



Original Article

The role of parent-child interaction patterns in the development of obsessive-compulsive disorder: A literature review study

Ehsan Goli¹; *Mohammad Saeed Abdekhodaie²; Ali Mashhadi³; Imanolah Bigdeli⁴

¹Ph.D. student in psychology, Ferdowsi University of Mashhad, Mashhad, Iran

²Associate professor of Department of Psychology, Faculty of Educational Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran

³Associate professor of clinical child and adolescent psychology, Faculty of Education Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran

⁴Professor of Department of Psychology, Faculty of Educational Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran

Abstract

Introduction: Parent-child interaction styles have always been considered one of the main reasons for the development of obsessive-compulsive disorder (OCD). Meanwhile, parent-child interaction patterns effective in the development of OCD haven't been widely studied. Therefore, the main objective of the current study is to systematically review parent-child interaction styles influential in the development of OCD.

Materials and Methods: The statistical population of the study includes all the papers indexed in PubMed, Science Direct, PsychNet, Magiran, and SID databases published from 2000 to 2018. The papers went through two screening stages and then they were investigated based on the inclusion and exclusion criteria using purposive sampling, through which 16 papers were selected as the final sample of the study. The main data collection method was the qualitative review of the content of the papers based on the main question of the study.

Results: After selecting the final papers, 15 components were extracted, ultimately categorized into five classes of components influential in the development of OCD. These classes included parental flexibility, parental support, parental care, control, and cold relations.

Conclusion: Based on the results of the study, parent-child interaction styles play a major role in the development of OCD, and they can be used as an effective predictor for the development of this disorder.

Keywords: Obsessive-compulsive disorder, Parenting styles, Systematic review

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*Corresponding Author: Department of Psychology, Faculty of Educational Sciences and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran

abdkhoda@um.ac.ir

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Introduction

Obsessive-Compulsive Disorder (OCD) is one of the most debilitating psychological disorders, which is characterized by the invasion of uncontrollable thoughts (obsessions) (1). Obsessive-compulsive disorder is the fourth most common psychological disorder following panic disorders, substance abuse disorders, and depression and it is developed in order to reduce the likelihood of breakdown caused by potential frightening outcomes (2).

The lifetime prevalence rate of obsessive-compulsive disorder in the general population is about 2 to 3 percent (3). The highest prevalence rate of this disorder is reported among individuals with an average age of 20 years (4). Genetic and environmental factors are the main factors in the etiology of obsession (5). Epidemiological studies in Europe, Asia, and Africa show the relatively high prevalence of this disorder in different cultures. While the content of obsessive symptoms varies significantly, the various forms of this disorder show undeniable similarities. Cultural variables can have a significant impact on the manifestations of obsessive-compulsive disorder (6). While the role of genetic processes in the etiology and pathology of obsessive-compulsive disorder is clear, these factors cannot fully account for this disorder; it seems that psychological stressors are as effective (7). Among the environmental factors involved in the development of obsession, we can mention family conditions before birth (e.g. the population of the family, the order of birth); influential factors during pregnancy, during childbirth, and after childbirth; traumatic and stressful life events; socioeconomic factors; substance abuse; poisoning; nutritional deficiencies; and finally parenting styles. However, little information is available on environmental

experiences affecting the symptoms of obsession (8,9).

Despite increasing advances in treating obsessive-compulsive disorder, its causes are not fully clear yet. Therefore, evaluating the causes of this disorder and implementing more effective treatments, and ultimately reducing its costs are very important (10). Accordingly, we cannot neglect the importance of genetic factors. While there have been a large number of studies on the correlates of the obsessive-compulsive disorder, it seems that there aren't sufficient studies on risk factors and predictors of this disorder (11). Therefore, evaluating parent-child interaction patterns and their impacts on the development of the symptoms of obsessive-compulsive disorder based on the specific conditions of the culture and the society is essential. The current study aims to answer the following question: which parent-child interaction patterns are considered in the literature as patterns influential in the development of obsessive-compulsive disorder (OCD)?

Materials and Methods

The current study is a qualitative systematic literature review of the related papers, which follows the seven steps suggested in Cochrane guidebook including posing the question, selecting inclusion criteria, searching the literature, elimination and selection of papers, evaluating the quality of the papers, extracting and presenting the required data. All the randomized and non-randomized clinical trials, comparative studies, and cross-sectional studies focusing on the relationship between parent-child interaction styles and obsessive-compulsive disorder (OCD) were included in the study. The binding criteria were selected based on Participants-Intervention-Comparison-Outcome (PICO) study design. All the randomized, semi-randomized, prospective and retrospective cross-sectional studies

were randomly entered into the current study. The papers meeting all the following inclusion criteria were considered for the study: (i) the data on obsessive-compulsive disorder is reported as preliminary diagnosis; (ii) the patients are diagnosed based on standard diagnosis criteria (e.g. DSM¹, ICD², or similar criteria); (iii) the parental child rearing styles and the parent-child interaction patterns of the parents of patients are reported; and (iv) the study design includes a control group, or the data are compared to an ordinary population with a specific homogenous clinical group without a control group. The exclusion criteria included the following: (i) the papers whose data was not specifically focused on the obsessive-compulsive disorder; (ii) papers lacking information on the diagnosis process; (iii) papers not reporting the child rearing styles or parent-child interaction styles of the parents of the patients; and (iv) papers in which the reported data was related to the obsessive-compulsive personality disorder. Moreover, all the papers published in languages other than English or Persian, papers evaluating animal models, papers with insufficient data or poor description of applied methods, non-clinical studies, experiential studies, expert opinions, letters to the editor, literature review studies, systematic reviews, meta-analysis studies, case studies, and qualitative studies were excluded from the current study.

Searching the Literature

In this study, the search process was carried out by two expert researchers who were in constant contact for exchanging information with each other. The search process was performed by searching PubMed, Science Direct, PsychNet, Magiran, and SID databases. The initial search was performed in December, 2017, and it was repeated in

April, 2018. The keywords used for searching the databases included the following: obsessive compulsive disorder (OCD), parenting, and family perceived parental rearing. These keywords were searched using the AND operator in combination with each other for the time period between 2000 and 2018. Moreover, in order to search Persian databases, i.e. SID and Magiran, the following expressions and keywords were used: obsessive-compulsive disorder, child rearing, parent-child relations, and parenting styles. Searching these databases was performed without applying any restrictions or filters.

Selecting studies and extracting information
At first, the titles and abstracts of all the studies were reviewed and papers related to our objective were selected. Then the full texts of the selected papers were obtained and the papers meeting the inclusion criteria were evaluated. The full texts of the papers along with sufficient information in the title and abstract of the studies were used for making decisions on including the paper in the current study. The search process performed by both authors for determining whether the selected papers meet the inclusion criteria were recorded in predefined forms. The papers related to our objectives were entered into the study and other papers, which didn't meet the inclusion criteria, were eliminated. The data were separately evaluated by the two authors. At the next stage, the two authors consulted each other to eliminate the irrelevant papers, and then they closely evaluated the remaining papers to extract the necessary data. The selection process for papers is depicted in the PRISMA chart in Figure 1.

Study Design

At the first stage, all the papers focusing on the role of parents' rearing styles on patients suffering from obsessive-compulsive

¹Diagnostic and Statistical Manual of Mental Disorder

²International Classification of Diseases

disorder were evaluated. The abstracts of all the relevant papers were closely investigated. Papers meeting the inclusion criteria were selected for further evaluation and review. After eliminating irrelevant papers, the full texts of all the papers were extracted and closely evaluated. A standard form was used for collecting the relevant data. The evaluation was performed by the first author and in case of uncertainty, the co-author was consulted. We extracted the following data from each of the selected papers: size and type of the sample, the study design, the diagnosis process for obsessive-compulsive disorder, the obtained criterion, the results, and the relevant findings.

Results

Searching in international and Iranian databases provided 3918 papers. From PubMed, Science Direct, and PsychNet databases, 3565 papers were obtained. 1190 papers were found through the initial search in PubMed database, 2346 papers were found in Science Direct, and 29 papers were found in PsychNet. After evaluating the titles and abstracts of these papers, 3141 papers were excluded because of not meeting the objective of the current study, i.e. extracting the parent-child interaction patterns influencing the development of the symptoms of obsessive-compulsive disorder, and the irrelevancy of the paper, which resulted in 424 papers remaining. It is worth mentioning that the majority of the papers obtained in this stage of the study were eliminated because they were generally related to approaches for the compatibility of the family environment with the obsessive symptoms of children and teenagers at the present or treatment and intervention approaches based on the participation of parents. Moreover, 406 papers were eliminated because they were repeated in the search results. The full texts

of 18 papers were evaluated based on the inclusion criteria. Seven papers were eliminated because of not meeting the inclusion criteria and 11 papers were entered into the study for extracting the data (Figure 1). Through the initial search in Persian databases, i.e. SID and Magiran, 353 papers were found. After evaluating the titles and abstracts, 347 papers were eliminated because of being irrelevant to the objective of the study or because of being repetitive. After eliminating one paper because of not meeting the inclusion criteria, ultimately 5 Persian papers were entered into the study to evaluate their findings. In general, 16 papers were entered into the current study after close examination of their full texts. In these studies, about 5763 individuals were studied, among which 1844 individuals were suffering from obsessive-compulsive disorder. These studies were carried out in six different countries. In general, five of the selected papers had been carried out in Iran, 6 studies had been carried out in the US, and two studies had been carried out in Canada. Moreover, one study in Japan, one study in Hungary, and one study in Germany were among the selected papers. So far, there has been no clinical trial on evaluating the studies focused on the effects of child rearing styles on obsessive-compulsive disorder considering the nature of the current study. Therefore, in this study, we were not able to provide a qualitative assessment of the selected studies. Therefore, we designed a chart where we can show all the papers in the form of levels of evidence (Figure 2). All these studies were retrospective. Among the selected papers, eleven studies (68.7%) were comparative studies with a control group, two studies (12.5%) were cross-sectional studies based on retrospective self-report data, and two studies (12.5%) were cross-sectional descriptive-correlative studies. In

these studies, the tools used for diagnosing and determining the factors of obsessive-compulsive disorder included clinical interviews and questionnaires. The process of diagnosing OCD in three studies was only based on the DSM-IV criterion. Two studies had used structured clinical interviews, and in one of them, the Structured Clinical Interview for DSM-IV (SCID-CV) and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) were also used. One study had used the Obsessive Compulsive Inventory (OCI) as the data collection tool, and another one had used the Obsessive Beliefs Questionnaire (OBQ) for data collection. Another one of the studies had used the Mental Pollution Questionnaire (MPQ), while another one had used the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) and the Anxiety Disorders Interview Schedule (ADIS) as data collection tools. Finally, two studies had used the DSM-IV and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) simultaneously as the diagnosis tool. With regards to the rearing styles investigated in these studies, two studies evaluated authoritative, authoritarian, and permissive parenting styles proposed by Baumrind. One of the studies evaluated early maladaptive schemas (EMS) and parental roots in individuals suffering from obsessive-compulsive disorder. Two studies evaluated the effects of high perfectionism levels in parents among people suffering

from obsessive-compulsive disorder. Furthermore, two studies explored the relationship between high levels of exclusion by parents and the likelihood of developing obsessive-compulsive disorder. The effects of over-protectiveness of parents on obsessive-compulsive disorder were evaluated in four of the studies. In addition, the effects of attachment styles on people suffering from obsessive-compulsive disorder were evaluated in one of the studies. Inconsistent parenting strategies and their effects on the development of anxiety and obsessive-compulsive disorder had been investigated in three of the studies. Finally, not just right experiences of the parents were investigated in one of the studies. Table 1 shows some of the variables evaluated in the selected studies including geographical region, type of study, size of sample, diagnosis process, diagnosis tool, the obtained criteria, and the results of the studies. Afterwards, the criteria obtained from English and Persian studies were collected, the repeated items were eliminated, and for each item, the theoretical definition provided in the study and the relevant theoretical literature was given (Table 2). In some cases, there was no specific definition of an item in the corresponding paper, which can be due to the conceptual clarity of that item.

Figure 1. The PRISMA chart for the systematic review of papers found by searching PubMed, PsychNet, and Science Direct databases

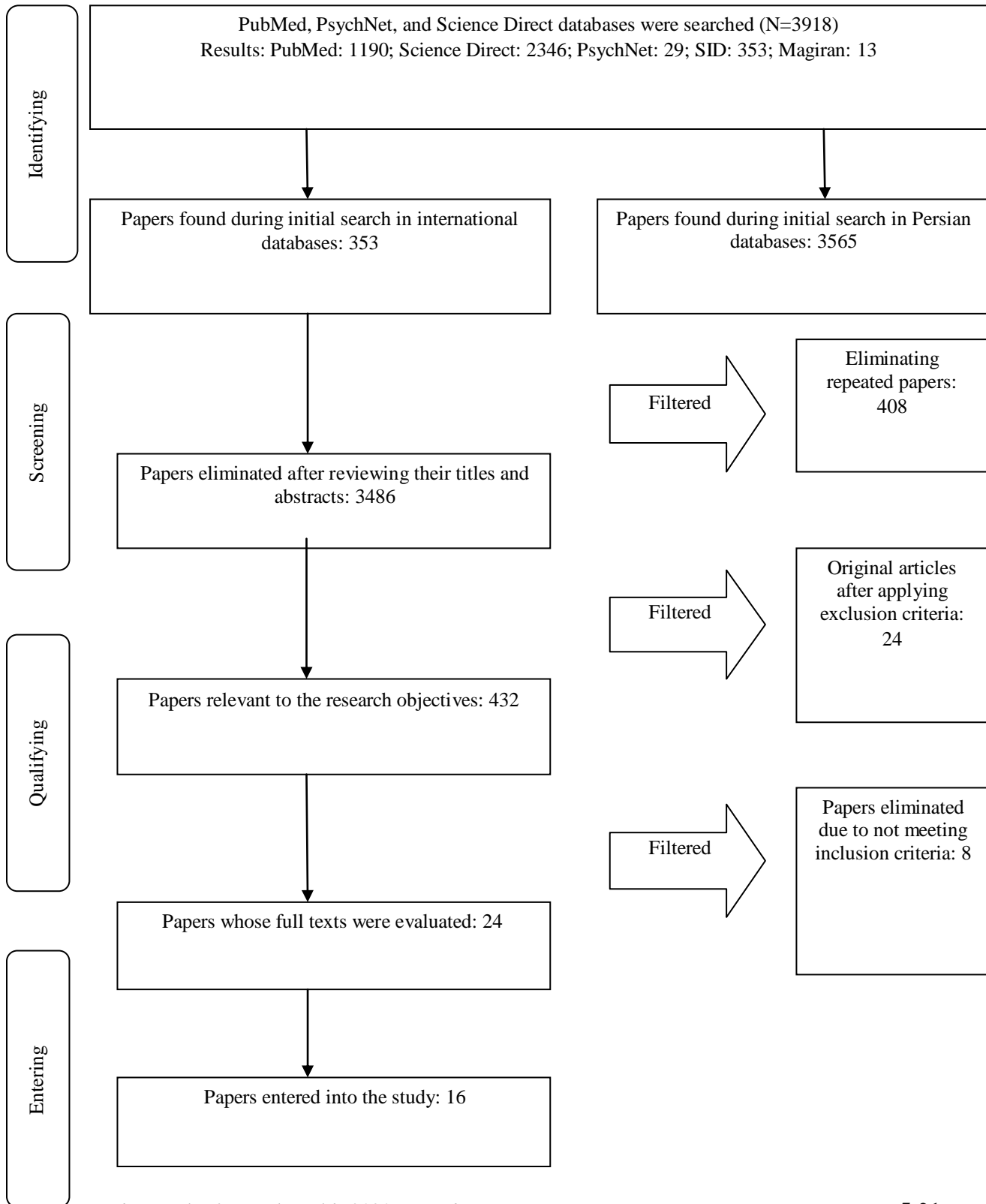
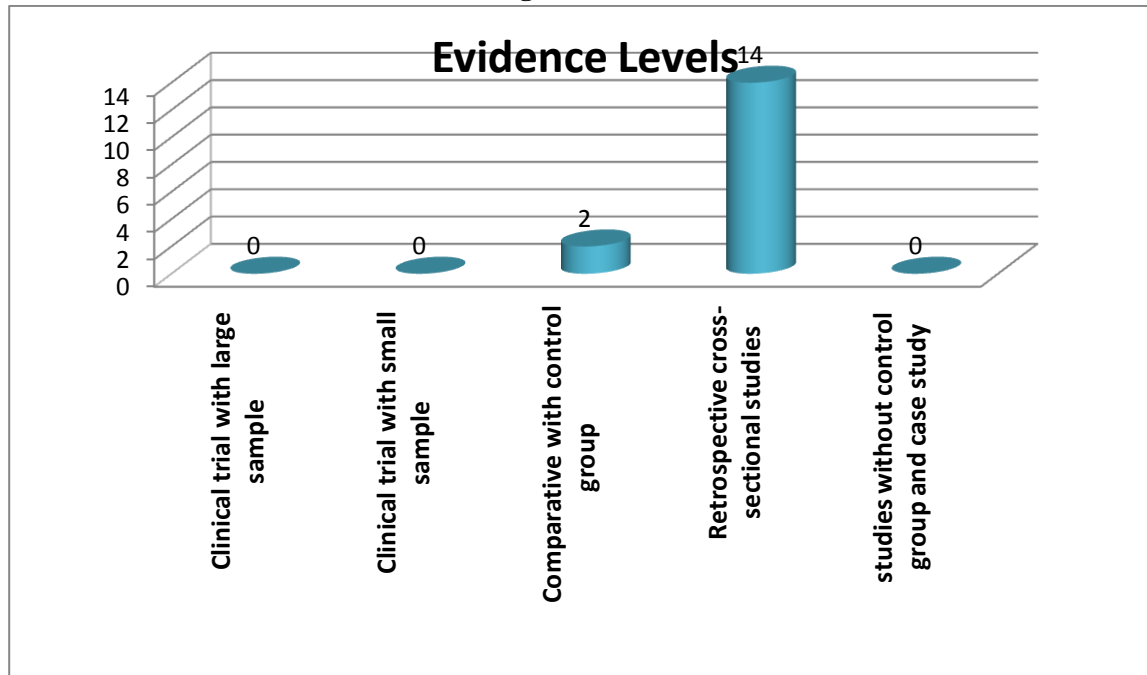


Figure 2. Levels of evidence for selected studies



	Evidence Levels
Clinical trial with large sample	0
Clinical trial with small sample	0
Comparative with control group	2
Retrospective cross-sectional studies	14
studies without control group and case study	0

Table 1. Variables evaluated in studies focused on parental styles for people suffering from obsessive-compulsive disorder

Findings	Obtained Criteria	OCD Diagnosis Procedure	Study Design	Sample	Geographical Location	Author (Publication Year)
Mother of ordinary children use authoritarian child rearing methods significantly less than the mothers of children with OCD.	Authoritarian parenting style	DSM-IV	Comparison to control group	Size: 130 Control: 40 OCD: 30 Depressive Disorder: 30 Anxiety Disorder: 30	Iran	Mozhgan et al. (2003)
Significant difference in all early maladaptive schemas in OCD patients compared to the control group. Significant difference with regards to the parental origins of the schemas in OCD patients compared to the control group. Based on the subtest for the child rearing styles of the parents of OCD patients, there was a significant difference with the control group for the schemas of emotional inhibition, abandonment/instability, mistrust/abuse, defectiveness/shame, subjugation, unrelenting standards / hyper-	Early maladaptive schemas (EMS) and their parental origins	Structured clinical interview (SCID)	Cross-sectional, causal-comparative, and retrospective	Size: 45 Control: 15 OCD: 15 Obsessive-compulsive personality disorder: 15	Iran	Noei et al. (2010)

criticalness, entitlement/grandiosity, insufficient self-control / self-discipline, enmeshment /undeveloped self, negativity/pessimism, and punitiveness.						
Negative correlation between authoritative child rearing style and the symptoms of OCD, positive correlation between authoritarian child rearing style and the symptoms of OCD, and negative correlation between permissive child rearing style and the symptoms of OCD.	Authoritative, authoritarian, and permissive child rearing styles	Maudsley Obsessive-Compulsive Inventory (MOCI)	Descriptive-correlative design	180 male students	Iran	Khanjani et al. (2012)
The experimental group reported their parents to be more perfectionist than other groups. Obsessive-compulsive personality traits were more significant and perfectionism was higher in the experimental group compared to other groups.	Levels of parental perfectionism	DSM-IV; Maudsley Obsessive-Compulsive Inventory (MOCI)	Comparison to post-event control group	Sample size: 120 OCD: 60 Control: 30 Generalized anxiety disorder (GAD): 30	Iran	Mahmoud Alilou
OCD patients perceive a higher level of paternal exclusion. There is no significant difference between the two groups with regards to parental over-protectiveness. OCD patients report lower emotional warmth from their fathers, which wasn't statistically significant.	Perceived parental child rearing style; high levels of paternal exclusion	DSM-IV; Structured Clinical Interview for DSM-IV (SCID-CV) and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS)	Comparison to control group, retrospective self-report data	Sample size: 80 OCD: 40 Control: 40	Iran	Haji Sayed Yaghna Taghavi (2015)
Negative correlation between authoritative child rearing style and the symptoms of OCD, positive correlation between authoritarian child rearing style and the symptoms of OCD, and negative correlation between permissive child rearing style and the symptoms of OCD.	Authoritative, authoritarian, and permissive child rearing styles	Maudsley Obsessive-Compulsive Inventory (MOCI)	Descriptive-correlative design	180 male students	Spain	Alonso et al. (2004)
Compared to the control group, the clinical sample of OCD	Dysfunctional parents with high exclusion and control	-	Comparison to control group,	Size: 122 OCD: 40	Germany	Lennertz et al.

patients without OCD parents reported their parents as significantly less warm, more exclusionary, and more controlling. This parenting trend was more obvious among mothers.	levels and low warmth		retrospective self-report data	Their siblings: 41 Control: 59 Their siblings: 45		(2010)
Not just right experiences of fathers (and not mothers) predicted obsessive-compulsive signs in boys even when the anxiety symptoms of parents and the level of beliefs related to obsessive-compulsive signs were controlled.	Signs of not just right experiences in fathers	Obsessive-Compulsive Inventory (OCI)	Cross-sectional descriptive-correlative study	Size: 382 318 mothers and 288 fathers	Italy	Sica et al. (2013)
The anxiety attachment style somewhat mediates the relationship between perceived cold and neglectful parenting styles in the two areas of obsessive beliefs, i.e. responsibility/risk assessment ($z = -3.25, p < 0.001$) and perfectionism/insecurity ($z = -3.05, p < 0.01$)	The mediating role of insecure attachment style	Obsessive Beliefs Questionnaire (OBQ)	Cross-sectional study, retrospective self-report data	Non-clinical sample of 397 university students	USA	Yarbro et al. (2013)
Mental pollution is one of the symptoms of OCD and it has a positive relation with maladaptive strategy of inducing guilt by parents and it predicts it significantly ($R^2 = 0.04, p < 0.05$)	Maladaptive parenting strategies, inducing guilt	Mental Pollution Questionnaire (MPQ)	Cross-sectional study, retrospective self-report data	Non-clinical sample of 417 university students	USA	Berman et al. (2012)
Compared to the control group, the clinical group had a higher frustration in each of the five basic emotional needs. In particular, compared to the control group, people with OCD symptoms reported higher levels of harmful parenting behaviors including defectiveness/shame, dependence/incompetence, enmeshment/undeveloped self, entitlement/grandiosity, approval-	Harmful parental behaviors	DSM-V	Comparison to unmatched control group	223 individuals including 99 OCD patients in the clinical group and 131 ordinary individuals in the control	Hungary	Rejto et al. (2017)

seeking/recognition-seeking, negativity/pessimism, emotional inhibition, unrelenting standards/hyper criticalness, and punitiveness.				group		
Compared to the control group, the OCD and depression patients have a significantly higher relationship anxiety. However, there is no significant difference between these two groups.	Parent-child interaction style, relationship anxiety	DSM-IV, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS)	Comparison to control group, retrospective self-report data	26 outpatients suffering from OCD, 16 outpatients suffering from depression, and 26 individuals as control	Canada	Myhr et al. (2004)
There is no significant difference between OCD and PDA patients with regards to their parents' child rearing styles. Compared to the control group, the two anxiety patient groups together assessed their mothers and fathers as more supportive, respectively.	Child rearing styles, parental over-supportiveness	DSM-IV, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), the Anxiety Disorders Interview Schedule (ADIS)	Comparison to unmatched control group, retrospective self-report data	43 outpatients suffering from OCD, 38 outpatients suffering from panic disorder and agoraphobia (PDA), 120 healthy individuals in the control group	Canada	Turgeon et al. (2001)
Maternal overprotection has a significant relationship with OCD in the children.	Maternal overprotection	DSM-IV, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS),	Comparison to control group, retrospective self-report data	1206 adults from 465 families with parents with/without OCD	USA	Wilcox et al. (2008)
Compared to the control group, OCD patients showed significantly higher paternal and maternal protection and	Parental child rearing attitudes, high level of paternal and maternal protection, and low level	DSM-IV, Maudsley Obsessive-Compulsive	Comparison to matched control group, retrospective	OCD: 50 Depression with mild OCD: 50	Japan	Yoshida et al. (2005)

significantly lower paternal care.	of paternal care	Inventory (MOCI)	self-report data	Depression with acute OCD: 50 Control: 50		
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Table 2. Components extracted from Persian and English papers and their theoretical definitions

No.	Component	Definition
1	Authoritarian parenting style	Authoritative and authoritarian, irritable, inflexible, forceful, and aggressive parents who don't care about the needs of their children. With regards to acceptance and emotional relations with their children, they are very kind, accepting, intimate, and genial. They always affirm their children and give them the feeling of entitlement and superiority over others.
2	Permissive parenting style	Permissive parents have negligible control over their child. Their expectations of the children are very low or non-existent. They are excessive in giving independence to their child. They let their children make decision at any age and even before they are prepared for making decisions. They respect all the decisions of the child and generally implement their decisions.
3	Negative parental perfectionism	Perfectionism refers to an individual's wish for reaching high performance criteria on the one hand and unfounded critical evaluations of the individual's performance on the other. Perfectionist parents think that children could and should work precisely and anything that is not precise will not be satisfactory to these parents. Since these parents are constantly asking their children to meet impossible standards and expectations, they are not satisfied with the performance of the child.
4	High level of exclusion from father	
5	Exclusionary parents	
6	Low kindness in the relationship with parents	
7	Controlling parents	
8	Not just right experiences (NJREs) of the fathers (and not mothers)	Feeling unsatisfied with the status quo and feeling imperfect; avoiding harms and perfectionism which leads to inability to create a natural feeling of "knowing", which means that they are constantly exposed to "error warnings".
9	Poor maternal care	
10	Maternal/parental overprotection	
11	Maternal over-control	
12	Inducing guilt (a maladaptive parental strategy)	One of the maladaptive parental strategies which is related to mental pollution- one of the symptoms of OCD- is inducing guilt.
13	Coldness and neglect along with the mediating role of insecure attachment	
14	Harmful parental behaviors	Defectiveness, approval-seeking, dependence-seeking, unrelenting standards, punitiveness, emotional inhibition, negativity, and pessimism
15	Relationship anxiety	One of the subscales of RAAS related to attachment styles: high level of anxiety caused by being excluded or not being loved ("I am often worried that my parents do not want to stay with me".)

At the next stage, based on the content of each component and the theoretical

definitions, we consulted ten experts to determine the potential commonalities of

the components. This was done in order to maintain the conceptual breadth of the findings while providing a more consistent picture which can be better evaluated. Ultimately, the fifteen components above were categorized into the following five classes:

1. Parental flexibility: in this class, the behaviors of the parents in relation to the application of rules and norms are evaluated in a spectrum from permissive child rearing or parenting style to authoritarian parenting style (Components 1, 2, 3, and 8).
2. Parental protection/support: in this class, the behaviors of the parents are evaluated based on exclusion and low support or protection (Components 4, 5, 9, 10, and 15).
3. Parental care: in this class, the behaviors of parents are evaluated based on the level of care (Component 9).
4. Control: in this class, the behaviors of parents are evaluated based on the extent of exerting control over the child (Components 7, 11, 12, and 14).
5. Coldness of relation: in this class, the behaviors of parents are evaluated based on the kindness of the relationship with the child (Components 6 and 13).

Discussion

Previous literature shows that the consequences and outcomes of parental child rearing styles occur in wide ranges and spectrums. However, very few studies have focused on the relationship between the child rearing styles of parents and the symptoms of obsessive-compulsive disorder and anxious thoughts.

Child Rearing Styles and OCD Based on the Authoritative/Permissive/Authoritarian Pattern

One of the areas attracting a lot of research interest is the parenting styles proposed by Baumrind, which include permissive,

authoritative, and authoritarian parenting styles. The results of these studies have shown that the authoritarian parenting style has a significant relationship with OC symptoms and OC beliefs (e.g. beliefs about personal thoughts and responsibility) even after controlling for general stress (13). Moreover, the symptoms of obsessive-compulsive disorder and anxious thoughts have a positive significant relationship with authoritarian and permissive parenting styles while they have a negative significant relationship with authoritative parenting style (14). It is shown that obsessive people often have strict and one-dimensional parents. Authoritative parenting is characterized by the parents' appropriate expectations and responses. Authoritative parents insist on following the rules they set for their children and direct their children to be independent (15). Based on the obtained results, patients who have experienced authoritarian, permissive, and neglectful parenting styles are significantly more likely to develop obsessive-compulsive disorder. Permissive and authoritarian parenting styles have destructive and adverse impacts on the mental health of children. Authoritative parenting style is related to low levels of anxious thoughts and mild OCD symptoms, while permissive and authoritarian parenting styles are related to high levels of anxious thoughts and OCD symptoms (14).

Parenting Styles and OCD Based on Exclusion or Over-protectiveness Approaches

With regards to parenting styles and their effects on the development of OCD, the role of family in the development and continuation of OCD is emphasized (16). Patients suffering from OCD report lower warm relations with their parents and more exclusiveness and control from their parents (17). With regards to parental care and support strategies, the results show a relationship between maternal overprotection and the development of

OCD with/without a family history of OCD (18). Another study shows that patients suffering from OCD report higher maternal protection and lower paternal care compared to the control group, which is confirmed by similar studies (18-20). Among male patients, there was no significant difference between groups with hoarding symptoms and groups without these symptoms with regards to maternal or paternal child rearing scores; however, female participants who reported lower maternal care and higher maternal protection were significantly more likely than those reporting higher maternal care and lower maternal protection to develop obsessive hoarding disorder (21). In addition, with regards to the exclusion factor, compared to the control group, OCD patients perceive higher levels of exclusion from their parents (22). Parental over-protectiveness and paternal exclusion can potentially increase the risk of developing OCD (9). While some studies reported a high level of parental protection in these patients (19), other studies emphasized the role of exclusion and lower protection.

Attachment Styles and OCD

Among the previous studies, evaluation of attachment styles and their relation with OCD was also a point of focus. The results indicate that attachment anxiety and avoiding attachment play a significant role in increasing the intensity of OCD symptoms (23). It seems that the level of avoidance and two-sided attachment styles in OCD patients is significantly higher than the normal population. Moreover, there was a correlation between over-protectiveness and unresponsiveness of parents and the symptoms of OCD. The effects of anxiety attachment style on perceived cold and neglectful parenting styles have been confirmed by other studies as well (24,25). Anxiety attachment style somewhat mediates the relationship between cold and neglectful parenting styles in the two areas of

obsessive beliefs including responsibility/risk assessment and perfectionism/insecurity (26).

Parenting Styles and OCD Based on Satisfaction Level and Perfectionism

Scholars consider the perception of lack of satisfaction and the presence of the feeling of doubt as core characteristics of obsession and its related compulsions. One of the studies proposes not just right experiences (NJREs) as the predictable psychometric indicator in OCD. NJREs in fathers (and not mothers) were predictors of OC symptoms in boys even when the symptoms of parents' anxiety and their level of OC-related beliefs were controlled. This relationship has been observed in single-factor dimensions including washing, checking, ordering, and symptoms of mental neutralization. In contrast, none of the parents' psychometric variables were able to predict OC symptoms in girls (27). The findings indicate a higher level of positive perfectionism in mothers of healthy subjects compared to the mothers of OCD patients, while they show a higher level of negative perfectionism in mothers of OCD patients compared to mothers of healthy individuals (28).

The Role of Faulty Parenting Styles Internalized by Parents in OCD

Patients suffering from OCD are different from the non-clinical population with regards to the majority of early maladaptive schemas (EMS) as well as the parental origins of these schemas. Moreover, besides the early maladaptive schemas and their parental origins, the childhood environment also plays a role in shaping these schemas (29). The results of the studies specifically focused on evaluating parenting styles for OCD patients confirm the strong relationship between parenting styles and the development of this disorder (30). These findings are supported by the studies showing that anxiety disorders are influenced by faulty parenting styles (10).

Based on the findings of one study, harmful parental behaviors including defectiveness/ shame, approval-seeking/ recognition-seeking, negativity/ pessimism, emotional inhibition, unrelenting standards/ hyper criticalness, and punitiveness are more frequent in people with OCD symptoms compared to the control group. Compared to the control group, the clinical group reported significantly higher frustration for each of the five basic emotional needs (24).

Cognitive-behavioral models give the central role in the development of obsessive-compulsive disorder to social learning. These models suggest that the family unit, and in particular the parent-child interaction styles, play a critical role in social learning during childhood and adolescence (13). It is clear that mental pollution, which is one of the signs of the development of obsessive-compulsive disorder, has a positive relationship with the maladaptive strategies of inducing a feeling of guilt by parents, and it can be utilized as an effective predicting factor for the development of obsessive-compulsive disorder (31).

Some of the limitations of the current study include the limited timeframe for searching for the papers as well as the

limited number of languages. It is abundantly clear that the results of the current study cannot be generalized to the papers published before 2000 and after 2018 as well as the papers published in languages other than Persian and English. It is recommended that more studies be conducted with a different timeframe and language focus. Another limitation of the study was the fact that we didn't use case studies and qualitative studies, so it is recommended that future studies focus on these types of studies.

Conclusion

Based on the results obtained from the study, parent-child interaction styles play a major role in creating and developing obsessive-compulsive disorder, and this variable can be used as an effective predictor for the development of obsessive-compulsive disorder. In this regard, authoritarian parenting styles, exclusion-based parenting styles, insecure attachment style which is rooted in the parent-child interaction, perfectionism, not just right experiences, as well as failure to express emotions were the main patterns influencing the development of obsessive-compulsive disorder. The data on overprotective parenting styles were contradictory.

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