

Effect of Adverse Childhood Experiences, Parenting Styles, and Family Accommodation on Patients Diagnosed with Obsessive-Compulsive Disorder

ABSTRACT

Background: Obsessive-compulsive disorder (OCD) is a mental illness that has multiple biological, psychological, and sociological factors. The aim of this study was to investigate childhood traumatic experiences, parenting style, and family adaptive behaviors in patients with OCD, to explore the psychosocial factors that affect its occurrence, and to analyze the correlation between these psychosocial factors and OCD symptoms to better understand its etiology.

Methods: We recruited 109 patients diagnosed with OCD (patient group) and 144 healthy controls (control group) into this study. The Obsessive-Compulsive Inventory—Revised (OCI-R), Childhood Trauma Questionnaire—Short Form (CTQ-SF), Egna Minnen Beträffande Uppfostran (EMBU), and Family Accommodation Scale—Patient Version (FAS-PV) questionnaires were administered to all participants.

Results: Patient OCI-R scores for checking, hoarding, obsessing, ordering, washing, neutralizing, and total OCI-R scores were significantly higher when compared with the control group (all $P < .05$). Patient CTQ scores for emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, and total CTQ scores were significantly higher when compared with the control group (all $P < .05$). Patients' EMBU scores for F1, F2, F3, F5, F6, M1, M2, M3, M4, M5, and total EMBU scores were significantly higher when compared with the control group (all $P < .05$). There was no significant difference in the F4 scores between the 2 groups ($P = .622$). Patient FAS-PV scores for the direct participation and facilitation of OCD symptoms, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities, and total FAS-PV scores were significantly higher when compared with the control group (all $P < .05$). The total OCI-R score showed a significant positive correlation with emotional abuse, physical abuse, sexual abuse, physical neglect, and total CTQ score ($r = 0.564$; $r = 0.518$; $r = 0.542$; $r = 0.586$; $r = 0.603$, all $P < .05$). The total OCI-R score showed a significant positive correlation with the scores for F1, F2, F3, F5, F6, M1, M2, M3, M4, M5, and the total EMBU score ($r = 0.504$; $r = 0.531$; $r = 0.611$; $r = 0.466$; $r = 0.519$; $r = 0.665$; $r = 0.351$; $r = 0.597$; $r = 0.667$; $r = 0.484$; $r = 0.586$; $r = 0.662$, all $P < .05$). The total OCI-R score showed a significant positive correlation with scores for direct participation and facilitation, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities, and total FAS-PV score ($r = 0.571$; $r = 0.624$; $r = 0.670$; $r = 0.592$; $r = 0.684$, all $P < .05$).

Conclusion: Our findings highlight the importance of adverse childhood experiences, parenting styles, and family accommodation on OCD patients. Importantly, these adverse experiences are closely related to the severity of symptoms in these patients. We suggest that psychological, and not only physiological, changes play a crucial role in the occurrence and development of OCD. This study confirmed that family and childhood experiences play an important role in the occurrence of OCD, and family education in childhood greatly affects the occurrence of OCD. Therefore, it can be inferred that good family psychological education in childhood has a positive effect on reducing the risk of OCD. If family psychological education can be included in community medical services, this will help to mitigate the development of mental health situations.

Keywords: Obsessive-compulsive disorder, adverse childhood experiences, parenting styles, family accommodation

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Introduction

Obsessive-compulsive disorder (OCD) is a mental illness that manifests as obsessive ideas and compulsive behaviors.¹ Obsessive ideas are thoughts that are uncontrolled, recurring, and disturbing. Compulsive behavior refers to repetitive, stereotypical, and meaningless behaviors taken to relieve the anxiety caused by obsessive ideas.² The causative factors of OCD are currently not completely clear. However, it has been reported that possible factors include genetics, neurotransmitter abnormalities, infection, and personality traits, and treatment options mainly involve psychotherapy and drug therapy.^{3,4}

Traumatic childhood experiences refer to the physical, sexual, emotional, and mental injuries that people suffer during childhood, such as abuse, neglect, violence, bullying, and the death of relatives.⁵ These experiences may cause people to have strong painful emotions, serious trust problems, negative emotional experiences, and some people may also be affected by severe depression and anxiety for a long period.⁶ In childhood, some people may not be able to adapt and express these feelings (or experiences) well, which may result in feelings of helplessness and insecurity. Such insecurity leads people to strengthen their self-protection by controlling their own behaviors and surroundings.⁷ Studies have shown that childhood trauma is an important predictor of aggression among Chinese college students, regardless of their previous experiences.⁸ The negative impact of childhood trauma, especially emotional maltreatment, on daily life, mental state, and psychotic intensity has been confirmed in patients with psychoses.^{9,10} Other studies have shown that childhood trauma, especially emotional and sexual abuse, predicts specific adult somatic symptoms,¹¹ and childhood trauma has a negative impact on memory function in people with bipolar disorder.¹² Recently, researchers have found differential associations between abusive and neglectful experiences with brain function in adulthood,¹³ and the negative impact of childhood trauma on the number of depressive episodes and depressive symptoms has been confirmed in patients with bipolar disorder.¹⁴ In addition, childhood trauma is associated with decreased resilience, higher depressive symptoms, and ultimately a higher suicide risk.¹⁵

It has been previously shown that parental education impacts on children's belief system, values, and interpersonal habits.¹⁶ Among these, improper parenting styles, such as over-protection, over-control, and over-criticism, may lead to a lack of independence, self-confidence, and the ability to cope with problems. It may also prompt children

to form high standards of self-requirement and display negative perfectionism, an introverted personality, and neurotic characteristics, which are more likely to produce compulsive symptoms.¹⁷ In addition, the parents' own psychological problems (such as anxiety and depression) may also affect their parenting style, increasing the risk of children suffering from OCD to some extent.¹⁸ Research has shown that parenting styles are significantly associated with parenting stress and childhood problematic behaviors,¹⁹ and error monitoring might be a bridging factor between parenting styles and psychological resilience.²⁰ The overall hypothesis is that overcompensation and avoidance coping styles negatively impact upon eating attitudes and behaviors.²¹ Research has revealed a significant association between parenting styles and attachment styles and moral disengagement.²² Negative perfectionism plays a mediating role between a negative parenting style and obsessive-compulsive symptoms in college students,²³ and an authoritative parenting style is closely related to higher levels of social-emotional adjustment in preschool children.²⁴ In fact, responsive parenting styles have been shown to positively impact and reduce adolescent bullying behaviors.²⁵ Furthermore, a significant correlation between hostile/coercive parenting style and the externalization of children's problems has been demonstrated in autism spectrum disorder.²⁶

Family accommodation refers to the attitude of family members to support and praise inappropriate behaviors, thus increasing the repeatability and persistence of such behaviors.²⁷ Specifically, it is manifested by family members, enabling OCD patients to perform ritualistic actions or participating in compulsive behavior, assisting patients to avoid fearful places or things, tolerating erratic behavior or a messy home, and changing family routines to avoid patients' responsibilities. Although this kind of behavior can relieve the patients' anxiety and avoid conflicts in the short term, it will cause disease symptoms to persist or even worsen, increasing the adaptive behaviors, forming vicious cycle.^{28,29} Family accommodation is an important target for reducing youth anxiety.³⁰ In recent years, researchers have discovered significant positive correlations between restricted and repetitive behaviors and interests and overall family accommodation behaviors and their sub scores in children with autism spectrum disorder.³¹ Research has also shown that family accommodation and child anxiety are bidirectionally related between the age 4 years and school age,³² and youths with anxiety disorders report greater family accommodation than control groups.³³ In addition, family accommodation of restricted and repetitive behaviors occurs frequently and is linked to greater symptom severity in families of children with autism³⁴ and family accommodation can have a significant impact on the child's anxiety.³⁵

Currently, research based on the psychosocial factors of OCD is mainly focused on personality signs and less attention is paid to the influence of childhood trauma or parent and family factors on OCD. Therefore, this study investigated childhood traumatic experiences, parenting styles, and family accommodation of patients with OCD and is the first to analyze the correlation between these 3 psychosocial factors. We aimed to increase the understanding of the psychosocial factors of OCD to provide a theoretical basis for the formulation of psychological treatment programs. Furthermore, we propose the hypothesis that taking appropriate preventative measures during childhood is beneficial for reducing the risk of OCD.

MAIN POINTS

- Our findings highlight the importance of adverse childhood experiences, parenting styles, and family accommodation on obsessive-compulsive disorder (OCD) patients.
- Adverse childhood experiences, parenting styles, and family accommodation are closely related to the severity of symptoms in these patients.
- Psychological, as well as physiological, changes play a crucial role in the occurrence and development of OCD.

Material and Methods

Study Participants

The study was conducted in the Department of Psychology at the Hangzhou Seventh People's Hospital. All the participants signed a written and informed consent form before participation in the study. The study subjects included 144 healthy controls (control group) and 109 patients with OCD (patient group). The control group included 86 males (59.72%) and 58 females (40.28%), with a mean age of 27.0 (6.8) years, and the patient group included 59 males (54.13%) and 50 females (45.87%), with a mean age of 25.1 (8.8) years. There was no statistically significant difference in sex and age between the 2 groups ($\chi^2 = 0.793$, $P = .373$; $t = 1.897$, $P = .059$).

The inclusion criteria were as follows:

- The patient meets the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5) (First, 2013)³⁶ for diagnosis of OCD.
- The patient is aged 14-60 years (both inclusive).
- The patient is hemodynamically stable.
- The patient can read and understand Chinese.

Exclusion criteria were as follows:

- Secondary obsessive-compulsive symptoms caused by other mental disorders.
- History of abuse of psychoactive substances.
- Major physical diseases.
- Pregnant and lactating woman.
- Receiving psychological treatment or counseling before enrollment.

Ethical Consideration

The data for this study comes from the Department of Psychology at the Hangzhou Seventh People's Hospital with approval by the Institutional Ethical Committee (Approval No: 2021-100). Informed consent was obtained from all subjects.

Method of Measurement

After the OCD patients were diagnosed by 2 psychiatrists with attending or above titles, the same group of researchers gave the general questionnaires, the Obsessive-Compulsive Inventory—Revised (OCI-R), Childhood Trauma Questionnaire Short Form (CTQ-SF), Egna Minnen Beträffande Uppfostran (EMBU), and Family Accommodation Scale—Patient Version (FAS-PV) to the subjects who met the inclusion criteria but did not meet the exclusion criteria. To prevent patient fatigue from affecting the measurement results, the test patients were allowed to rest 1-2 times for 5 minutes each time during the test, depending upon the subject's condition. After the test was completed, the questionnaire was withdrawn.

Scales Used in the Study

The OCI-R scale was used to assess the OCD Symptom Classification Scale (OCI). This self-rated scale was simplified by Professor Edna Foa based on the original OCI in 2002. The OCI-R scale includes hoarding (score for items 1, 7, 13), checking (score for items 2, 8, 14), ordering (score for items 3, 9, 15), neutralizing (score for items 4, 10, 16), washing (score for items 5, 11, 17), and obsessing (score for items 6, 12, 18). Obsessive-compulsive symptoms had a total of 6 dimensions and 18 entries. Each item adopts a 5-level scoring system (0 = never;

~4 = often). The score range for each dimension is 0-12 points, and the total score ranges from 0 to 72 points. The OCI-R scale has good reliability and validity, which was suitable for the evaluation of obsessive-compulsive symptoms. Cronbach's alpha was determined (patient group: $\alpha = 0.813$; control group: $\alpha = 0.782$). The reliability coefficient for the original measurement was 0.758, and the reliability coefficient applied to this study was 0.712.

Childhood abuse and neglect was assessed using the CTQ-SF, a self-rated scale. The first version of the CTQ contained 70 items. Considering its complexity that might cause patient discomfort and other shortcomings, such as long operation time and many negative items, it was simplified by Bernstein in 2005 to the CTQ-SF. The CTQ-SF scale includes physical abuse (score for items 9, 11, 12, 15, 17), emotional abuse (score for items 3, 8, 14, 18, 25), sexual abuse (score for items 20, 21, 23, 24, 27), physical abuse neglect (score for items 1, 2, 4, 6, 26), and emotional neglect (score for items 5, 7, 13, 19, 28), representing a total of 5 dimensions and 28 items. Each item adopts a 5-level scoring system (1 = never; ~5 = always). The score range of each dimension is 5-25 points, and the total score ranges from 28 to 140 points. The CTQ-SF scale has good reliability and validity, and was suitable for clinical and nonclinical childhood trauma assessment. Cronbach's alpha was determined (patient group: $\alpha = 0.764$; control group: $\alpha = 0.721$). The reliability coefficient of the original measurement was 0.710 and the reliability coefficient applied to this study was 0.733.

The EMBU scale was used to evaluate parental attitudes and behaviors. The EMBU, a self-rated scale, was developed by C. Perris in 1980 (Department of Psychiatric Medicine, Umea University, Sweden) and later revised in 1993 by Yue Dongmei et al^{37,38} (Department of Psychology, China Medical University). The EMBU questionnaire contains 66 entries, divided into 2 parts for the mother and the father. The father's section contains emotional warmth, understanding (score for items 2, 4, 6, 7, 9, 15, 20, 25, 30, 31, 32, 33, 37, 42, 54, 60, 61, 66), punishment, and severity (score for items 5, 13, 17, 18, 43, 49, 51, 52, 53, 55, 58 on conversion), excessive interference (score for items 1, 10, 11, 14, 27, 36, 48, 50, 56, 57), preferred subjects (score for items 3, 8, 22, 64, 65), rejection and denial (score for items 21, 23, 28, 34, 35, 45), and overprotection (score for items 12, 16, 39, 40, 59), giving 6 main factors and 58 items. The mother's section includes emotional warmth and understanding (score for items 2, 4, 6, 7, 9, 15, 25, 29, 30, 31, 32, 22, 37, 42, 44, 54, 60, 61, 63), excessive protection and excessive interference (score for items 1, 11, 12, 14, 16, 19, 24, 27, 35, 36, 41, 48, 50, 56, 57, 59), refuse or deny (score for items 23, 26, 28, 34, 38, 39, 45, 47), punishment and severity (score for items 17, 43, 51, 52, 53, 55, 58, 62, 13), and preferred subjects (score for items 3, 8, 22, 64, 65), giving 5 main factors and 57 entries. Each entry is scored on a 5-point scale (1 = never; ~5 = always), with an overall score ranging from 66 to 330. The EMBU scale has good reliability and validity, which is suitable for clinical and nonclinical parenting style assessment. Cronbach's alpha was determined (patient group: $\alpha = 0.805$; control group: $\alpha = 0.794$). The reliability coefficient of the original measurement was 0.760 and the reliability coefficient applied to this study was 0.742.

The FAS-PV was used to assess family adaptive behavior for OCD patients in the past week. The self-rated scale was developed by Wu et al (Yale University, USA) in 2016. The FAS-PV scale includes direct participation and facilitation of OCD symptoms, avoidance of OCD triggers, taking on patient responsibilities, and modification of

personal responsibilities, giving a total of 4 dimensions and 19 items. The scoring method is the same as FAS. Each item is scored on a 5-level scale (0 = none/never; 1 = 1 day; 2 = 2-3 days; 3 = 4-6 days; and 4 = every day in the past week), with the total score ranging from 0 to 76 points. The higher the score, the higher the degree of family compliance. The FAS-PV scale has good reliability and validity and is suitable for family accommodation assessment of adult patients with OCD. Cronbach's alpha was determined (patient group: $\alpha = 0.845$; control group; $\alpha = 0.807$). The reliability coefficient of the original measurement was 0.830 and the reliability coefficient applied to this study was 0.766.

Statistical Analysis

Data were tested for normal distribution using the Kolmogorov-Smirnov test. If the data were consistent with the normal distribution, continuous variables were presented as mean (standard deviation), and the quantitative variables were compared using the independent samples *t*-test. If data were not consistent with normal distribution, continuous variables were presented as median (minimum-maximum), and the comparison between groups was performed using the Mann-Whitney test. The categorical variable (sex) is displayed as *n* (%) and were compared using a chi-square test. The interrelationships between the total score in the OCI-R scale and the CTQ, EMBU, and FAS-PV scales were performed using the Pearson correlation coefficient. A *P*-value of $<.05$ was considered statistically significant. Data were analyzed using IBM Statistical Package for the Social Sciences Statistics software, version 27.0 (IBM SPSS Corp.; Armonk, NY, USA).

Results

Table 1 shows the mean (SD) for the OCI-R scores.

Patient OCI-R scores for checking, hoarding, obsessing, ordering, washing, neutralizing, and OCI-R-total scores were significantly higher than those of the control group (all $P < .05$).

Table 2 shows the mean (SD) for the CTQ scores.

Patient CTQ scores for emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, and total CTQ scores were significantly higher than those of the control group (all $P < .05$).

Table 3 shows the mean (SD) for the EMBU scores.

Patient EMBU scores for F1, F2, F3, F4, F5, F6, M1, M2, M3, M4, M5, and total EMBU scores were significantly higher than those of the control

Table 1. Obsessive-Compulsive Inventory—Revised Scores

OCI-R	Control Group	Patient Group	<i>P</i>
Checking	2.6 (SD = 2.4)	4.6 (SD = 3.2)	$<.001$
Hoarding	2.9 (SD = 2.5)	3.9 (SD = 3.6)	.008
Obsessing	2.0 (SD = 2.5)	6.3 (SD = 3.2)	$<.001$
Ordering	2.8 (SD = 2.4)	4.7 (SD = 3.5)	$<.001$
Washing	2.0 (SD = 2.4)	5.5 (SD = 3.8)	$<.001$
Neutralizing	2.0 (SD = 2.2)	4.2 (SD = 3.3)	$<.001$
Total scores	14.4 (SD = 12.7)	29.2 (SD = 16.2)	$<.001$

OCI-R, Obsessive-Compulsive Inventory—Revised.

Table 2. Childhood Trauma Questionnaire Scores

CTQ	Control Group	Patient Group	<i>P</i>
Emotional abuse	6.6 (SD = 2.4)	9.6 (SD = 5.2)	$<.001$
Physical abuse	6.0 (SD = 2.4)	8.8 (SD = 5.5)	$<.001$
Sexual abuse	5.7 (SD = 1.8)	7.8 (SD = 5.0)	$<.001$
Emotional neglect	19.7 (SD = 4.5)	18.2 (SD = 4.7)	.012
Physical neglect	11.3 (SD = 2.5)	12.8 (SD = 3.5)	$<.001$
Total scores	59.9 (SD = 7.5)	66.5 (SD = 19.4)	$<.001$

CTQ, Childhood Trauma Questionnaire.

group (all $P < .05$). There was no significant difference in F4 scores between the 2 groups ($P = .622$).

Table 4 shows the median (minimum-maximum) deviation for the FAS-PV scores.

Patient FAS-PV scores for direct participation and facilitation of the OCD symptoms, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities, and total FAS-PV scores were significantly higher than those of the control group (all $P < .05$).

Pearson's Correlation Coefficients

Figures 1-3 show the correlation coefficients between the total score in the OCI-R scale and the CTQ, EMBU, and FAS-PV scales, respectively.

Table 3. Egna Minnen Beträffande Uppfostran Scores

EMBU	Control Group	Patient Group	<i>P</i>
F1	52.0 (SD = 12.3)	46.5 (SD = 14.1)	$<.001$
F2	16.0 (SD = 6.0)	22.1 (SD = 10.6)	$<.001$
F3	17.4 (SD = 4.5)	20.9 (SD = 7.6)	.005
F4	9.8 (SD = 3.8)	10.3 (SD = 5.1)	.622
F5	8.7 (SD = 3.5)	11.4 (SD = 5.1)	$<.001$
F6	8.8 (SD = 2.9)	10.6 (SD = 4.0)	$<.001$
M1	52.6 (SD = 13.3)	45.4 (SD = 14.9)	$<.001$
M2	10.0 (SD = 3.6)	13.9 (SD = 7.1)	$<.001$
M3	28.1 (SD = 6.7)	31.4 (SD = 11.5)	$<.001$
M4	10.0 (SD = 4.0)	10.3 (SD = 5.2)	$<.001$
M5	11.1 (SD = 3.9)	14.4 (SD = 7.1)	$<.001$
Total scores	265.5 (SD = 46.1)	281.9 (SD = 88.9)	$<.001$

EMBU, Egna Minnen Beträffande Uppfostran.

Table 4. Family Accommodation Scale—Patient Version Scores

FAS-PV	Control Group	Patient Group	<i>P</i>
Direct participation and facilitation	2.29 (0-12)	7.26 (0-20)	$<.001$
Avoidance of OCD triggers	2.68 (0-16)	8.49 (0-21)	$<.001$
Taking on patient responsibilities	2.13 (0-12)	5.85 (0-17)	$<.001$
Modification of personal responsibilities	1.13 (0-7)	4.27 (0-12)	$<.001$
Total scores	8.25 (0-47)	25.88 (0-67)	$<.001$

FAS-PV, Family Accommodation Scale—Patient Version; OCD, obsessive-compulsive disorder.

As shown in Figure 2, the total score for OCI-R was significantly positively correlated with the scores of F1, F2, F3, F5, F6, M1, M2, M3, M4, M5, and the total EMBU score ($r = 0.504$; $r = 0.531$; $r = 0.611$; $r = 0.466$; $r = 0.519$; $r = 0.665$; $r = 0.351$; $r = 0.597$; $r = 0.667$; $r = 0.484$; $r = 0.586$; $r = 0.662$, all $P < .05$).

As shown in Figure 3, the total score of OCI-R was significantly positively correlated with scores on direct participation and facilitation, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities, and total FAS-PV score ($r = 0.571$; $r = 0.624$; $r = 0.670$; $r = 0.592$; $r = 0.684$, all $P < .05$).

Discussion

The pathogenesis of OCD is multifactorial and related to social-psychological traumatic experiences in childhood, parenting style, and family accommodation. A significant proportion of people with OCD experience emotional abuse, physical trauma, and unpredictable or contrary parental feedback during childhood, which can lead to the development of highly neurotic personalities, immature defense mechanisms, negative outcome expectations, and self-evaluation. Therefore, it is necessary to investigate aforementioned psychosocial factors in patients with OCD.

Traumatic experiences in childhood will affect the child's personality development and emotional regulatory ability and may lead to adverse cognitive patterns, resulting in excessive responsibility and perfectionism, difficulty coping with negative emotions and pressure, and unhealthy defense mechanisms to relieve anxiety or guilt

with the help of compulsive behavior.^{39,40} Many studies have shown that traumatic experiences in childhood damage individuals' physical health and are closely related to adult mental disorders.⁴¹

By analyzing the results of this survey, we found that emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, and total CTQ scores in the patient group were higher than those in control group, and the differences between the 2 groups were statistically significant. Other studies have also found that OCD patients generally experience physical abuse, emotional abuse, sexual abuse, and emotional neglect, and the severity of individual abuse during childhood is correlated with the severity of OCD symptoms, especially emotional abuse. In addition, individuals who have experienced childhood trauma may still exhibit more pronounced symptoms of OCD even after treatment.⁴² Research has shown that individual childhood trauma experiences are closely related to the severity of OCS in both clinical and nonclinical populations.⁴³ The mechanism by which individual childhood trauma experiences are involved in the occurrence and development of OCS may be related to changes in thalamic functional and connectivity.⁴⁴ These findings support the conclusions of the present study. However, there are other studies that show childhood traumatic experience severity is independent from OCD severity⁴⁵ and that there are no significant associations between adverse childhood experiences and OCD or cognitive-behavioral therapy response.⁴⁰

Parenting style is a key factor in children's moral judgment and character formation. However, under the excessive punishment

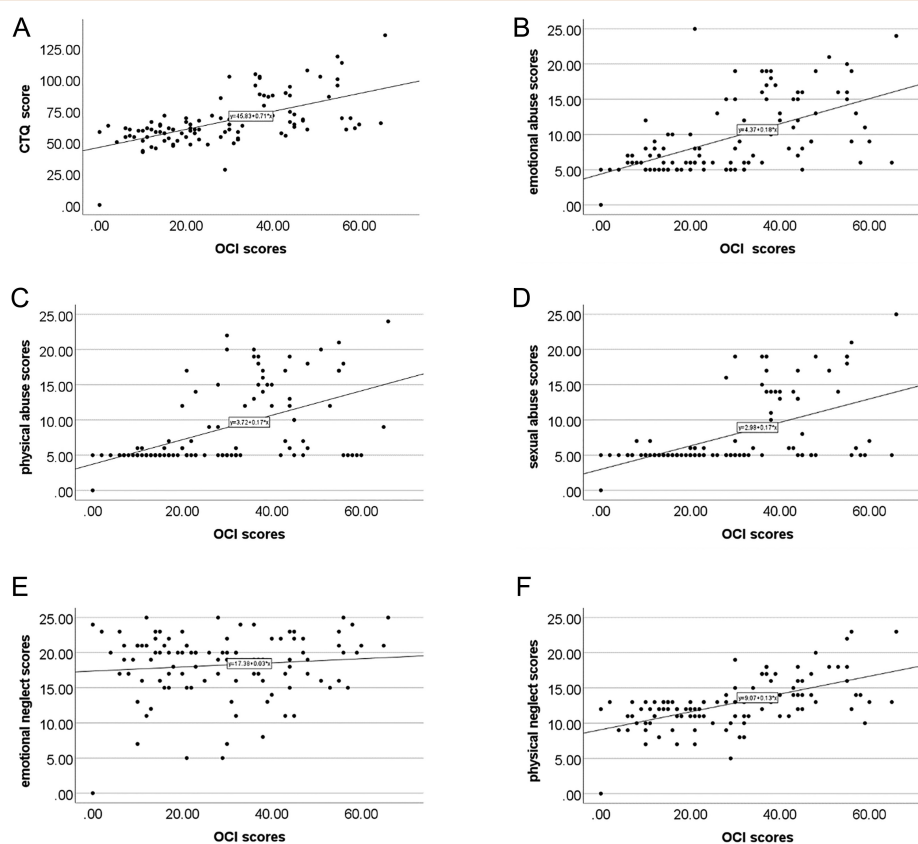


Figure 1. Correlation between the total score in the OCI-R scale and the CTQ scale. CTQ, Childhood Trauma Questionnaire; OCI, Obsessive-Compulsive Inventory; OCI-R, Obsessive-Compulsive Inventory—Revised.

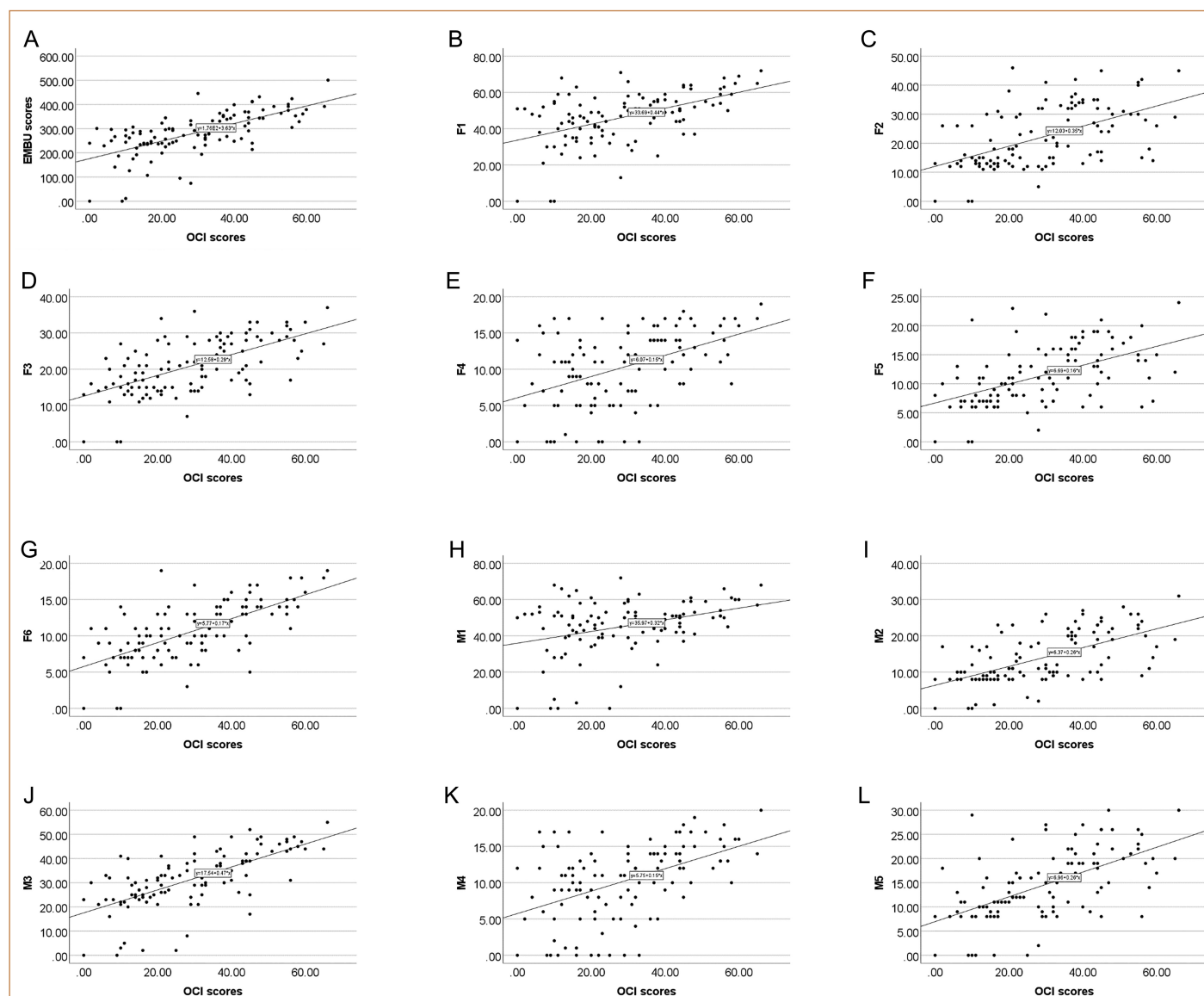


Figure 2. Correlation between the total score in the OCI-R scale and the EMBU scale. A-L show the correlation between total score, F1, F2, F3, F4, F5, F6, M1, M2, M3, M4, and M5 of EMBU scores, and OCI scales, respectively. EMBU, Egna Minnen Beträffande Uppfostran; OCI, Obsessive-Compulsive Inventory; OCI-R, Obsessive-Compulsive Inventory—Revised.

and harsh demands of parents, children often develop excessive self-demands, leading to self-condemnation in self-evaluation and a sense of shame and even guilt due to not meeting their requirements. Excessive protection and interference from parents may also lead to the formation of introverted, emotionally unstable, and timid personality traits.^{46,47} The individual personalities cultivated by these 2 types of parenting methods are both susceptible to OCD.

In this study, the EMBU scores for F1, F2, F3, F5, F6, M1, M2, M3, M4, M5, and total EMBU scores in the patient group were higher than those in the control group, and the differences between the 2 groups were statistically significant, suggesting that poor parenting is more likely to increase the risk of OCD in children. It was also found that the more negative parenting behaviors parents and children perceived, the less positive parenting behaviors and the greater the severity of OCD, comorbidities and dysfunction.⁴⁸

Parenting style may cause abnormal moral cognition and make children feel increased guilt, thus increasing the risk of OCD.⁴⁹ In addition, parenting style is closely related to anxiety, depression, and other adverse emotions as well as the onset time of OCD⁵⁰ of comorbid youths engaged in significantly more accommodation among children with comorbid OCD and attention-deficit/hyperactivity disorder and reported more negative rearing.⁵¹ These research conclusions are similar to those of the present study.

Although family accommodation does not directly cause OCD, it may represent an important psychosocial factor. To accommodate OCD patients, some family members participate in, assist, and avoid their compulsive behavior, thus increasing the belief of patients in obsessive-compulsive thinking, decreasing their confidence in the ability of self-control, reducing their access to therapeutic information, and ultimately play a negative role in maintaining or aggravating the symptoms of OCD.^{27,52} Other studies indicate that family accommodation is

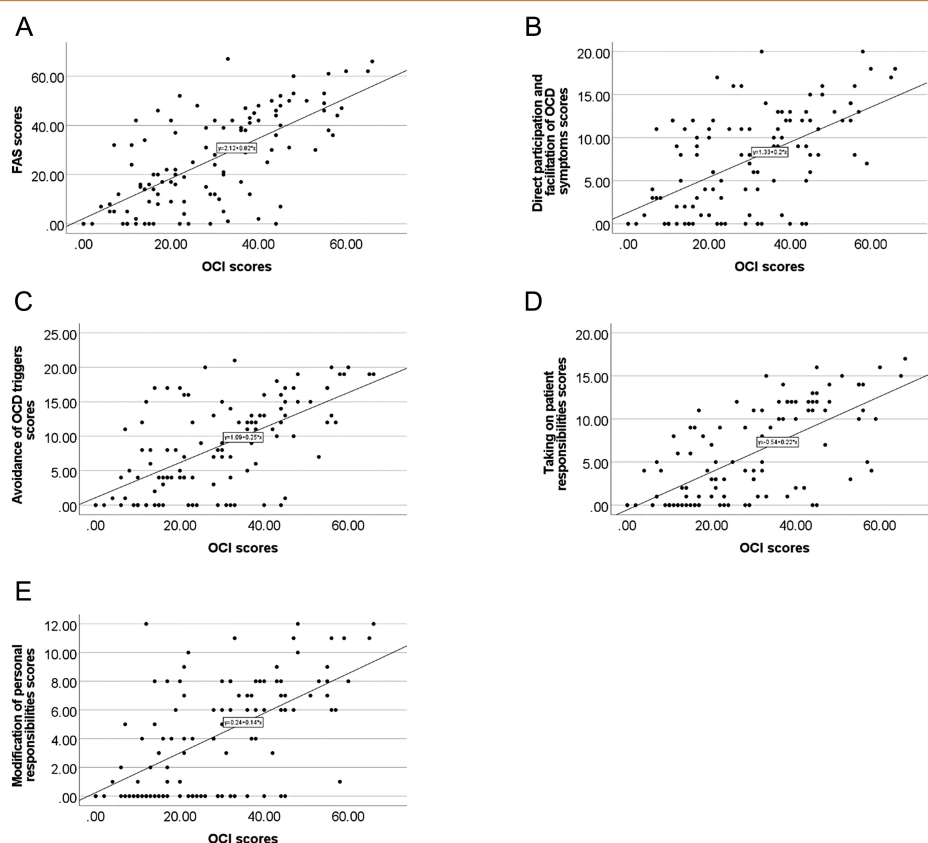


Figure 3. Correlation between the total score in the OCI-R scale and the FAS-PV scale. A-E show the correlation between total score, direct participation and facilitation, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities of FAS-PV scores, and OCI scales, respectively. FAS-PV, Family Accommodation Scale—Patient Version; OCD, obsessive-compulsive disorder; OCI, Obsessive-Compulsive Inventory; OCI-R, Obsessive-Compulsive Inventory—Revised.

present in family members of OCD patients, regardless of the type of obsessive/compulsive symptom perceived.⁵³

In the present study, we found that direct participation in and facilitation of OCD symptoms, avoidance of OCD triggers, taking on patient responsibilities, modification of personal responsibilities, and total FAS-PV scores in the patient groups were higher than those in the control group, and the differences between the 2 groups were statistically significant. In other studies, family accommodation was found to be widespread among Chinese OCD patients and was significantly positively correlated with the severity, dysfunction, anxiety, and depression of OCD, which is basically consistent with the findings of our study.⁵⁴ Other studies have shown that the more serious the family accommodation, the higher the severity of OCD symptoms and the greater the risk of withdrawal from treatment²⁸ and that family accommodation can be used as a predictor of the outcome of OCD treatment.⁵⁵ In addition, researchers have demonstrated the importance of assessing symptom severity in conjunction with family accommodation when evaluating OCD patient functional impairment.⁵⁶ Therefore, we suggest that psychological intervention should be carried out for parents of patients with OCD to help them reduce family compliance, to improve the symptoms of childhood OCD and improve the therapeutic effect.

This study found that adverse childhood experiences, parenting styles, and family accommodation are important psychosocial

factors affecting the occurrence of OCD and was closely related to the severity of symptoms in patients with OCD. It is suggested that psychological changes also play a crucial role in the occurrence and development of OCD, except for physiological changes, and this study can therefore help us better understand the nature of OCD.

Importantly, this study is the first to analyze the correlations between 3 social psychological factors, namely, adverse childhood experiences, parenting styles, and family accommodation, and OCD, while other similar studies have traditionally analyzed only one of these parameters.

This study confirmed that family and childhood experiences play an important role in the occurrence of OCD, and family education in childhood greatly affects the occurrence of OCD. Therefore, it can be inferred that good family psychological education in childhood has a positive effect on reducing the risk of OCD. However, it is difficult to popularize this low-cost and cost-effective method in most areas of our country, and its main resistance is the lack of support and economic guarantees from relevant departments. Therefore, if family psychological education can be included in community medical services, this will mitigate the development of mental health issues.

Limitations of the Study

This study has some limitations. Among them, the conclusion of this study was based on the results of statistical analysis from hospital

data. The sample size was not large and the sample sources were not extensive, which may lead to information bias to a certain extent. Future studies will need to distinguish groups of different ages and occupations to confirm the general significance of the findings. In terms of measurement tools, most of the perfectionism scales in this study were translated from foreign countries, although they were revised before use and met the reliability and validity requirements of measurement. However, due to differences in language and culture, it is difficult to fully agree on the measurement. In addition, the CTQ-SF, EMBU, and FAS-PV questionnaires used in this study are all retrospective and based on trauma investigations at the level of consciousness, which can be affected by subjective factors, and so, there may have been recall bias in the questionnaire process. Finally, this study failed to address the neural mechanisms by which childhood experiences, parenting styles, and family accommodation are involved in OCD production. Future studies should investigate the mechanism of OCD from the perspective of cognitive neuroscience, which will help to further elucidate the neurobiological mechanisms related to OCD.

Availability of Data and Materials: The datasets used or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics Committee Approval: This study was approved by the Ethics Committee of the Hangzhou Seventh People's Hospital (Approval No: 2021-100).

Informed Consent: Informed consent was obtained from the participants who agreed to take part in the study.

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