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ORIGINAL ARTICLE

Early life experiences and adult attachment in obsessive-compulsive disorder

Part 1: Relationships between demographic, clinical, and psychological factors in pharmacoresistant OCD

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Abstract

OBJECTIVES: Obsessive-compulsive disorder (OCD) has been connected to various psychosocial factors that might influence its onset and course. Developmental factors, such as parenting styles or early adverse experiences, and adult attachment have been listed as examples. However, the research on the interconnections of these factors brought mixed results. The study explores the relationship between demographic, clinical, and selected psychosocial factors and the severity of adult OCD.

METHOD: Eighty-seven pharmacoresistant inpatients with OCD were admitted between October 2019 and August 2022 for a 6-week cognitive behavioural therapy inpatient program in the psychotherapeutic department. The participants completed the following scales at the start of the hospitalisation: the self-report Yale-Brown Obsessive-Compulsive Scale (Y-BOCS-SR), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI-II), Dissociative Experiences Scale (DES), Childhood Trauma Questionnaire-Short Form (CTQ-SF), PBI (Parental Bonding Instrument), ECR-R (Experiences in Close Relationships – Revised), and a demographic questionnaire. A skilled psychologist administered Mini International Neuropsychiatric Interview (MINI) to confirm the OCD diagnosis and Hamilton Anxiety Rating Scale (HAMA).

RESULTS: OCD patients with more severe adverse childhood experiences (ACEs) showed earlier onset of the disorder and more pronounced attachment anxiety,

depressive symptoms, and dissociation and patient-rated the severity of the disorder as more serious. Physical abuse and physical neglect were related to the severity of specific OCD symptoms. Maternal care negatively correlates with clinician-rated anxiety, patient-rated depressive symptoms, and dissociation. The maternal and paternal control positively correlated with patient-rated anxiety and depression. Attachment anxiety negatively correlated with the age of onset and positively with the severity of the clinician-rated anxiety and the patient-rated anxiety, depressive symptoms, and dissociation.

CONCLUSIONS: Early adverse experiences, perceived parental styles, and adult attachment anxiety could play a significant role in the symptoms of anxiety, depression, and dissociation. The connection with the specific obsessive-compulsive symptoms is less apparent. Still, adverse childhood events and adult attachment anxiety seem to influence the age of OCD onset.

INTRODUCTION

OCD is the fourth most frequent psychiatric disorder, with a prevalence between 1–3% in the general population and an equal distribution between males and females (Karno *et al.* 1988, Hollander *et al.* 1997, Weissman 1998, Reddy *et al.* 2017, Carmi *et al.* 2022). Many demographic, clinical, and psychological factors may be associated with the OCD severity, course, and treatment response. Zheng *et al.* (2021) found that the earlier onset of OCD and a longer duration of the untreated disorder connect with a less favourable clinical course.

Other factors influencing the course, severity, and response to treatment in adult patients with OCD include early adverse experiences, attachment, and parental styles. Adverse childhood experiences (ACEs) are often associated with adult health issues (Kessler *et al.* 2010, Radford *et al.* 2013, Curran *et al.* 2016, Salokangas *et al.* 2018, Westermair *et al.* 2018). The distress related to early adversities – such as parental psychopathology, physical, mental, and sexual abuse; early parental loss; or low family income – has been documented to disrupt basic neuronal and biological developments during growth (Nemeroff 2016). There is a large body of evidence of associations between adverse childhood events, including dysfunctional parental bonding, and adult psychiatric problems (Finzi-Dottan *et al.* 2006, Fergusson *et al.* 2007, Angelakis & Gooding 2020; Monteleone *et al.* 2020). ACEs have been connected with increased dissociation (Lochner *et al.* 2004). Many authors relate the etiopathogenesis of OCD to adverse childhood experiences (ACE) (Briggs & Price 2009, Park *et al.* 2014, Semiz *et al.* 2014, Benedetti *et al.* 2014, Barcaccia *et al.* 2015, Bey *et al.* 2017). The diathesis theory suggests that ACEs influence the emergence of certain personality traits (e.g. excessive responsibility) that lead to a greater vulnerability towards the development of OCD (Barcaccia *et al.* 2015). Early adverse experiences may be involved in the development and severity of OCD symptoms (Park *et al.* 2014, Vidal-Ribas *et al.* 2015, Ivarsson *et al.* 2016).

OCD has been associated with maladaptive parenting, particularly overprotection and rejection (Turgeon *et al.* 2002, Alonso *et al.* 2004, Sunderland & Armstrong 2005, Lennertz *et al.* 2010). Turgeon *et al.* (2002) describe excessive parental protection as common in children with OCD. Parental overprotection affects the offspring's developmental need to cope with mildly risky situations in a safe environment and overcome age-appropriate obstacles to build self-confidence (Ungar 2009, Young *et al.* 2013). The child can cope with the chronic frustration of these developmental needs by compulsive compliance that is, by rigidly obeying the overprotective and controlling parent and suppressing their own needs (Flamant *et al.* 2022). He or she subsequently suffers from anxiety and low self-esteem (Young *et al.* 2013, Breinholst *et al.* 2015) and has an increased risk of developing OCD (Brander *et al.* 2016). Parental rejection is often conceptualised as critical and blaming behaviour (Mathieu *et al.* 2020). Excessive criticism and other signs of rejection present significant sources of childhood anxiety, but their connection with OCD is weaker than parental overprotection (Brander *et al.* 2016, Mathieu *et al.* 2020).

Another developmental factor that may influence OCD is insecure attachment. This attachment style can lead to perfectionism and compulsive behaviour to stabilise self-worth and control surrounding events (Seah *et al.* 2018). Both characteristics are common in OCD patients (Rezvan *et al.* 2013). Myhr *et al.* (2004) found that an insecure attachment may predispose children to develop OCD. Sunderland & Armstrong (2005) reported that insecure attachment is a risk factor for childhood OCD. Adult OCD was also associated with attachment anxiety (Doron & Kyrios 2005, Doron *et al.* 2012, Semiz *et al.* 2014, Seah *et al.* 2018). Guidano & Liotti (1983) propose that the perception of the world as threatening but controllable is reflected in active attempts to control the environment in which one lives, which can be observed in the symptomatology of patients suffering from OCD. There is some evidence that insecure attachment is linked to the symptom severity in OCD patients (Doron *et al.* 2009, Carpenter & Chung 2011, Doron *et al.* 2012, Rezvan *et al.* 2012, Boger *et al.* 2020).

Aims of the study

The study aimed to explore two factors associated with childhood (adverse childhood experience and parental styles) and adult attachment, their interrelationships, and a possible connection to the severity and onset of adult OCD.

Study objectives and hypotheses

Based on the literature, we expect that:

(1) OCD patients with more severe ACEs experience more severe attachment anxiety.
(2) OCD patients with more severe ACEs experience an earlier onset of the disorder.
(3) OCD patients with more severe ACEs experience higher severity of the disorder-specific symptoms (a/obsessions, b/compulsions).
(4) OCD patients with more severe ACEs experience higher severity of common non-OCD symptoms (a/anxiety, b/depression, c/dissociation).

Furthermore, we presume that:

(5) More severe adult attachment anxiety is connected with the earlier onset of the disorder.
(6) More severe adult attachment anxiety is connected with more severe disorder-specific symptoms (a/obsessions, b/compulsions).
(7) More severe adult attachment anxiety is connected with more severe non-OCD symptoms (a/anxiety, b/depression, c/dissociation).

Additionally, we predict that perceived parental bonding correlates with the severity of symptomatology:

(8) Maternal care negatively correlates with disorder-specific symptoms (a/obsessions, b/compulsions).
(9) Maternal care negatively correlates with non-specific symptoms (a/anxiety, b/depression, c/dissociation).

METHODS

Patients

Eighty-seven consecutive inpatients with pharmaco-resistant OCD were included in the study; another ten were excluded due to insufficient completion of the questionnaires or severe comorbid diagnoses (schizophrenia, severe alcohol abuse). All patients were admitted for a 6-week cognitive behavioural therapy hospitalisation program in the psychotherapeutic department between October 2019 and August 2022. The study was carried out in typical settings at the inpatient psychotherapeutic department. Two independent raters established that the patients met the inclusion criteria.

- Inclusion criteria: ICD-10 criteria for OCD confirmed by MINI (Sheehan *et al.* 1998); age 18–60 years; a non-response to a previous SSRI treatment (a total Y-BOCS change < 25% after at least one SSRI trial lasting three or more months) (Pallanti *et al.* 2002);
- Exclusion criteria: Current depressive disorder; high suicidal risk; organic mental disorder; psychotic disorder current or anamnestic; current substance abuse; severe somatic illness (like haematological or oncological disorder, neurological disorders like Parkinson's disease, multiple sclerosis, ischemic heart disease, endocrinology disorders).

Measurements

The patients were assessed during the first two days of hospitalisation. The assessment was carried out using the following structured interview and scales:

- *MINI* (Sheehan *et al.* 1998) – Mini International Neuropsychiatric Interview provides screening for common mental disorders meeting the criteria of the DSM-IV and ICD-10 (Amorim 2000), including OCD.
- *HAMA* – Hamilton Anxiety Rating Scale measures the severity of anxiety symptoms. It consists of fourteen anxiety symptoms with five levels of severity (Hamilton 1959, Maier *et al.* 1988). HAMA evaluates mental anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). This study's scale showed good internal consistency (Cronbach's alpha = 0.86).
- *CGI* (Guy 2000) – Clinical Global Impression assesses the overall severity of psychopathology. The basis of assessment is a comprehensive evaluation of the severity of the disorder by the clinician (CGI-CV) at the time of assessment relative to the clinician's experience with patients with the same diagnosis. The second one is a self-evaluation performed by patients (CGI-PV).
- *BAI* (Beck *et al.* 1988) – Beck Anxiety Inventory consists of 21 self-administered items based on a four-point Likert scale denoting a degree of anxiety symptoms perceived during the last week. The Czech version is comparable to the original form in terms of its test-retest reliability, validity, and factor structure (Kamaradova *et al.* 2015). The Cronbach's alpha was 0.93 in this study.
- *BDI-II* (Beck *et al.* 1996) – Beck Depression Inventory, second edition, consists of 21 items in which patients rate the severity of their depressive symptoms during the last two weeks. The Czech version of the inventory is equivalent to the original text in terms of validity, test-retest reliability, and factor structure (Ociskova *et al.* 2017). The Cronbach's alpha was 0.93 in this study.
- *PBI* (Parker *et al.* 1979) – Parental Bonding Instrument contains 25 statements related to the behaviour of the patient's parents during their childhood. They express their level of agreement with the statements (very often, agree, disagree, rarely) and retrospectively evaluate their parents as they perceived them in their first 16 years of life. Each item saturates one of two scales (care and control); a higher score on the given scale means a higher level of subjectively perceived care or control. The questionnaire is filled out separately for the mother and the father. Cikosova & Preiss (2011) published an analysis of the Czech version and reported good internal consistency (α = 0.79–0.85). The Cronbach's alpha was 0.76 for the maternal subscale and 0.65 for the paternal subscale in the presented research.

- *ECR-R* (Fraley *et al.* 2000) – Experiences in Close Relationships – Revised consists of two subscales with 18 items each - the first represents attachment anxiety, and the second is attachment avoidance. The items are rated on a seven-point Likert-type scale (from 1 – strongly disagree to 7 – strongly agree). The ECR-R scale is a revised version of the original scale, with some items replaced to achieve better psychometric properties of the method. The Czech translation has not yet undergone standardisation. The Slovak version we used during this research reached good internal consistency (α = 0.82) (Rozvadsky-Gugova *et al.* 2014). The Cronbach's alpha of the scale was similar in this research (α = 0.80).
- *DES* (Carlson *et al.* 1991) – Dissociative Experiences Scale is a self-administered 28-item inventory with dissociative symptoms rated on a 10-cm scale according to the percentage of the time in which a participant experiences them. The Czech version of the scale is equivalent to the original text in terms of its test-retest reliability, validity and factor structure (Ptacek *et al.* 2007). Pathological DES (DES-T) includes more severe dissociative symptoms (DES items 3, 5, 7, 8, 12, 13, 22, and 27) (Waller *et al.* 1996). The method had high internal consistency in the presented study (Cronbach's alpha = 0.95).
- *CTQ* – The Childhood Trauma Questionnaire-Short Form (CTQ-SF) is a self-report retrospective questionnaire with 28 items evaluating five childhood adverse experiences: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect (Bernstein & Fink 1998, Scher *et al.* 2001, Bernstein *et al.* 2003, Thombs *et al.* 2009). Each subscale has five items, with the score's severity of the subscales ranging from 5 to 25. The total score is calculated using all 25 items and measures the overall childhood maltreatment severity (Scher *et al.* 2001). The Czech questionnaire version is equivalent to the original version regarding its test-retest reliability, validity, and factor structure (Kascakova *et al.* 2018). The method showed good internal consistency in this study (Cronbach's alpha = 0.92).
- *Y-BOCS-SR* – Yale-Brown Obsessive Compulsive Scale is a rating scale used to assess the severity of OCD and disposes of a self-report version (Y-BOCS-SR) (Goodman *et al.* 1989a, 1989b). Y-BOCS-SR entails ten items – half for obsessions and half for compulsions. Each item is scored on a 5-point Likert scale ranging from 0 (0 hours a day spent on obsessions or compulsions, no interference or distress, always resists and has control of them) to 4 (8+ hours a day spent on obsession or compulsions, incapacitating symptoms, disabling stress, no resistance or control over the symptoms). The total score ranges from 0 to 40, and separate scores for obsessions and compulsions vary between 0 and 20 (Goodman *et al.* 1989a, 1989b). The questionnaire includes a list of common types of obsessions and compulsions. Previous studies showed a high correlation between the Czech versions of Y-BOCS-SR and Y-BOCS (Prasko *et al.* 2006, Vyskocilova *et al.* 2016). The scale achieved high internal consistency (α = 0.92).
- *The demographic questionnaire* included sex, age, the onset and duration of OCD, the number of psychiatric hospitalisations, heredity, employment status, relationship status, pension income, education, and current medication.

Treatment

Patients were enrolled in the study with heterogeneous medication, which they used for at least six months and was typically prescribed by their outpatient psychiatrist. Mean dosages are present in Table 1. A small percentage of patients were administered benzodiazepines as a temporal adjunctive medication to an antidepressant.

Statistic Procedure

Sample size calculations were calculated with G*Power (Faul *et al.* 2007). The results estimated that a minimum of 64 patients were required to achieve 80% power for correlation tests (one-tailed) and paired t-tests. We expected medium effect sizes in correlations between early adverse experiences and dissociation (Lochner *et al.* 2004), adult attachment, OCD symptoms (Semiz *et al.* 2014), and parental bonding (Finzi-Dottan *et al.* 2006, Monteleone *et al.* 2020 – both non-OCD samples due to lack of data in the studied population). We further presumed medium effect sizes in connections between OCD symptoms, adult attachment (Seah *et al.* 2018), and parental bonding (Lennertz *et al.* 2010).

Patients' demographical, clinical, and measurement data were examined using descriptive statistics. All the scales and subscales with missing answers were excluded from the final calculations for every patient. The distribution of the data, means and standard deviations were defined. Normal distributions of the variables were analysed using the Shapiro-Wilk W test, and the chi-square tests were used for the categorical variables. Relationships between specific data sets (demographic data, questionnaires scores and rating scales) were calculated with correlation coefficients (Pearson or Spearman, according to data distribution). The analyses were conducted using STATISTICA 24.0 software and Prism 8.

Ethics

The study was carried out according to the latest version of the Declaration of Helsinki and ICH-GCP guidelines (International Conference on Harmonization, Good Clinical Practice) (EMEA 2002/2009). All participants signed informed consent before enrolling after the nature of the procedures had been fully explained. The local ethics committee of University Hospital Olomouc approved this project on October 14, 2019, with decision number 118/19.

RESULTS

Demographic variables

Eighty-seven pharmacoresistant patients with OCD were admitted to the study. Seventy-seven inpatients (38 males and 39 females) with a mean age of 34.2 + 11.7 years were included (Table 1). Ten patients admitted to the department were not included in the study because they did not complete more than half of the questionnaires.

Men and women significantly differed in depressive symptoms (BDI-II), the overall severity of the ACEs, and specifically emotional abuse (Table 1). Women were significantly less frequently single and were more frequently comorbid with an anxiety disorder or a personality disorder (Table 1).

Adverse childhood experiences, OCD onset, and psychopathology

The overall level of measured aversive experience (CTQ-total) and most subscales negatively correlate with the age of OCD onset.

Regarding the specific symptoms of the disorder (Y-BOCS-SR), the obsessions correlate only with physical abuse, and the compulsions connect solely with physical neglect. Physical neglect also significantly correlates with the overall severity of OCD.

All ACEs types positively correlate with depressive symptoms (BDI-II). The same is true for the anxiety (HAMA) rated by a psychologist and emotional abuse, emotional neglect, and sexual abuse (trending) with self-report anxiety (BAI).

Both general dissociation (DES) and pathologic dissociation (DES-T) positively correlate with emotional abuse and physical neglect and trend towards emotional neglect, but not physical or sexual abuse (Table 2).

Attachment anxiety, OCD onset and psychopathology

More severe adult attachment anxiety negatively correlates with the onset of OCD (Table 2). Attachment anxiety (ECR-R-anxiety) positively correlates with self-report anxiety (BAI), depressive symptoms (BDI-II), general dissociation (DES) and pathological dissociation (DES-T), but not with specific obsessive-compulsive symptoms – obsessions or compulsions (Y-BOCS-SR). Attachment avoidance (ECR-R-avoidance) does not correlate with any of these.

Attachment anxiety (ECR-R-anxiety) correlated with CTQ-total and subscales of Emotional abuse, Emotional neglect and Physical neglect (Table 3). Attachment avoidance does not correlate with any adverse childhood events.

Parental styles, OCD onset, and psychopathology

Both parental care and control from either parent did not correlate with the onset or the severity of the specific OCD symptoms (obsessions, compulsions; measured by Y-BOCS-SR) (Table 2).

However, the parental styles significantly correlate with anxiety and depression (care negatively, control positively) and maternal care correlates negatively with both general and pathological dissociation (Table 2).

DISCUSSION

Our study examined associations between adverse childhood experiences, parental styles, and adult attachment and the OCD onset and severity of psychopathology in adults with pharmacoresistant OCD.

The mean age of the patients, the disorder onset and the disorder duration are comparable with the demographic parameters in other studies with pharmacoresistant OCD patients (Prasko *et al.* 2009, Ociskova *et al.* 2021).

Response to the hypotheses

(1) OCD patients with more severe ACEs experience more severe attachment anxiety.

Patients with more severe ACEs show more pronounced attachment anxiety with a weak to moderate effect size. Regarding the ACEs subtypes, attachment anxiety is weakly positively associated with emotional and physical neglect and moderately positively with emotional abuse. We did not find research which explores a direct relationship between ACEs and adult attachment anxiety in OCD patients. However, Lin *et al.* (2020) found a positive connection between attachment anxiety and ACE in the context of somatic symptoms in adults. Boger *et al.* (2020b) proposed that attachment style can mediate the severity of child maltreatment and obsessive-compulsive disorder.

(2) OCD patients with more severe ACEs experience an earlier onset of the disorder.

The participants with higher adverse childhood experiences developed OCD earlier. There is a weak negative correlation between the age of onset and the total CTQ score, as well as with all the CTQ subdomains except for sexual abuse. This non-significance may be because only few participants scored higher in this area. Fontenelle *et al.* (2012) showed similar results and found that patients with a positive history of childhood trauma developed obsessive-compulsive symptomatology at an earlier age.

(3) OCD patients with more severe ACEs experience higher severity of specific symptoms (obsessions, compulsions).

This hypothesis is only partially fulfilled. Childhood abuse and neglect severity did not correlate with OCD symptoms measured by the Y-BOCS-total score. However, physical abuse was weakly connected with more severe obsessions and physical neglect with more severe compulsions and overall OCD symptoms. Selvi *et al.* (2012) and Visser *et al.* (2014) did not consider

Tab. 1. Patients included in the study

Variable	Frequency or mean with a standard deviation			Statistics
	All patients	Men (n=38)	Women (n=39)	
Age	34.2 ± 11.7	32.1 ± 10.5	36.2 ± 12.5	Unpaired t-test: t=1.538 df=75; ns
Age of onset of the disorder	17.3 ± 8.6	15.8 ± 8.4	18.1 ± 8.9	Unpaired t-test: t=1.118 df=75; ns
Length of the disorder	16.5 ± 10.7	15.3 ± 8.5	17.5 ± 12.6	Unpaired t-test: t=0.8425 df=75; ns
Number of hospitalisations	3.0 ± 5.7	3.7 ± 7.9	2.3 ± 1.7	Mann-Whitney U=681; ns
Heredity no/yes	29 / 48	16 / 22	13 / 26	Fisher's exact test: ns
Education: basic/vocational / secondary /university	14/13/28/22	9/9/12/8	5/4/16/14	chi-square, df: 5.262, 3; ns
Employment: student/ employed/unemployed/rent	14/24/17/22	4/14/8/12	10/10/9/10	chi-square, df: 3.466, 3; ns
Marital status: single/married/ divorced	57/13/7	33/4/1	24/9/6	chi-square, df: 6.904, 2; $p<0.05$
Partner: no/yes	44 / 33	28 / 10	16 / 23	Fisher's exact test: $p<0.01$
Comorbid anxiety disorder: no/yes	64 / 13	37 / 1	27 / 12	Fisher's exact test: $p<0.005$
Comorbid personality disorder: no/yes	58 / 19	34 / 4	24 / 15	Fisher's exact test: $p<0.01$
CGI-CV	4.6 ± 0.7	4.6 ± 0.7	4.5 ± 0.7	Mann-Whitney U: 609; ns
Y-BOCS-SR-total	23.9 ± 7.3	23.5 ± 7.8	24.8 ± 6.8	Unpaired t-test: t=0.7702 df=74; ns
Y-BOCS-SR-obsessions	12.4 ± 3.9	12.1 ± 3.9	12.7 ± 4.0	Unpaired t-test: t=0.6293 df=74; ns
Y-BOCS-SR-compulsions	11.6 ± 4.0	11.3 ± 4.1	12.0 ± 3.9	Unpaired t-test: t=0.6667 df=74; ns
HAMA	23.0 ± 10.1	20.9 ± 11.2	25.0 ± 8.7	Unpaired t-test: t=1.802 df=75; ns
CGI-PV	4.7 ± 1.5	4.4 ± 1.5	4.9 ± 1.5	Mann-Whitney U: 570.5; ns
BAI	23.1 ± 13.5	21.4 ± 14.1	24.8 ± 13.2	Unpaired t test: t=1.075 df=74; ns
BDI-II	25.1 ± 13.3	21.4 ± 13.9	28.1 ± 12.0	Unpaired t-test: t=2.263 df=74; $p<0.05$
DES	13.4 ± 14.9	13.0 ± 14.7	13.8 ± 15.2	Unpaired t test: t=0.2485 df=74; ns
DES-T	9.0 ± 13.9	9.2 ± 14.0	8.9 ± 14.0	Mann-Whitney U: 640.5; ns
PBI – maternal care	23.4 ± 10.5	25.1 ± 9.5	21.7 ± 11.4	Unpaired t test: t=1.350 df=72; ns
PBI – maternal control	15.0 ± 7.9	16.1 ± 6.7	14.0 ± 8.9	Unpaired t test: t=1.156 df=72; ns
PBI – paternal care	19.4 ± 9.7	20.9 ± 9.5	17.9 ± 9.8	Unpaired t test: t=1.259 df=72; ns
PBI – paternal control	12.7 ± 7.6	13.1 ± 6.5	12.3 ± 8.6	Mann-Whitney U: 497; ns
CTQ-total	45.7 ± 20.0	40.1 ± 10.0	51.0 ± 25.1	Unpaired t test: t=2.262 df=68; $p<0.05$
CTQ- emotional abuse	11.4 ± 6.2	9.9 ± 4.4	12.8 ± 7.2	Unpaired t test: t=2.012 df=68; $p<0.05$
CTQ-psychical abuse	7.0 ± 4.3	6.1 ± 1.9	7.9 ± 5.7	Mann-Whitney U: 639.5; ns
CTQ-sexual abuse	6.0 ± 3.6	5.0 ± 0.0	7.0 ± 4.9	NA; Sexual abuse was seen only in women
CTQ-emotional neglect	14.1 ± 5.8	13.2 ± 4.9	14.8 ± 6.4	Unpaired t test: t=1.179 df=68; ns
CTQ-physical neglect	7.6 ± 4.0	7.0 ± 2.4	8.2 ± 5.0	Mann-Whitney U: 659.5; ns
ECR-R – anxiety	4.0 ± 1.5	4.2 ± 1.2	3.8 ± 1.6	Unpaired t test: t=1.108 df=68; ns
ECR-R - avoidant	3.4 ± 0.9	3.2 ± 0.8	3.5 ± 1.0	Unpaired t test: t=0.8792 df=68; ns
Antidepressant index (paroxetine equivalence)	49.4 ± 25.0 (n=69)	46.2 ± 24.2 (n=34)	52.6 ± 25.8 (n=35)	Unpaired t-test: t=1.067 df=67; ns
Anxiolytic index (diazepam equivalence)	12.2 ± 9.0 (n=17)	14.2 + 11.6 (n=9)	10.0 + 4.6 (n=8)	Unpaired t-test: t=0.9489 df=15; ns
Antipsychotic index (risperidone equivalence)	1.9 ± 1.5 (n=37)	2.2 + 1.5 (n=19)	1.6 + 1.4 (n=18)	Unpaired t-test: t=1.263 df=35; ns

BAI, Beck Anxiety Inventory; BDI-II, Beck Depressive Inventory, second edition; CGI-CV, a clinician version of the Clinical Global Impression-Severity of the disorder; CGI-PV, a patient version of the Clinical Global Impression-Severity of the disorder; CTQ, The Childhood Trauma Questionnaire-Short Form; DES, Dissociative Experience Scale; ECR-R, Experiences in Close Relationships – Revised; HAMA, Hamilton Anxiety Rating Scale; PBI, Parental Bonding Instrument; Y-BOCS-SR, Yale-Brown Obsessive Compulsive Scale – Self-Report; df, degrees of freedom

ACE a factor significantly affecting the development or severity of OCD. In Ivarsson *et al.* (2016) study, patients with OCD did not show an increased rate of traumatic events unless having a comorbid depressive disorder. Similarly, in a non-clinical sample recruited by Briggs & Price (2009), the severity of childhood trauma was positively correlated with the severity of obsessive-compulsive symptoms. However, this relationship became non-significant after controlling for depression and anxiety. The studies of Ivarsson and Selvi are good examples of how complex the OCD dynamic is and how the respective symptoms interact. According to Belli *et al.* (2013), OCD is related to dissociation, but adverse events in childhood may not necessarily cause OC symptoms. However, this study was conducted on a population with different characteristics (patients admitted to outpatient psychiatric treatment for the first time) and used a different method (DIS-Q) to assess dissociation.

On the contrary, a systematic review by Miller & Brock (2017) found that the severity of compulsions (but not obsessions) was related to violence, emotional abuse, sexual abuse, and neglect in childhood. Lochner *et al.* (2002) and Bey *et al.* (2017) documented higher rates of childhood trauma in OCD patients than in controls. Boger *et al.* (2020a) determined that the severity of experienced childhood maltreatment was associated with higher OCD symptom severity, with the strongest association for emotional abuse. A few months later, these authors published the outcomes of another research which identifies emotion regulation difficulties, rumination, attachment, dissociation, and posttraumatic stress symptoms as potential mediators between childhood maltreatment and OCD symptom severity (Boger *et al.* 2020b). Vidal-Ribas *et al.* (2020) tested whether a wide range of retrospectively-reported stressful life events (SLEs) influence the lifetime presence and severity of obsessive-compulsive symptoms (OCS) in a large Swedish population-based cohort of 22,084 twins. They conclude that OCS is selectively associated with certain stressful life events. In particular, a history of interpersonal abuse, neglect, and family disruption makes a modest but significant contribution to the severity of OCS. In a study by Tatli *et al.* (2018) the sum of adverse experiences assessed by the CTQ (as well as the degree of dissociation assessed by the DES) had an independent effect on the inventory score measuring obsessive and compulsive symptoms (Padua Inventory). The selection of the research population can partially explain the different results - unlike the mentioned studies, our research involved patients who did not respond to adequate outpatient treatment and therefore was recommended an intensive inpatient program.

(4) OCD patients with more severe ACEs experience higher severity of common non-OCD symptoms (a/anxiety, b/depression, c/dissociation).

The overall adverse childhood experience level was weakly to moderately positively linked to anxiety, depression and dissociation severity. Therefore, we confirm this hypothesis. When analysing each of the subdomains of adverse childhood experiences, we found that:

- *Emotional abuse* positively correlates with anxiety (BAI, HAMA), depressive symptoms (BDI-II), and dissociation (DES, DES-T). The severity of the depressive symptoms is strongly connected with a history of emotional abuse. Similar results were reported by Wang *et al.* (2020), where physical and emotional abuse and sexual traumatisation positively correlated with anxiety symptoms and depression assessed by the BAI and BDI-II. Lochner *et al.* (2004) also found an association between dissociation and physical and emotional abuse, sexual abuse and physical neglect.
- According to our results, *physical abuse* moderately correlates with depressive symptoms (BDI-II) and weakly connects with anxiety (HAMA but not BAI). Our results resemble the Rehan *et al.* (2017) study on 10,980 adult participants, where severe physical abuse is associated with anxiety and depression.
- *Childhood sexual abuse* weakly positively correlates only with the anxiety evaluated by a psychologist (HAMA) but not with other non-specific OCD symptoms. The reason may be a low incidence of sexual abuse history in the sample.
- *Emotional neglect* weakly to moderately positively correlates with the severity of depressive symptoms (BDI-II) and anxiety (HAMA, BAI). Rehan *et al.* (2017) reported similar findings, confirming the connection between emotional neglect, anxiety, and depression. Moreover, Salokangas *et al.* (2018) concluded in their study that emotional neglect in childhood predicts the development of depressive and anxiety disorders and substance abuse.
- *Physical neglect* in childhood positively correlates with the anxiety evaluated by a rater (HAMA), depressive symptoms (BDI-II), and both general and pathological dissociation (DES, DES-T). Regarding the non-specific OCD symptoms, Rehan *et al.* (2017) determined a connection between physical neglect and anxiety or depression. Sanders & Giolas (1991) and Brunner *et al.* (2000) confirmed the relation between physical neglect and dissociation in the adolescent group. Lochner *et al.* (2004) confirmed the finding in OCD patients.

(5) More severe adult attachment anxiety is connected with the earlier onset of the disorder.

The results of our study show a weak negative relationship between attachment anxiety and the age onset of the disorder. Attachment anxiety is usually not listed among the common factors influencing the early onset of OCD, as there is a lack of relevant research on this topic (Bloch *et al.* 2009, Siddeswara *et al.* 2021). At the same time, the early onset has been associated with high

Tab. 2. Correlations of parental styles, adult attachment, and ACEs with psychopathology

	Disorder onset	Y-BOCS-SR obsessions	Y-BOCS-SR compulsions	Y-BOCS-SR total	HAMA	BAI	BDI-II	DES	DES-T	CGI-CV	CGI-PV
PBI – maternal care	0.15	0.08	-0.03	0.02	**-0.29** P*	-0.20	**-0.34** P**	**-0.29** S*	**-0.34** S**	0.04	0.07
PBI – maternal control	-0.14	0.01	-0.03	-0.02	0.20	**0.26** P*	**0.27** P*	0.16	0.15	-0.10	0.12
PBI – paternal care	0.12	-0.01	-0.16	-0.09	-0.23 p=0.06	-0.14	-0.23 p=0.06	-016	-0.23	0.05	-0.15
PBI – paternal control	-0.21	-0.11	-0.17	-0.15	0.18	**0.25** P*	**0.37** P**	0.21	0.22	-0.07	0.18
ECR-R – anxiety	**-0.33** P*	-0.01	-0.07	0.01	0.24	**0.43** P**	**0.40** P**	**0.37** S**	**0.39** S**	0.09	0.22
ECR-R – avoidance	0.13	0.05	0.11	0.11	0.11	0.20	0.03	0.01	0.04	-0.13	0.08
CTQ. total	**-0.28** P*	0.04	0.15	0.12	**0.44** P***	**0.30** P*	**0.45** P***	**0.29** S*	**0.30** S*	0.02	**0.25** S*
Emotional abuse	**-0.34** S**	0.10	0.19	0.13	**0.39** S**	**0.32** S**	**0.53** S***	**0.32** S*	**0.31** S*	-0.04	**0.36** S**
Physical abuse	**-0.25** S*	**0.28** S*	0.20	0.22	**0.27** S*	0.16	**0.40** S***	0.20	0.04	0.07	0.17
Sexual abuse	-0.21	-0.03	0.13	0.08	**0.37** S**	0.23 p=0.06	0.23 p=0.05	0.21	0.21	-0.03	0.21
Emotional neglect	**-0.24** P*	-0.01	0.17	0.13	**0.41** P***	**0.26** P*	**0.44** P***	0.24 p=0.05	0.23 p=0.06	0.02	**0.32** P**
Physical neglect	**-0.25** S*	0.16	**0.30** S*	**0.27** S*	**0.27** S*	0.18	**0.31** S**	**0.27** S*	**0.26** S*	0.03	0.18

Note. * $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$; S, Spearman r; P, Pearson r

comorbidity or treatment-resistant OCD, making it an important factor to explore (Rosario-Campos *et al.* 2001, Fontenelle *et al.* 2003, Lomax *et al.* 2009).

(6) More severe adult attachment anxiety is connected with more severe disorder-specific symptoms (a/obsessions, b/compulsions).

Our results showed no significant relationship between attachment anxiety and obsessions or compulsions. That corresponds to the study of Asad & Dawood (2015), who focused on determining the predictors of twelve OCD symptom dimensions. Results revealed that attachment anxiety and avoidance had a non-significant relationship with OCD symptom dimensions. Conversely, Yarbro *et al.* (2013) explored the possible contributions of early parent-child relations to attachment styles and the severity of obsessive-compulsive beliefs in college students. The results show that attachment anxiety partially intermediated the link between parent-child relations and obsessive beliefs, while attachment avoidance was not established as a mediator. Doron *et al.* (2012) found that attachment anxiety was significantly higher in individuals with OCD, but the relationship was insignificant for attachment avoidance. On the other hand, the van Leeuwen *et al.* (2020) meta-analysis stated an association of medium to large effect size between OCD and attachment anxiety and an association of medium effect size between OCD and attachment avoidance. Boysan & Cam (2016) found both attachment anxiety and avoidance significant contributors to the severity of OCD

Tab. 3. Correlation between psychological factors (adverse childhood experiences and attachment)

	CTQ total	Emot. Abuse	Physical abuse	Sexual abuse	Emot. Neglect	Physical neglect
ECR-R – anxiety	**0.39** P**	**0.32** S*	0.09	0.25	**0.41** P**	**0.34** S*
ECR-R – avoidance	-0.05	-0.01	-0.21	0.19	-0.08	-0.14

Note. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$; S, Spearman r; P, Pearson r

symptoms in a study investigating direct and indirect relations between attachment insecurity, obsessional beliefs, and OCD symptoms.

(7) More severe adult attachment anxiety is connected with more severe non-OCD symptoms (a/anxiety, b/depression, c/dissociation).

The attachment anxiety was weakly to moderately related to the severity of anxiety, depressive symptoms, and dissociation. Similar results have emerged in multiple studies, where attachment anxiety was positively associated with the symptom severity in OCD patients (Doron *et al.* 2009, Carpenter & Chung 2011, Doron *et al.* 2012, Rezvan *et al.* 2012, Boger *et al.* 2020).

(8) Maternal care negatively correlates with disorder-specific symptoms (a/obsessions, b/compulsions).

We did not find a significant connection between the parental styles and the OCD onset nor the severity of obsessions and compulsions. This contrasts with the study by Lennertz *et al.* (2010), which compared OCD patients, their siblings, and healthy controls. The patients with OCD reported less parental warmth and more parental rejection and control than the other groups. OCD patients with comorbid depression described their parents negatively. Turgeon *et al.* (2002) reported that excessive parental control was more common in children with OCD than in control families. The difference between the results could be attributed to the different study populations. Our research involved patients who did not respond to an SSRI trial and were recommended hospitalisation, contrasting with Lennertz's study. On the other side, Brander *et al.* (2016) reported mixed evidence for the connection between OCD and specific parental styles.

(9) Maternal care negatively correlates with non-specific symptoms (a/anxiety, b/depression, c/dissociation).

Maternal care is weakly negatively correlated with anxiety evaluated by a psychologist, with the level of depressive symptoms and both general and pathological dissociation. Regarding anxiety and depression, Anhalt & Morris (2008) found the same results in undergraduate university students; however, they used the same methods (PBI, BAI, BDI-II).

Limitations of the study

Most measurements were self-reported and thus relied on the individual's introspection, willingness to report uncomfortable symptoms, and ability to recall childhood experiences. Future research should corroborate these questionnaires with more clinician-rated instruments. Another limitation of our investigation is a small sample, making evaluating different subgroups of OCD patients impossible. Furthermore, the symptoms of OCD, dissociation, anxiety and depression may have been affected by doses of psychopharmacs.

CONCLUSION

Physical abuse, neglect, and adult attachment anxiety positively connect with the severity of OCD symptoms. At the same time, the overall severity of the ACEs and the attachment anxiety can be related to non-specific symptoms such as anxiety, depression, and dissociation. Individuals with more severe ACEs or attachment anxiety develop OCD earlier. Parental styles seem important regarding the non-specific symptoms in OCD patients.

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