21(5):507-514)***

Keywords: *obsessive-compulsive symptoms; traumatic life events; sexual abuse*

Ergenlerde obsesif-kompulsif belirtilerin travmatik yaşam olaylarıyla ilişkisi

ÖZ

Amaç: *Çalışmanın birinci amacı ergenlerin klinik örnekleminde obsesif-kompulsif semptomların (OKS) travmatik yaşam olayları (TYO) ile olası ilişkisinin değerlendirilmesi; ikinci amacı, OKS'nin farklı klinik görünümleri ve şiddetleri ile özgül TYO arasındaki ilişkilerinin değerlendirilmesidir.* ***Yöntem:*** *Çalışma 12-16 yaşları arasında, DSM-5'e göre obsesif-kompulsif bozukluğu olan 60 ergen ve herhangi bir psikiyatrik bozukluğu olmayan 60 ergenle yapıldı. Olguların sosyodemografik özellikleri Sosyodemografik Veri Formu ile, çocukluk çağı travma özellikleri ve entelektüel gelişimleri nöropsikolojik testlerle değerlendirildi. Psikopatolojileri değerlendirmek için Okul Çağı Çocukları için Duygulanım Bozuklukları ve Şizofreni Görüşme Çizelgesi-Şimdi ve Yaşam Boyu Şekli Türkçe Sürümü, Çocukluk Çağı Yale-Brown Obsesyon Kompulsiyon ölçeği, Çocukluk Çağı Depresyon Ölçeği, Çocukluk Çağı Travma Soru Ölçeği-Kısa Form uygulandı. Hastaların zeka düzeylerini değerlendirmek için Wechsler Zeka Ölçeği uygulandı.* ***Sonuçlar:*** *Çalışmada kadınlarda daha belirgin olmak üzere TYO ve OKS arasında güçlü bir ilişki olduğu belirlenmiştir. TYO öncelikle cinsel, dinsel ve zarar görme obsesyonları ile güçlü bir ilişki gösterirken; OKS görünümlerinin tamamıyla ilişkili bulunmuştur. Cinsel istismar diğer TYO türlerine göre OKS ile daha güçlü bir ilişki göstermiştir.* ***Tartışma:*** *Hasta sayımızın az olması nedeniyle, bulgularımız OKS'li ergenlerin tamamına genellenemez. Bu alanda*

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Received: November 11th, 2019, Accepted: January 17th, 2020, doi: 10.5455/apd.77647

daha fazla çalışmaya gerek vardır. ***(Anadolu Psikiyatri Derg 2020; 21(5):507-514)***

Anahtar sözcükler: *Obsesif-kompulsif belirtiler, travmatik yaşam olayları, cinsel istismar*

INTRODUCTION

Traumatic life events (TLEs) in childhood have been associated with high rates of various psychopathologies.[1-5] Up to 25% trauma exposure was reported among children,[6] and the prevalence of post-traumatic stress disorder (PTSD) in children and adolescents exposed to violence was found to vary from 24% to 35%.[7,8] There is evidence that PTSD rate exceeds the expected population rate in adult studies with obsessive-compulsive disorder (OCD).[9]

It is determined that TLEs is associated with obsessive-compulsive symptoms (OCS),[10-13] OCS occurs in 50-70% of OCS following TLEs[14] and trauma exposure increases the severity of OCS.[15] Contrary to all these studies, there are some studies found that there is no significant differences between OCS and TLEs.[16] Adults with more than one traumatic event in childhood are more likely to develop OCD than those exposed to only one traumatic event in childhood.[17] The rates of OCD in patients with post-traumatic stress disorder were between 5% and 22%; while the rates of PTSD in OCD patients were between 12% and 75%. Although the relationship between sexual assault and OCD has been reported in three previous studies;[10,18] there are studies that do not support the relationship between OCD and sexual assault.[19,20]

The relationship between specific types of trauma and specific OCS remains unclear. The study evaluating the relationship between various clinical presentations of OCS and TLEs is very limited. In adult studies, symmetry obsessions[15,21] and checking[15] have been associated with TLEs. In only one study among children, there was no relationship between different presentations of OCS and TLEs.[22]

Although past studies have tried to reveal the relationship between OCS and TLEs in children and adolescents, detailed studies are needed in this area. The aim of this study is to evaluate the possible relationship between OCS and TLEs in this clinical sample of adolescents. The secondary objective is to analyze the relationship between different clinical presentations and severities of OCS and TLE.

METHODS

Participants and procedure

This cross-sectional case-control study was conducted at the Tekirdağ State Hospital Department of Child and Adolescent Psychiatry Department according to the Declaration of Helsinki.[23] Before initiating the study, participants' parents provided written informed consent. Ethical committee approval of the study was obtained from the local ethics committee of Namık Kemal University of medical school.

The population included 12-16 year-old subjects, who the Tekirdag State Hospital Department of Child and Adolescent Psychiatry, with OCD and met the inclusion criteria. Individuals with no psychiatric disorders other than OCD were included in this study. Other inclusion criteria are a WISC-R score above 70 and the absence of any previous psychotropic medication. Patients with any neurological or medical disease, a history of substance/drug dependence, a history of physical head trauma and a history of perinatal complications were not included in the study. We included healthy volunteers in the control group considering the age and sex distributions of the patient group. Participants with active psychopathology or a history of active psychiatric illness, a history of psychotropic drug use, an IQ score under 70 points according to the WISC-R, any neurological or additional medical disease, a history of substance/drug dependence, a history of perinatal complications, and a history of physical head trauma were not included in the study. This study included 60 patients with OCD and 60 healthy individuals.

Measures

Collection Form for Sociodemographical and Clinical Data: This form was developed by the researchers to determine the sociodemographic characteristics of the patients included in the study. The form for children included data about age, sex, neuromotor development stages, literacy learning time, academic achievement, medical history, and the form for their first/second-degree relatives included data about the education level, living place of the parents, and psychiatric/medical genealogical information.

Schedule for Affective Disorders and Schizophrenia for School-Age Children - Present and Lifetime Version (K-SADS-PL): K-SADS-PL is a semi-structured interview form developed

by Kaufman et al.[24] to detect present and lifetime psychopathology in children and adolescents. Validity and reliability studies were conducted for Turkish sample of the scale.[25] The information from the child and at least one parent was combined with the clinician's opinions and the evaluation was completed.

Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS): The CY-BOCS is a semi-structured questionnaire developed by Goodman et al., based on clinical interview. It contains five main sections: instructions, a list to determine obsessions, items to determine the severity of obsessions, a list to determine the compulsions, and items to determine the severity of compulsions. All participants and their caregivers were asked to complete the questionnaire. Yucelen et al. performed the validity and reliability study of the Turkish CY-BOCS version. Internal consistency was found to be 0.77 for the total 10 items.[26]

Childhood Trauma Questionnaire - Short Form (CTQ-SF): The CTQ-SF, a 28-item self-report inventory (25 clinical items and three validity items), provides a brief, standardized, validated instrument for retrospectively assessing abuse and neglect, with five subscales: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. It contains a number of statements, such as 'When I was growing up I didn't have enough to eat' and the respondent is asked toanswer on a 5-point Likert scale from 'never true' (1) to 'very often true' (5). Bernsteinet al. reported good internal consistency of the CTQ-SF with alpha reliabilities ranging from 70 to 93 and retest reliabilities ranging from 66 to 94.[27] Turkish validity and reliability study was performed by Sar et al.[28]

Children's Depression Inventory (CDI): CDI detects the level of depression in children. It was developed by Kovacs.[29] CDI is a self-assessment scale applied on children ages of 6-18. There are three different options for each item of the 27-item scale. The child is asked to choose the most appropriate option with in the last two weeks. Each item is calculated ac-cording to symptom severity and gets 0, 1 and 2 points. The highest score is 54 and the cut point is 19. Turkish validity and reliability study was performed by Oy et al.[30]

Wechsler Intelligence Scale for Children-Revised (WISC-R): It is an intelligence test developed by Wechsler for children aged 6-16 years. It has two parts called verbal and performance. Each section includes six sub-tests and one of them being a backup test.[31] Validity and reliability studies were conducted for Turkish sample.[32]

Statistical methods

Data were analyzed using SPSS 25.0 software. Findings were given as number, percentage, mean, standard deviation (SD), median and interquartile width (CDI). The suitability of the numerical variables to the normal distribution was examined by Shapiro-Wilk test. The homogeneity of the variances was examined by Levene test. Age, trauma and depression scores of OCD patients and control group were compared using Mann-Whitney U test, gender chi-square test and WISC-R total scores using independent samples t test. For the correlation analysis between numerical data, Pearson's correlation was used for parametric conditions and Spearman's correlation analysis was used for non-parametric conditions. Multivariate linear regression analysis was performed to determine the factors affecting total abuse score. Abuse scores were compared using the Kruskal-Wallis H test followed by the post-hoc Dunn test (with Bonferroni correction). All hypotheses were bi-directional and statistical significance level was set at $p<0.05$.

RESULTS

One hundred and twenty adolescents between the ages of 12-16 were included in the study. The sample was divided into 2 groups as OCS group and control group. There were 60 patients in the OCS group and 60 healthy adolescents without any psychiatric disorder in the control group. There was no significant difference between age ($z=0.064$, $p=0.949$) and gender distribution ($\chi^2=0.000$, $p=1.00$) of OCS (median=14.0 years, IQR=2.0) patients and control group (median=14.0 years, IQR=2.0) There was no statistically significant difference between WISC-R total scores of OCS (95.40±10.18) and control (95.53±10.60) groups ($t=0.05$, $p=0.961$) (Table 1).

Emotional abuse, physical abuse, physical neglect, emotional neglect, sexual abuse and total abuse scores of the OCS group were significantly higher than the control group ($p<0.001$). Depression scores of the OCS group (median= 9.0 years, IQR=6.0) were higher than those of the control group (median=6.0 years; IQR=4.0) ($z=1.13$, $p=0.258$) (Table 2).

In the OCS group, there was no correlation between total OCD score and total abuse score

Table 1. Age, sex and WISC-R distribution of OCS and control group

		OCS group		Control group			
		Med./n	IQR %-ss	Med./n	IQR %-ss	z-χ^2-t	p
Age		14.0	2.0	14.0	2.0	0.064	0.949
Gender	Male	30.0	50.0	30.0	50.0	<0.001	1.00
	Female	30.0	50.0	30.	50.0		
WISC-R		95.40	10.2	95.53	10.6	0.05	0.961

IQR: Interquartile Range

Table 2. Comparison of trauma and depression of OCS and control group

	OCS group		Control group			
	Median	IQR	Median	IQR	z	p
Emotional abuse	15.0	6.0	7.0	2.0	7.45	**<0.01**
Physical abuse	12.0	7.0	6.0	3.0	5.50	**<0.01**
Physical neglect	15.0	5.0	7.0	4.0	7.30	**<0.01**
Emotional neglect	15.0	6.0	8.0	3.0	7.68	**<0.01**
Sexual abuse	6.0	2.0	5.0	1.0	3.94	**<0.01**
Total abuse	65.0	23.0	34.0	11.0	7.37	**<0.01**
Depression score	9.0	6.0	6.0	4.0	1.13	**0.026**

IQR: Interquartile Range

(r=0.184, p=0.259) there was no correlation between the age of onset of OCS (r=0.140, p=0.285). In the OCS group, there was no correlation between total OCD score and depression score (r=0.162, p=0.217) (Table 3).

Predictors included in the model explained 7.4% of the OCS score. None of the variables included in the model had a statistically significant effect on the OCS score (p>0.05).

There was no correlation between total OCS score and emotional abuse, physical abuse, physical neglect, emotional neglect, sexual abuse scores. (Table 4).

Total abuse score of at least one type of obsession was statistically different from others (Kruskal-Wallis H=25.91, p<0.001). Post-hoc Dunn test was used for paired group comparisons. Total abuse score of contamination obssessive group (median=56.5, IQR=27.0) was significantly lower compared to harm (median=69.0,

Table 3. Spearman correlation analysis between total OCS score and total abuse score, OCS onset age and depression score in OCS group

	OCS score	
	r	p
Total abuse score	0.148	0.259
Male	0.263	0.160
Female	0.025	0.089
OCS onset score	0.140	0.285
Depression score	0.162	0.217
Emotional abuse	0.192	0.141
Psychial abuse	0.136	0.301
Psychial neglect	0.103	0.434
Emotional neglect	0.115	0.383
Sexual abuse	0.080	0.544

Table 4. Multiple linear regression analysis of effect of total OCS score, depression score, age (years) and OCS onset age in OCS group

	B	t	p
Invariant	64.857	2.725	**0.009**
Total abuse	0.532	1.486	0.143
Depression score	-0.638	-1.357	0.180
Age(years)	0.802	0.372	0.711
OCS onset age	-1.474	-0.951	0.346

Table 5. Comparison of total abuse scores according to types of obsession

Type of obsession	Median	IQR	Total abuse score Kruskal-Wallis H	p
Contamination	56.5	27.0	25.91	**<0.001**
Harm	69.0	9.0		
Symmetry	55.5	35.0		
Religious	64.0	23.0		
Sexual	86.0	8.0		

IQR: Interquartile Range; Post hoc Dunn test binary comparisons; p values were adjusted using Bonferroni correction; Contamination-harm (p=0.048), Contamination-sexual (p<0.001), Symmetry-sexual (p=0.006).

IQR=9.0) and sexual (median=86.0, IQR=8.0) obsession groups (p<0.05 adjusted using Bonferroni correction). Total abuse score of symmetry obsession group (median=55.5, IQR=35.0) was significantly lower than sexual obsession group (median=86.0, IQR=8.0) (p=0.006 adjusted using Bonferroni correction). There was no statistically significant difference between the other paired group comparisons (p>0.05) (Table 5). There was no correlation between total OCD score and emotional abuse, physical abuse, physical neglect, emotional neglect, sexual abuse scores.

DISCUSSION

The study aims to contribute to a limited number of studies evaluating the relationship between traumatic life events and OCS in adolescents. The study found a strong relationship between TLEs and OCS in accordance with previous adult studies.[15,33,34] Findings were consistent with the single study in which adolescents with trauma exposure and OCS were compared with the control group without OCS.[22] Although most of the literature supports the relationship between OCS and traumatic experiences; no significant difference was found in a study comparing OCD patients and healthy controls in terms of past traumatic experiences between the two groups, which was in contrast to present findings.[16] It was found that children with OCS had more sexual and physical assault,[35] emotional neglect and physical abuse[33] before the age of 18 compared to healthy children. Consistent with previous studies, our findings showed that emotional abuse, physical abuse, physical neglect, emotional neglect, sexual abuse scores were significantly higher compared to those without OCS. According to epidemiological studies, it was found that women with OCS had higher TLEs[36] and were more likely to have sexual abuse than women without OCS;[37] concordantly this study found that total abuse and sexual abuse levels were higher in women with OCS compared to those without OCS.

In this study, we investigated the relationship between specific trauma types and different clinical presentations of OCS. Previous studies have found that neglect and abuse, especially sexual and physical abuse, are associated with OCS.[10,18,38-40] Consistent with previous studies, although emotional abuse - emotional neglect - physical abuse - physical neglect - sexual abuse were sexual obsessions with the strongest relationship with their fields, harm-related thoughts, religious thoughts, and contamination and symmetry obsessions were the least associated types. In a single study conducted on 263 children with TLEs and OCS symptoms, no difference was reported in terms of specific OCS manifestation; which was contrary to our findings.[22]

In adult studies, it was determined that symmetry and order obsessions were associated with TLEs.[15,41] Yet in our findings, the relationship between symmetry and order obsessions with TLEs was consistent with the literature; but this relationship was found to be weaker than other types of obsession. Our findings suggest that sexual, religious, and harm obsessions have a stronger trauma exposure relationship than other types of obsessions; and that trauma exposure is associated with sexual and religious obsessions in adults.[15]

In previous studies, it was reported that OCS severity was more severe[22] and early-onset OCS is more severe[42] among adolescents with OCD and post-traumatic stress disorder (PTSD).

In contrast to previous studies, the severity of OCS did not increase with increasing TLEs

severity and no correlation was found between the onset of OCS and the severity of OCS. In addition, the effects of different trauma areas such as emotional abuse, emotional neglect, physical abuse, physical neglect, sexual abuse on OCS severity were not clear.

Psychiatric comorbidities such as depression occur at a high rate in adolescents with trauma exposure and OCS and affect the severity and treatment resistance of OCS symptoms.[43] In our findings, it was found that adolescents with OCS and a history of TLEs were more depressive. In this study, there was no evidence for the effect of variables such as depression, age of onset of OCS and age, which are likely to affect the severity of OCS other than TLEs.

Several limitations may affect the interpretation of our data. First of all, the use of an appropriate sampling method for participants due to limited time and resources limits the generalizability of our findings. In addition, the relatively small sample size is also a limitation. The relationship between specific OCS and TLEs should be repeated with larger groups of adolescents with OCS in the future. Studies with larger samples may provide stronger results. The cross-sectional nature of the study is another limitation. Due to the cross-sectional nature, longitudinal studies are needed as adolescents with TLEs cannot provide information about the progression of OCS, treatment response and/or clinical changes for OCS.

As the final limiting factor; although the majority of psychiatric comorbidities, including anxiety disorder were excluded in patients with OCS, sub-threshold anxiety scores in OCS patients were different from the control groups because of the nature of OCS.

Consistent with previous studies, our study demonstrated strong evidence that traumatic life event exposure is associated with OCS. In addition, it was determined that all trauma areas associated with all OCS manifestations most prominently with sexual, religious and harm obsessions. However, there is no evidence that the severity of OCS increased with increasing severity of TLEs.

REFERENCES

1. *Barzilay R, Calkins ME, Moore TM, Wolf DH, Satterthwaite TD, Cobb Scott J, et al. Association between traumatic stress load, psychopathology, and cognition in the Philadelphia Neurodevelopmental Cohort. Psychol Med 2019; 49:325-334.*
2. *Heim C, Nemeroff CB. The role of childhood trauma in the neurobiology of mood and anxiety disorders: Preclinical and clinical studies. Biol Psychiatry 2001; 49:1023-1039.*
3. *Lowe SR, Joshi S, Galea S, Aiello AE, Uddin M, Koenen KC, et al. Pathways from assaultive violence to posttraumatic stress, depression, and generalized anxiety symptoms through stressful life events: Longitudinal mediation models. Psychol Med 2017; 47:2556-2566.*
4. *McGrath JJ, McLaughlin KA, Saha S, Aguilar GS, AlHamzawi A, Alonso J, et al. The association between childhood adversities and subsequent first onset of psychotic experiences: A cross national analysis of 23998 respondents from 17 countries Psychol Med 2017; 47:1230-1245*
5. *McLaughlin KA, Green JG, Gruber MJ, Sampson NA, Zaslavsky AM, Kessler RC. Childhood adversities and first onset of psychiatric disorders in a national sample of US adolescents. JAMA Psychiatry 2012; 69:1151-1160.*
6. *McCloskey LA, Walker M. Posttraumatic stress in children exposed to family violence and single-event trauma. J Am Acad Child Adolesc Psychiatry 2000; 39(1):108-115.*
7. *Berman SL, Kurtines WM, Silverman WK, Serafini LT. The impact of exposure to crime and violence on urban youth. Am J Orthopsychiatry 1996; 66(3):329-336.*
8. *Breslau N, Davis GC, Andreski P, Peterson E. Traumatic events and posttraumatic stress disorder in an urban population of young adults. Arch Gen Psychiatry 1991; 48(3):216-222.*
9. *Huppert JD, Moser JS, Gershuny BS, Riggs DS, Spokas M, Filip J. The relationship between obsessive-compulsive and posttraumatic stress symptoms in clinical and non-clinical samples J Anxiety Disord 2005; 19(1):127-136.*
10. *Boudreaux E, Kilpatrick G, Resnick HS, Best CL, Saunders BE. Criminal victimization, posttraumatic stress disorder, and comorbid psychopathology among a community sample of women. J Trauma Stress 1998; 11:665-678.*
11. *Briggs ES, Price IR. The relationship between adverse childhood experience and obsessive compulsive symptoms and beliefs: The role of anxiety, depression, and experiential avoidance. J Anxiety Disord 2009; 23:1037-1046.*

12. *Gothelf D, Aharonovsky O, Horesh N, Carty T, Apter A. Life events and personality factors in children and adolescents with obsessive compulsive disorder and other anxiety disorders. Compr Psychiatry 2004; 45:192-198.*
13. *Ojserkis R, McKay D, Lebeaut A. Associations between mental contamination, disgust, and obsessive compulsive symptoms in the context of trauma. J Obsessive Compuls Relat Disord 2018; 17:23-30.*
14. *Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadock's Synopsis of Psychiatry: Behavioral Neurosciences. Eleventh ed., Philadelphia, PA: Lippincott Williams & Wilkins, 2015.*
15. *Cromer KR, Schmidt NB, Murphy DL. An investigation of traumatic life events and obsessive compulsive disorder. Behav Res Ther 2007; 45:1683-1691.*
16. *Grabe HJ, Ruhrmann S, Spitzer C, Josepeit J, Ettelt S, Buhtz F. Obsessive compulsive disorder and posttraumatic stress disorder. Psychopathology 2008; 41(2):129-134.*
17. *Park S, Hong JP, Bae JN, Cho SJ, Lee DW, Lee JY, et al. Impact of childhood exposure to psychological trauma on the risk of psychiatric disorders and somatic discomfort: Single vs.multiple types of psychological trauma. Psychiatry Res 2014; 219:443-449.*
18. *Grisham JR, Fullana MA, Mataix D, Moffitt TE, Caspi A, Poulton R. Risk factors prospectively associated with adult obsessive compulsive symptom dimensions and obsessive compulsive disorder. Psychol Med 2011; 41:2495-2506.*
19. *Carpenter L, Chung MC. Childhood trauma in obsessive compulsive disorder: The roles of alexithymia and attachment. Behav Cogn Psychother 2011; 84:367-388.*
20. *Mathews CA, Kaur N, Stein MB. Childhood trauma and obsessive compulsive symptoms. Depress Anxiety 2008; 25:742-751.*
21. *Rosso G, Albert U, Asinari GF, Bogetto F, Maina G. Stressful life events and obsessive compulsive disorder: Clinical features and symptom dimensions. Psychiatry Res 2012; 197:259-264.*
22. *Lafleur DL, Petty C, Mancuso E, McCarthy K, Biederman J, Faro A, et al. Traumatic events and obsessive compulsive disorder in children and adolescents: Is there a link? J Anxiety Disord 2011; 25:513-519.*
23. *World Medical Association. Declaration of Helsinki (acces March 02nd, 2019).*
24. *Kaufman J, Birmaher B. Schedule for affective disorders and schizophrenia for school-age children-present and lifetime version (K-SADS-PL): initial reliability and validity data. J Am Acad Child Adolesc Psychiatry 1997; 36(7):980-988.*
25. *Gökler B, Ünal F, Pehlivantürk B, Kültür EÇ, Akdemir D, Taner Y. Okul çağı çocukları için Duygulanım Bozuklukları ve Şizofreni Görüşme Çizelgesi-Şimdi ve Yaşamboyu Şekli-Türkçe Uyarlamasının geçerlik ve güvenirliği. Çocuk ve Gençlik Ruh Sağlığı Dergisi 2004; 11(3):109-116.*
26. *Yücelen Erkal G, Arman Rodopman A, Topçuoğlu V, Fişek G, Yazgan MY. Çocuklar için Yale-Brown Obsesif Kompulsif Ölçeği geçerlilik güvenilirlik çalışması. 12. Ulusal Çocuk ve Ergen Psikiyatrisi Kongresi, İstanbul, 2002.*
27. *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(2):169-190.*
28. *Şar V, Öztürk E, İkikardeş E. Çocukluk Çağı Ruhsal Travma Ölçeğinin Türkçe uyarlamasının geçerlilik ve güvenirliliği. Turkiye Klinikleri; J Med Sci 2012; 32(4):1054-1063.*
29. *Kovacs M. The Children's Depression Inventory (CDI). Psychopharmacol Bull 1985; 21:995-998.*
30. *Martino DJ, Strejilevich SA, Fassi G. Theory of mind and facial emotion recognition in euthymic bipolar I and bipolar II disorders. Psychiatry Res 2011; 189(3):379-384.*
31. *Cox CS, Fedio P, Rapoport JL. Neuropsychological testing of obsessive-compulsive adolescents. JL Rapoport (Ed.), Obsessive-Compulsive Disorder in Children and Adolescents. Washington, DC: APP, 1989, pp.73-85.*
32. *Salah AA. İnsan ve bilgisayarda yüz tanıma. Uluslararası Kognitif Nörobilim Sempozyumu, Türkiye, 2006.*
33. *Lochner C, Du Toit PL, Zungu N, Marais A, Van Kradenburg J, Seedat S, et al. Childhood trauma in obsessive compulsive disorder, trichotillomania, and controls. Depress Anxiety 2002; 15:66-68.*
34. *Real E, Labad J, Alonso P, Segalàs C, Jiménez MS, Bueno B, et al. Stressful life events at onset of obsessive compulsive disorder are associated with a distinct clinical pattern. Depress Anxiety 2011; 28:367-376.*
35. *Hartl TL, Duffany SR, Allen GJ, Steketee GS, Frost RO. Relationships among compulsive hoarding, trauma, and attention-deficit/hyperactivity disorder. Behav Res Ther 2005; 43(2):269-276.*
36. *Grabe HJ, Meyer C, Hapke U, Rumpf HJ, Freyberger HJ, Dilling H. Lifetime comorbidity of obsessive-compulsive disorder and subclinical obsessive-compulsive disorder in northern Germany. Eur Arch Psychiatry Clin Neurosci 2001; 251(3):130-135.*
37. *Saunders B, Villeponteaux LA, Lipovsky JA, Kilpatrick DG, Veronen LJ. Child sexual assault as a risk factor for mental disorders among women: A community survey. J Interpers Violence 1992; 7:189-204.*

38. *Cath DC, Van Grootheest DS, Willemsen G, Van OP, Boomsma DI. Environmental factors in obsessive compulsive behavior: Evidence from discordant and concordant monozygotic twins. Behav Genet 2008; 38:108-120.*

39. *Miller ML, Brock RL. The effect of trauma on the severity of obsessive compulsive spectrum symptoms: A meta analysis. J Anxiety Disord 2017; 47:29-44.*

40. *Vidal RP, Stringaris A, Rück C, Serlachius E, Lichtenstein P, Mataix CD. Are stressful life events causally related to the severity of obsessive compulsive symptoms A monozygotic twin difference study. Eur Psychiatry 2015; 30:309-316.*

41. *Rosso G, Albert U, Asinari GF, Bogetto F, Maina G. Stressful life events and obsessive compulsive disorder: Clinical features and symptom dimensions. Psychiatry Res 2012; 197:259-264.*

42. *De LV, Gershenzon V, Burroughs E, Javaid N, Richter MA. Age at onset in Canadian OCD patients: Mixture analysis and systematic comparison with other studies. J Affect Disord 2011; 133:300-304.*

43. *Brown TA, Campbell LA, Lehman CL, Grisham JR, Mancill RB. Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. J Abnorm Psychol 2001; 110:585-599.*