

Predictors of Obsessive Compulsive Disorder in Clinical Population

Shaista Jabeen^{1*}, Saleha Tahir²**Abstract**

The current study aimed to investigate the relationship of family environment and parental bonding with controlling compulsions (cc) of obsessive compulsive disorder (OCD). The study also aimed to investigate the predictive value of family environment and parental bonding for OCD. Sample consisted of 130 diagnosed patients with OCD (65 males & 65 females) within the age range of 20-50 years. Three measures were used to gather data - Family Environment Scale (FES), Parental Bonding Instrument for Mother and Father (FBI-F & PBI-M) and subscale of Obsessions and Controlling Compulsions of Obsessive-Compulsive Disorder Symptom Checklist (OCDSC). Results showed significant relationship between OCD cc and personal growth and system maintenance dimensions of FES ($r = .28^{**}$ and $.21^*$). Negative correlation between OCD cc and overprotection/controlling in parental bonding of both father and mother was found. However, the relationship was not significant. Further, regression analysis (stepwise) revealed that personal growth dimension of FES and care dimension of PBI (F) were the significant predictors of OCD cc. Overprotection/controlling dimensions of FBI (F) was a negative predictors of OCD cc. Family environment is related with OCD (controlling compulsions). Furthermore, care dimension (F) in PBI is also related with OCD. Personal growth (FES) and father care is related with OCD cc. Overprotection/controlling father (PBI F) was negatively related with OCD cc. Personal growth, care father and less overprotection/controlling father was found to be the best model to predict OCD cc.

Keywords: Controlling Compulsions, Family Environment Scale, Obsessive Compulsive Disorder, Parental Bonding Instrument, Yielding Compulsions

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Introduction

Obsessive compulsive disorder (OCD) has been listed amongst ten disabling diseases. Of which, five were psychiatric conditions and OCD is the fifth of them after unipolar depression, schizophrenia, bipolar affective disorder, and alcohol use (OCD-UK, 2023). It is reported to be the fifth most prevalent disorder and the most prevalent anxiety disorders in clinical population of Punjab

(Jabeen, 2008). Different types of OCD have been linked with different factors. Like responsibility/threat over estimation predicts obsessive compulsive behaviors like washing, checking, hoarding, and neutralizing. Whereas perfectionism and intolerance of uncertainty have been reported as predictors for ordering and hoarding (Ramezani et al., 2016).

Obsessive compulsive disorder is associated with impairments in social functioning (Jansen et al., 2020) and poor quality of life (QoL) (Ali, 2020; Cicek et al., 2013; Eisen et al., 2006) along with the poor QoL of their family members (Cicek et al., 2013). Psychodynamic theories propose that obsessions and compulsions are signs of conflict in the unconscious which individual tries to resolve by suppressing, resolving or coping (Pittenger, 2017). By indulging in one of these methods individual feels some relief. This

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acts as a reinforcer and individual learns to act again the same way whenever he reexperiences those thoughts (compulsion) (Bridley & Daffin, 2023).

Parental relationship is very important in forming the layout of relationship styles of the individual in the future. Psychoanalytic point of view emphasizes that early mother child relationship is the basis of all relationships an individual may form in the future. Interparental conflict is associated with self-esteem of adolescents (Yaacob, 2006). The controlling and punishing parenting style can lead to personality problems such as neuroticism, extroversion, and psychoticism (Zhang et al., 2021). Obsessive compulsive disorder was put under variable taxonomies before it was put under the category of obsessive compulsive and related disorders in the DSM 5-TR (APA, 2022). Categorization of OCD varied consistently with literature finding some new variant in its causation (APA, 2022; Insel, 1990).

Compulsions are usually divided into two types - yielding and controlling compulsions (cc) (Akhtar et al., 1975; Shooka et al., 1998). Patients with Obsessive compulsive disorder use different ways to control their obsessive thoughts and avoid or neutralize them e.g., distraction and controlling compulsions (Comer, 1992). These compulsions involve acts that would cancel out the undesirable impulse (Doron, 2006). Repetition of holy verses, attempt to divert thoughts, repetition of self-generated sentences, head jerking/shaking to get rid of thoughts and repetition of *Kalma* are a few examples which patients with OCD use to control their obsessional thoughts. Repetition of holy verse and repetition of *Kalma* are reported to be the highly loaded factors (Jabeen, 2008).

Family members are the child's first contact in their external world. Hence, it is understandable that family environment plays an important role in the mental health of children (Behere et al., 2017). Family members' cognitions and their individual

and shared patterns of behavior are linked (Briley & Tucker-Drob, 2017), hence, they are associated with developing a child's cognitive world. Psychiatric morbidity in children is largely associated with psychiatric illness in their first-degree relatives (having it in a parent or sibling (i.e., 71%) (Behere et al., 2017).

Different factors in the family environment have been associated with shaping a child's personality and behavior. Stress and financial problems faced by the family for example have a negative influence on child development across many domains (Masarik & Conger, 2017). Parental education is also reported to be a causal factor in shaping children's schooling. Family income also has a link with family disruption and personality development. Obsessive compulsive disorder is not an exception. A number of etiological elements have been attributed to OCD ranging from genetic and organic to behavioral and personality factors. Home environment was reported as an etiological factor by a significant number of OCD sample (i.e., 27.3%) (Jabeen, 2008). Emotional warmth is negatively related with OCD while high parental control, parental punishment and overprotection are positively related with OCD (Zhang et al., 2021). Experience of trauma and family psychiatric history leading to readmission of children to hospital with behavioral issues accentuates the significance of family environment (Behere et al., 2017). Obsessive compulsive disorder runs in families (Nestadt et al., 2000; Purty et al., 2019). Life-time prevalence of OCD is recorded to be significantly higher in relatives of case compared to control sample. Obsessive compulsive disorder probands are five times more likely to have life-time prevalence of OCD compared to their control counterparts (Nestadt et al., 2000). Childhood anxiety and parental control has also been linked (van der Bruggen et al., 2008; Smith, 2022). Local research is scarce with regard to OCD especially controlling compulsions.

Rationale of the Study

Association of anxiety in children and parental control in the literature indicates the need to study family environment and parental bonding as correlates and predictors of OCD in order to have in-depth knowledge of the phenomenon in Pakistani society. This study was carried out to fill this gap. The findings will help to identify ways to address these issues for the betterment of patients.

Most of the literature discuss different types of yielding compulsions of OCD. Scarcity of local research in the field of OCD especially controlling compulsions makes it important to find out more in this subject.

Hypotheses

1. Family environment is significantly related with OCD cc.
2. Parental bonding (overprotecting and controlling parents e.g., mother/father) is associated with OCD cc.
3. Family environment predicts OCD cc.
4. Parental bonding predicts OCD cc.

Method

Participants

Research was approved by the Ethical Review Committee (ERC), and the Board of Advanced Studies and Research (BASR) by No. FSS & H/ERC/RICPP/17/0041. Principles of research outlined in the American Psychological Association code of ethics were followed throughout the process of the research (APA, 2017, Section 8).

Inclusion and Exclusion Criteria

Patients who were diagnosed with OCD were recruited from various hospitals in Lahore. Informed consent to participate in the study was taken from the participants. ii) Informed consent outlined the purpose of the study and participants' right to withdraw from partaking in it at any point. Confidentiality of the information was ensured.

Patients who gave their informed consent were reassessed using DSM 5-TR criteria (APA, 2022) to confirm the diagnosis. Sample size was calculated using *g* power

analysis. Total 130 patients (male=65, female= 65) were included in the sample for the current study.

Patients with comorbidity (dual diagnosis) were excluded from the sample to maintain homogeneity. Patients who had an associated physical illness were also excluded from the sample. Patients with diagnosis of secondary OCD were also excluded.

A self-designed demographic sheet was used to obtain information regarding age, education, occupation, no of children, family system and monthly income of the family.

Measures

Patients whose diagnosis of OCD was confirmed using DSM 5 criteria were administered three measures: i) Family Environment Scale (FES; Bhatia & Chada, 1993), ii) Parental Bonding Instrument (PBI) (Parker et al., 1979) and iii) Obsessive-Compulsive Disorder Symptom Checklist (Obsession and Controlling Compulsion sub scales) (OCDSC; Jabeen & Kausar, 2010). Details of these measures are given below:

Family Environment Scale (FES) (Bhatia & Chada, 1993) is a 69-item scale with high reliability ($r = 0.95$). The scale has three dimensions e.g., Relationship, Personal Growth and System maintenance dimensions. Relationship dimension consists of Cohesion, Conflict, Expressiveness and Acceptance/Caring subscales. Personal Growth Dimension includes Independence and Active-Recreational Orientation subscales. System Maintenance Dimension includes Organization and Control subscales.

Parental Bonding Instrument (PBI) (Parker et al., 1979) is an instrument to assess an individual's level of bonding s/he feels for their parents. It is a 25-item instrument. There are separate forms for mother and father. The instrument includes two dimensions e.g., Care (12 items) and Overprotection or Control (13 items). The instrument measures retrospectively how individual remembers the childrearing style

of their parents when they were under 16 years. These two parenting dimensions further identify four types of parenting styles e.g., *Optimal parenting*, *Affectionate constraint*, *Affectionless control* and *Neglectful parenting*. Optimal parentingiii) implicates high care and low overprotection. On the other hand, Affectionate constraints involves low care and high overprotection, Affectionate control conceptualizes low care and high overprotection and Low care and low overprotection conceptualizes Neglectful parenting.

Parental Bonding Instrument has been rated as a reliable and valid measure based on several studies. Dimensions of PBI for Father form is reported to be highly reliable for overprotecting/controlling and care i.e., 0.90 and 0.70 respectively. Dimensions for PBI for Mother Form is also reported to be highly reliable for overprotecting/controlling and care i.e., 0.91 and 0.70 respectively (Kapci & Kucuker, 2006). Exploring the link of

parental style with psychopathology has been recommended in the literature (Kapci & Kucuker, 2006). Therefore, the study opted to investigate the parental bonding and its relationship with OCD.

Obsessive Compulsive Disorder Symptom Checklist (Jabeen & Kausar, 2010) was used to assess the symptoms of controlling compulsions of OCD in the participants. It is an indigenous measure developed in Pakistan. Alpha for obsessions and controlling compulsions subscales was reported to be 0.80 and 0.70 respectively.

Results

Data were analyzed using Statistical Package for Social Sciences, version 21 (SPSS-v21). Descriptive statistics were used to estimate demographic characteristics of the sample. Inferential statistics (e.g., correlation analysis, hierarchical regression (stepwise) analyses were carried out to explore the predictors of OCD cc.

Table 1
Sociodemographic Characteristics of the Sample (N=130)

Variables	Men (n =65)		Women (n =65)	
	f	Percentage	f	Percentage
Age (years)	20 - 30	36	55	42
	31 - 40	18	28	17
	41 50	11	17	6
Birth order	First	32	49	22
	Second	15	23	18
	Third	7	11	12
	Fourth	5	8	3
	Fifth	3	5	1
	Sixth and above	3	4	9
Education	Under Matric	8	12	8
	Matric	20	31	17
	Intermediate	16	25	10
	Graduate	16	25	15
	Master	5	8	15
Marital Status	Unmarried	34	52	29
	Married	28	43	32

Family System	Widow/divorced	3	5	4	6
	Nuclear	27	42	28	43
	Joint	38	58	37	57
Family Income	10000 – 30000	43	66	42	65
	31000 - 50000	13	20	15	23
	51000 - 70000	2	3	2	3
	71000 - 90000	1	1	1	1
	Up to 100000	6	9	5	8

Descriptive analysis shows that 87% of the participants were in the age range of 21- 40 years which are the most productive years of life. More than 60% had acquired 8 to 12

years of education. Over 50% were single (unmarried, divorced or widow). A significant number of the participants were first born (e.g., 41%) (Table 1).

Table 2

Intercorrelation of Family Environment, Parental Bonding (mother. father) and OCDSC (N=130)

Measures	1	2	3	4	M	SD
FES	-	.27**	.31**	.19*	220.4	21.5
PBI (M)	-	-	.72	-.02	44.24	6.76
PBI (F)	-	-	-	-0.03	41.85	8.11
OCDSC					86.61	18.84

Note: FES=Family environment scale, PBI (F) = Parental bonding instrument (Father), FBI (M) = Parental bonding instrument (Mother), OCDSC= Obsessive Compulsive Disorder Symptom Checklist. **p*<.05, ***p*<.01

Table 2 shows the relationship of two measures (FES and PBI) with OCDSC (obsession and controlling compulsion subscales) it was evident that FES was

significantly related with OCD (obsession scale and controlling compulsions). However, both types of parental bonding (father, mother) were negatively related with OCD, though not significant.

Table 3

Intercorrelation between Dimensions of Family Environment Scale, Parental Bonding (mother & father) and OCDSC (obsessions & controlling compulsions subscales) (N=130)

Measures	Dimensions	1	2	3	4	5	6	7	8	M	SD
FES* ¹	Relationship	-	.35*	.10	.17	.28**	.13	.36	-.01	42.1	7.1
	Personal Growth		-	.51**	.10	.17	.19*	.12	.28**	54.3	6.7
	System Maintenance			-	.18*	.12	.21*	.13	.21*	19.0	3.1
	Care (M)* ³				-	.38**	.54**	.48**	.10	21.0	3.6
PBI* ²	Overprotection/Control (M)					-	.46*	.60**	-.13	.10	4.5
	Care (F)* ⁴						-	.54**	.12	20.1	3.8

	Overprotection/ Control (F)	-	-.14	22.0	5.4
OCDSC	Controlling Compulsions (cc)		-	86.6	18.8

Note. FES = Family environment scale; PBI (F) = Parental Bonding Instrument = FBI; (F) = Father form of PBI (M) = Mother form of PBI; OCDSC = Obsessive Compulsive Disorder Symptom Checklist; * $p < .05$, ** $p < .01$

Pearson correlation analysis was carried out to examine the relationship of dimensions of FES and PBI with OCDSC (obsession and controlling compulsions subscales). The analysis showed that personal growth and system maintenance dimensions of FES were significantly related with OCD

(obsession and controlling compulsions). Dimensions of Personal Bonding Instrument (PBI) overprotection/control (M & F) both were negatively related with OCD. However. The results were not significant (Table 3).

Table 4
Hierarchical Regression (stepwise) for OCD (controlling compulsions)

Variables	B	95% CI		SE B	B	R ²	ΔR ²
		LL	UL				
Step 1							
Constant	44.39**	18.42	70.35	13.1		.08	.07**
Personal Growth	.78**	.30	1.25	.24	.27**		
Step 2							
Constant	54.1**	26.81	81.51	14.0			
Personal Growth (FES)	.84**	.36	1.31	.24	.30**	.11	.10**
Over Protecting Father (PBI)	-.60**	-1.18	-.02	-.30	-.17**		
Step 3							
Constant	44.44**	16.31	72.56	14.21			
Personal Growth (FES)	.64**	.30	1.22	.24	.27**	.14	.12**
Over Protecting/controlling Father (PBI)	-1.02**	-1.70	-.35	.34	-.30**		
Care Father (PBI)	1.16**	.17	2.14	.50	.23**		

Note. Constant = OCD, FES = Family Environment Scale, PBI = Parental Bonding Instrument, LL = Lower Level, UL = Upper Level, ** $p < .01$

Table 4 shows the impact of personal growth in FES and Over protecting, Care scale (Father) of PBI. In step 1, the R² value of .07% indicates that the personal growth dimension explained .07% variance in OCD (controlling compulsions) with F, (1, 128) = 10.51, $p < .05$. This reveals that personal growth scale positively predicted OCD (cc) ($\beta = .27, p < .05$).

In step 2, the R² value of .10 reveals that Model 2 significantly predicted OCD (cc),

while personal growth explained 30 percent variance in OCD ($\beta = .30, p < .005$) with F (2, 127) = 7.45 $p < .05$. Further, over protecting father negatively explained 17% of variance in OCD ($\beta = -.17, p < .01$).

In step 3, the R² value of .14 Indicated that the dimensions of Personal growth (FES), over protecting/controlling (F) and caring (F) (PBI) together explained 14 percent of variance in OCD ($\beta = .14, p < .05$). Personal growth dimension (FES) explained 30% of

variance in OCD ($\beta = .27$ $p < .05$). Care (PBI F) explains 23 % variance in OCD ($\beta = .23$ $p < .01$). Over protecting/controlling father explained 30% of variance in OCD ($\beta = -$

$.30$ $p < .01$) indicating overprotection from father highly negatively predicts OCD.

Discussion

Obsessive compulsive disorder characterizes with obsessions and compulsions. Usually, patients experience both (obsessions and compulsions). Compulsions are further divided into two types - yielding and controlling. Although interest of mental health professionals in OCD has been increased since the inception of psychoanalysis, it was a point of discussion since ages. Previous name used for OCD was scrupulosity (OCD-UK, 2023). Most of the research carried out on this subject is limited to yielding compulsion. Controlling compulsions (cc) have been studied scarcely. Current research focused on obsessions and controlling compulsions. Study explored relationship of the dimensions of family environment and family bonding with OCD cc. Further, dimensions of FES and PBI were investigated as predictors of OCD cc. Demographics of the sample was also studied and discussed below.

Previous research has proven that OCD patients are mostly single (including divorced) compared to married (approximately 59% vs. 41% respectively) (Muhlbauer et al., 2021). Results of the current study are consistent with the recent study mentioned above and previously carried out studies reporting most prevalent marital status of OCD patients as single (Albert et al., 2018; Ashraf et al., 2017). Current sample of OCD was predominantly single including both male and female patients (56%). Majority of the sample of the current study were from a joint family system (66%) which reflects more involvement of family members in one's affairs. This shows that more patients with OCD have their family indulgence in their affairs hence may experience more stress. A study carried out in Indore district, India established that people living in joint family

system experience greater stress compared to those living in nuclear family system (Bansal et al., 2014). Experience of feelings of lack of worth, warmth and love for the family can lead to higher levels of OCD (Shahzad et al., 2020). If someone experiences such feeling while living in a joint family system this may increase their stress due to higher expectations from the family and getting not enough in response. A large part of the sample (64%) came from a lower income group (earning PKR=10000-30000 per month) is in line with the research findings identifying lower socio-economic status (SES) of parents as a risk factor in developing OCD (Yilmaz et al., 2022).

Research explored relationship between controlling compulsions and family environment, and this was proved. Controlling compulsions are usually linked to blasphemous and sexual thoughts. People control their unwanted thoughts regarding religion and sexual content through different strategies such as shaking their heads or distracting themselves by getting involved in other activities. (Ali et al., 2021; Jabeen, 2008).

Pakistan is an Islamic country where majority population (i.e., 96%) are Muslims (Fuchs & Fuchs, 2019). There are strictest blasphemy laws not only in Islamic countries but in general (Badry, 2019). Hence, an individual with blasphemous thoughts and actions is considered to be accountable and liable for punishment. People suffering from OCD, especially with blasphemous thoughts may develop more guilt due to religious and social repercussions. In order to control or nullify these thoughts they feel compelled to adapt certain strategies. These are for example, shaking head in response to an unwanted thought which may be reinforced by reduction in anxiety leading to repetition of

such actions. This leads to form controlling compulsions. People in Pakistan are conservative especially in terms of their religious beliefs and sexual thoughts. This may lead an individual to try hard to control their unwanted thoughts related to such content to avoid guilt and social disapproval leading to the development of controlling compulsions (Jan, 2018).

Indulging in controlling compulsions to avoid certain thoughts may satisfy family as well rendering them think that the person is at least trying to avoid such socially disapproved thoughts. Family members' affirming attitude in this regard can also play a reinforcing role for perpetuating the problem of compulsions.

Results of the current study show that personal growth and system maintenance dimensions of Family environment and OCD cc are related. Personal growth dimension came out as a strong predictor of OCD. Personal growth in FES is examined through being encouraged and supported by the family for independent decision-making, social relationship and interaction as well as recreational activities. Family members are open to have social relationships and recreational activities and there are not many restrictions from the family. One explanation of personal growth being a strongest predictor of OCD cc may be that in a collectivistic society like Pakistani being independent and active may be supported in some families, however, at the same time it puts a huge burden of responsibility on the individual as individuation is not encouraged across situations. This may lead to a sense of excessive responsibility inducing sense of over cautious. This process can result in excessive thinking and rumination and may cause guilt in case things do not go their way. This may result in excessive rumination and compulsive actions to stop those recurrent thoughts which may result in OCD (cc). Psychodynamic perspective explains that a person suffering with OCD and obsessive-compulsive personality disorder (OCPD) makes excessive efforts

to cope with the perceived danger due to aggressive or sexual impulses. These efforts are usually maladaptive. This can also be a result of distorted information processing and rigid cognitive styles which emphasize on clarity and removing ambiguity (Pittenger & King, 2017).

Current study examined the relationship of parental bonding (mother and father) and OCD cc. Previous literature indicates a significant link between parental bonding and OCD. Poor maternal care, maternal overprotection and over control have been found to be associated with OCD among women (Chen et al., 2017). Optimal parenting involves high care and low over protection (Parker et al., 1979). Personal growth (of FES) and caring father (PBI F) were found to be the best predictors of OCD in the present research. However, high overprotection/controlling father (PBI F) showed an inverse relationship with OCD cc indicating that if there is protecting father in the life of an individual there is less likelihood of developing OCD cc may be due to less stress in the individual's life. Previous literature has established that positive support from family can reduce negative effects of stress and anxiety (Murphy & Flessner, 2015).

Obsessive Compulsive and Related Disorders (OCDs) have been reported to have lower levels of cohesion and excessive level of abusive behavior within their families (Murphy & Flessner, 2015). For further understanding, Peris and Piacentini (2013) conducted positive family interaction therapy with 20 youth diagnosed with OCD. The study found a significant reduction in the symptoms with improved family functioning. It is evident that psychotherapy can help improve family cohesion. A family focused Cognitive Behavioral Therapy (CBT) on youth with OCD reported that a large number of participants (80%) improved at posttreatment and three month follow up. Symptom severity was reduced upto 54% at both levels (Storch et al., 2010). Family involvement is reported to be an important

factor in reducing symptoms of OCD through Exposure and Response Prevention (Renshaw et al., 2005). Such literature highlights the importance of family environment and parental bonding.

Conclusion

Family environment and parental bonding play a significant role in OCD cc. Personal growth and system maintenance dimensions of FES and care dimension of PBI (F) was found to be related with OCD cc and predicted OCD cc. However, overprotection/controlling (PBI F) was found to be a negative predictor of OCD. This shows that over protection from father can lessen the level of OCD cc.

Implications

Role of family environment and parenting styles may be further investigated in context of OCD. This can set a future direction of research towards the family focused treatment of OCD. The study points to the direction of further investigation in family environment, parenting styles and parental bonding with different psychopathology.

Limitations of the Study

The study was carried out on clinical population so the results can not be generalized to non-clinical population.

Contribution of Authors

Shaista Jabeen: Conceptualization, Methodology, Writing - Reviewing & Editing, Supervision

Saleha Tahir: Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft

Conflict of Interest

There is no conflict of interest declared by authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [S.J.] upon the reasonable request.

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