Review Article

Psychological Interventions Affecting Obsessive-compulsive disorder Patients' Family Members' Accommodative Behaviors: A Narrative Review

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Abstract

The term accommodation refers to the response of family members to the patient's obsessive-compulsive (OC) symptoms. Accommodation is associated with the severity of patients' symptoms and poorer therapeutic response. Thus, the present study has been conducted to review the Psychological interventions' effect on accommodative behaviors of family members' of patients with obsessive-compulsive disorder (OCD). "the keywords Obsessive-Compulsive Disorder" or "OCD," "Family", "Family Members," "Relative," "Treatment," "OCD Treatment," "Accommodation," "Family Accommodation," "Family Involvement," and "Family Participation" in the available databases including Google, Google Scholar, Science Direct, Scopus, Ovid, and Medline. The inclusion criteria are as follows: (1) the studies were written in English, (2) adult participants, and (3) the studies conducted between 2000 and 2018. After reviewing all the articles found (136 articles), 13 articles have been applied to prepare the present article. Having read the full text of the relevant articles, the data needed for writing this review article have been extracted, sorted and summarized. The finding showed that accommodation is prevalent in family members of patients with OCD. Accommodation is associated with poorer response treatment and severity of symptoms. Therefore, family accommodation should be considered as important and interpersonal phenomenon in the treatment of patients with OCD.

Keywords: Accommodation, Family, Family involvement, Obsessive-compulsive disorder

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INTRODUCTION

Obsessive–compulsive disorder (OCD) is a very debilitating psychological disorder characterized by the presence of unwanted, disturbing thoughts and anxiety or repetitive behaviors causing obvious distress, its time consuming and leads to occupational and social dysfunction.[1] The prevalence of this disorder is

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relatively constant around 2%–3%[2,3] and 1.8% in Iran, reported as 0.7% and 2.8% among men and women, respectively.[4]

Although OCD is an individual disorder, as regard obsessive–compulsive (OC) behaviors occur at home and in the family context, family members are involved and their functioning is impaired.[5,6] The distress and worry reported by the relatives of OCD suffering adults ranges between 60% and 90%.[7] Caring patient with OCD has detrimental effects on family interactions[8] and family members of patients with OCD (adults or pediatric) reported greater caregiver burden and distress.[9-11]

Family reactions and coping strategies in dealing with the patients' symptoms can have important consequences in maintaining or improving the patients' OC symptoms.[12] The family's response includes antagonistic behaviors, accommodation, or a combination of these two styles. Antagonistic family members refuse to ignore or get involved in OC behaviors and tend to be rigid, serious, and critical, which may lead to increased stress and exacerbating symptoms. Accommodation includes any changes in family members' behavior to prevent or reduce ritual behaviors or distress related to their obsessive symptoms.[6,13] Evidence indicates that family accommodation is quite common in family members of a patient with OCD and almost 90% of them accommodate with the symptoms to some extent.[14,15] Based on a review study by Renshaw *et al.*, 82% of relatives are antagonistic and 100% of relatives have accommodative behaviors.[6] Many patients impose accommodation behaviors on their families and may be aggressive if faced with their opposition.[16,17] Family accommodation was associated with a poorer treatment outcome both in adults and in children or adolescents with OCD.[18] Caregivers of patients with OCD with higher empathy regardless of the future consequences of the accommodative behaviors more involved in accommodation, so it is not surprising that the severity of OC symptoms is higher in patients in these families.[10] Therefore, family accommodation should be considered as an important and interpersonal phenomenon which negatively impacts OCD treatment in the treatment of patients with OCD.[10] In contrast to accommodative behaviors as the ones with undesirable consequences, it seems that family involvement in the patient's treatment can lead to more effective treatment. A review of the literature suggested that the families' participation in the treatment process decreased the symptoms of OCD.[12,19,20]

Although once thought that OCD to be treatment-resistant but results of investigations have shown that psychological therapies, especially cognitive behavioral therapy (CBT) reduce symptoms.[21] Given the important role of the family in maintaining or ameliorating the symptoms of OCD, the involvement of family members in the psychological interventions of patients with OCD is important and it seems that family-based psychological interventions to be more effective.[15,22,23]

Based on the results of the previous study, accommodation research is also in its infancy, and further investigation is needed to understand its various dimensions and effects.[10] Given the negative effects of accommodation on the treatment process of patients, this study has been conducted to review the Psychological Interventions' Effect on Accommodative Behaviors of Family Members of Patients with OCD. It is hoped that the results of the present study will pave the way for performing some novel study cases in this field.

MATERIALS AND METHODS

The present study is a narrative review that includes a review of all experimental studies and the review and meta-analysis studies. The inclusion criteria are: (1) The studies were written in English, (2) adult participants, and (3) the studies conducted between 2000 and 2018. Searching the literature was done in the databases: Google, Google Scholar, Science Direct, Scopus, Ovid, and Medline. The titles have been searched using the terms: "Obsessive-Compulsive Disorder" or "OCD," "Family," "Family Members," "Relative," "Treatment," "OCD Treatment," "Accommodation," "Family Accommodation," "Family Involvement," and "Family Participation." Full-text studies haven't been available or the ones done about children and adolescents have been excluded.

Initially, 127 articles were extracted through searching the databases and 9 articles were searched in other sources (including the articles' references). Overall, 136 articles have been searched. Fifty-three articles have been removed after entering the information into Endnote Software Endnote version X7(Thomson Reuters, London, united kingdom). The researchers have studied the abstracts of the articles, and the articles possessing the inclusion criteria have been included in the study. Out of 83 articles, 70 haven't met the above criteria and excluded and finally, 13 articles have been applied to prepare the present article. Having read the full text of the relevant articles, the data needed for writing this review article have been extracted, sorted and summarized. At last, the findings related to the review of Psychological Interventions' Effect on Accommodative Behaviors of Family Members of Patients with OCD have been reported as this narrative article.

RESULTS

In all of the above studies, Diagnostic and Statistical Manual of Mental Disorders-IV was used to diagnose the patients with OCD. Yale Brown's OC Obsessive–Compulsive Scale has also been applied to identify the patient's OC dimensions. Of the above studies, nine cases are from the United States and four cases are from Brazil, England, India, and The Netherlands. The demographic information in these articles includes age, sex, race, education, employment status and clinical information such as the age at the onset of illness, the previous psychotherapy and the current drug use. The results of these studies have been divided into two groups: the findings from the experimental studies and those from the review and meta-analysis studies.

Experimental studies derived findings

Gomez *et al.* (2016) performed a clinical trial with the goal to analyze the effect of cognitive-behavioral group therapy with the family member's involvement on the family accommodation, in which 98 pairs (the patient and family member) entered the study (52 pairs in the intervention group and 46 pairs in the control group). Their intervention consisted of twelve 2 h' sessions whose main focus has been on OCD–based Psychoeducation and exposure and response prevention (ERP). In the intervention group, the family members have only participated in the first and eighth sessions, the main focus of these sessions were Psychoeducation (about OCD, CBT) and family accommodative behaviors. After the intervention, the Family Accommodation Scale (FAS) was completed. Compared with the control group (from 18.4 ± 1.72 in pre-test to 18.8 ± 1.69 in the post-test), a meaningful decrease observed in the family accommodation in the intervention group (from 13.9 ± 1.2 in pre-test to 9.39 ± 1.38 in the post-test, $P < 0.001$). In addition, the patients' OC symptoms had a significant decrease in the intervention group (from 27.3 ± 0.79 to 13.08 ± 1.26) in compared with the control group (from 26.4 ± 0.8 to 24.7 ± 0.86, $P < 0.001$). Another goal of the study was to determine the predictors of the patients' family members' accommodation. Results showed that the patients' level of education, comorbidity with other psychiatric disorders, previous drug-taking, marital status and the patients' OC symptoms' severity are the factors influencing the family members' accommodative behaviors.[24] Family accommodative behaviors' decline can be associated with the patient's recovery since when the patients progress in the treatment, they may get involved in a challenge and not demand the family members to join in the rituals, the issue which reduces family accommodation.[13] Family members usually accommodate with the patient's OC symptoms because they assume that this will reduce the patient's anxiety, but when they participate in the training sessions, they get familiar with the negative effects of accommodative behaviors on maintaining the patient's OC symptoms, feel more comfortable, better able to help the patient in their treatment process and use appropriate alternative behaviors for accommodative behaviors. Moreover, in this research, the reduced accommodation of the family members has been correlated with the characteristics of the patients and those of the family members, especially that the present study findings indicated that the comorbidity of OCD with unipolar disorder has a negative effect on family accommodation and mitigates the positive intervention effects.[24] The results of a study of adolescents with both OCD and depression also showed that this comorbidity led to more severe OC symptoms and greater family accommodation.[25] Furthermore, according to a study derived findings, the family members' perception of the patients' ability or inability to control their OC thoughts and behaviors plays a significant role in the family members' response such as accommodation.[19]

In another open clinical trial with the goal to analyze the immediate and long-term effects of couple-based intervention in OCD, 21 adult couples with OCD participated (in which one of the couples suffering from OCD) in the couple-based intervention. This was a single group study and the primary evaluations have been done after the intervention getting over and 6 and 12 months after the intervention. The intervention included sixteen 90–120 min sessions in which both couples have participated with each other in all sessions. The training sessions' content also covered OCD-oriented psychoeducation, ERP, training the couples on how to help the patient, the strategies to reduce accommodation with the patients' symptoms and to replace them with appropriate behaviors, some appropriate techniques for expressing emotions and better communication. The findings revealed a significant reduction of the mean family accommodation scores from 34.63 ± 12.79 to 25.12 ± 13.19 in the posttest and this descending trend has also been maintained during the follow-up. There was a significant difference between pre- and post-test scores ($P < 0.001$), but there was no significant difference between family accommodation scores in posttest and 6th and 12th months($P < 0.99$). In other words, the mean scores of family accommodation have significantly declined but after that, it has been fixed. In the present study, after the intervention, the insight about OCD has improved and the patients have expressed higher satisfaction and Constructive communication between couples improved.[26]

It seems that training communicative techniques, increasing knowledge about the disease's nature, and its treatments have led to positive effects and the long-term treatment outcomes' maintenance. On the one hand, the intervention has motivated the couples to take part in more activities with each other and enjoy life regardless of OCD rituals or avoidance behaviors.

The clinical trial by Thompson-Hollands *et al*. (2015) conducted to determine the brief family-oriented intervention's effect on family members' accommodation, in which the final sample size of this study was 36 individuals (18 pairs of the patients and family members). The patients in both groups received treatment ERP. In the family-oriented group, only the family members have participated in the training sessions, but in the control group, family has not participated in the intervention. The intervention encompassed 2-h sessions. The first session's content included OCD and ERP-oriented psychoeducation, the concept of family accommodative behaviors and family accommodative styles, the family participation manner in the treatment practiced as the practical role play with the family and trained them how to respond to the patients' reactions. The second session covered problem-solving, planning, and answering the family members' questions. The evaluation was done initially and during the 4th, 8th, 16th, and 25th weeks. The mean scores of family accommodation in both groups decreased but in the intervention group where the family members participated in the intervention, it has declined significantly compared to the control group and the highest decrease has been of the 4th and 8th weeks, so that the mean scores of accommodation in the intervention group from 12.33 ± 9.57 at first has reached to 5.22 ± 5.24 in the 4th week and the 8th week it has been 4.33 ± 7.78 and in the 25th week, it has declined as 4.62 ± 8.12. In the control group, the mean scores of family accommodation have reduced from 12.89 ± 7.51 at first to 10.11 ± 12.06 in the 25th week. Despite the significant decline of the intervention group accommodation scores (with the brief family intervention) compared with the control group, no significant difference has been obtained between the two groups. The mean scores of the control group accommodative behaviors have remained up to 78% of the basic level but in the intervention group, it has declined up to 37%. The control group's accommodative remained almost unchanged, while it decreased significantly in the intervention group. It seems that the slight decrease of such behaviors in the control group was due to the decrease in the OC symptoms of the patients as patients in both groups were treated with ERP.[13]

In the results gained by Thompson-Hollands' study suggested that through the presence of family merely in several sessions, it is possible to achieve significant results, of course, if these sessions are thoughtful and purposeful. On the one hand, in the above research, only two training sessions have been held. It seems that more training sessions with shorter content volume in each session will lower the participants' fatigue and encourage them to participate in the following sessions. Besides, the above study extracted results demonstrated that the patients participating with their family members in the training sessions have exhibited significant decrease in the OC symptoms in the 8th and 16th weeks and this descending trend has lasted up to the 25th week, indicating the powerful effect of the family members' presence in the patient's treatment process and the importance of the family accommodation in OCD pathologic course.

Baruah *et al*., (2018) conducted a clinical trial following the purpose to answer this question, "if brief family-oriented interventions along with the treatment with serotonin reuptake inhibitors in OCD sufferers exerts higher effect compared with relaxation exercises accompanied with serotonin reuptake inhibitors?" At first, 300 individuals registered in the study and after the screening, 64 ones entered the study as the eligible ones and divided into two groups through computer program randomization method (n = 30 in brief family-oriented intervention group and n = 34 in the relaxation exercises). All patients received a fixed dose of serotine reuptake inhibitors. The brief family-oriented intervention including six 90–120 min sessions during 3–4 weeks, has been briefer than the standard cognitive-behavioral treatments lasting for about 2–3 months. In all these sessions, the patients and family members participated along with each other. The sessions' content has focused on OCD and ERP-oriented psychoeducation, the concept of family accommodation and appropriate strategies to avoid getting involved in the patient's accommodative behaviors, manage negative emotions, caregivers burden and its destructive effect on the family. In the control group, six 30–45 min sessions with psychoeducation content on OCD and its drug-based treatment necessity, relaxation exercises including Jacobson's deep breathing and muscle relaxing exercises have been held. The data were collected at baseline, 1 and 3 months after the intervention. The results of the this study showed that at first, the mean scores of family accommodation in the family-oriented group were 21 ± 6.09 and in the relaxation group as 18.85 ± 5.49, but 1 and 3 months after the intervention, it has significantly declined in the family-oriented group (1 month later: 13.63 ± 6.27 and 3 months later: 11.26 ± 6.61) but in

the control group (relaxation exercises), no meaningful decrease has been seen (1 month later: 18.23 ± 5.36 and 3 months later: 17.55 ± 5.24). Moreover, comparing the mean scores of family accommodation in the two groups revealed a significant difference between the two groups 3 months after the intervention ($P < 0.001$).[27]

It seems that the family member participation-based intervention effects may not appear immediately after the intervention, while its impact gets vivid after a while. The long-term effects can be due to utilizing the techniques trained to the family and the patient.

In a study by Grunes *et al*. (2001) aimed to determine the impact of family participation on behavioral therapies for OCD, 28 pairs (the patient and family member) participate in the study, who were randomly divided into two 14-subject groups. In both groups, the patients received ERP treatment. In the intervention group, 8 weekly training sessions (during 8 weeks) were held for the family members. The content of the training sessions included psychoeducation, family members' guidance for being a co-therapist and coping skills, while in the control group, the family hasn't participated in the training sessions. The assessment was performed at baseline in the 4th week, the 8th week and 1 month after the intervention. The results indicated a significant decrease in OC symptoms, anxiety, and depression of the patients in the family-oriented group. In addition, accommodative behaviors of family members and their anxiety and depression in this group meaningfully declined. The mean scores of family members' accommodation have reached from 43 ± 16.69 at baseline to 26.3 ± 13.26 at 1 month after the intervention, while in the control group, it has reached from 28.8 ± 13.14 to 30.7 ± 14.51, respectively, that showed no significant difference between the two groups.[28] According to Grunes' study findings, accommodation with the patients' OC symptoms is associated with marital dissatisfaction and poor outcomes of OCD treatment. The results of this study also indicated that the anxiety and depression of the family members participating in the intervention have significant decrease.

Another pilot study conducted to assess the effect of brief family-oriented intervention with focusing on both coping and accommodative behaviors in patients with OCD. Sixteen family members participated in this study. The intervention protocol included five 90-min weekly sessions. The content of the sessions also included reducing family antagonistic behaviors, avoiding family members' accommodative behaviors and planning for collaborative activities. Based on the study findings, the family members' accommodative behaviors have significantly decreased (from 19.1 ± 7.6 in the pretest to 12.5 ± 11 in the postintervention, $P < 0.05$).[29]

Findings of this study revealed that both the patient and the family members were satisfied with the treatment, and their social performance and family atmosphere also improved. It seems that family antagonistic behaviors' change has been a tough issue and requires longer interventions.

Belus *et al*., (2014) performed an open clinical trial to determine the effect of couple-based interventions on the treatment of OCD. Eighteen adult couples participate in six sessions of cognitive-behavioral therapy for OCD. The content of training sessions also was encompassed of psychoeducation about OCD and ERP, how to participate in ERP, to learn the strategies to reduce family members' accommodative behaviors and how to replace them with appropriate behaviors. In all sessions, the couples took part with each other, and they have been given home assignments to do together. The assessment run at the beginning of the study, after the intervention, 6 and 12 months after the intervention. As the study results stated, the couples' antagonistic behaviors to the patients' OC symptoms have been significantly decreased and this decrease has been maintained during the 12-month follow-up, patients' family functioning improved, the productive relationships between the couples also improved and this progress maintained within the next 6 and 12-month follow-up.[20]

It appears that focusing on the couple group work during the intervention might be the reason behind the family functioning improvement. The couples' critical behaviors' reduction may also be due to the change couple's perception of the disease nature after receiving psychoeducation or because of the disease symptoms getting improved. Besides, the above research results showed that the couples experienced the treatment outcomes, particularly productive communication improvement and reduced avoidance behaviors during longer time span that might result from employing the trained techniques in their interactions over time.

Meta-analyses results

In the review study of Renshaw *et al*., 13 studies with 1818 participants were investigated, the results of which revealed that the studies on family participation suggest it helps the reduction of family members' accommodative behaviors and brings about better treatment outcomes for the patients. In addition, the participation of the family member as an educator or co-therapist in patients with

OCD' behavioral treatments such as ERP might increase the patients' response to the treatment.[6]

In another meta-analysis with the goal to analyze family accommodation and the patients with OCD' symptoms' severity, 41 studies were investigated, the findings of which indicated the Patients with OCD' symptoms' high severity being associated with a high level of family members' accommodative behaviors. The results of this meta-analysis also showed that the phenomenon known as accommodation among Patients with OCD' family members is a common issue, and no relationship exists between the factors such as age, gender, and comorbidity, and other anxiety disorders with the family members' accommodative behaviors.[30]

In systematic review by Strauss *et al*., (2015), the relationship between family accommodation and OC symptoms' severity was investigated. 14 studies with 849 participants were analyzed. Findings of this systematic review showed that family accommodation is significantly associated with OC symptoms severity and family members' participation in the patients' accommodative behaviors plays a critical role in maintaining the patients' OC symptoms. The results of this study have revealed potential family participation induced benefits in the treatment interventions and the treatment outcomes' improvement. Moreover, through analyzing the studies in this systematic review, it has been discovered that families who participated in treatment interventions, reported lower depression and anxiety levels, too.[31]

Another meta-analysis conducted to investigate family accommodation studies in anxiety disorders and OCD. In this meta-analysis, analyzing 57 studies indicated accommodation is a common issue in the patients with OCD' family members and around 90% of such patients' family members have reported compliance with the patients' rituals to some extent. In addition, the results showed the significant relationship between OC symptoms' severity and the family accommodative behaviors. The family members' accommodative behaviors have declined after the patient's treatment. The results of this meta-analysis showed that Patients with OCD' caregivers undergo a high burden which exerts negative effects on their quality of life.[14]

In one meta-analysis conducted by Thompson-Holland *et al*., 29 studies were surveyed with 1366 participants and the results showed that family-based psychological therapies significantly influenced patients with OCD' symptoms and their overall performance. Findings of this study also showed that age, gender and family-based treatment format (individual or group) influence the treatment outcomes. In the psychological interventions, the factors such as age over 18 years old, the individual intervention format, paying attention to family accommodation and focusing on ERP training have influenced the studies' results and brought about better outcomes.[12]

Family members' participation in the patients' treatment context gives them this to opportunity to strengthen their coping skills and to help patients for better treatment results. These studies derived results are briefly listed in Tables 1 and 2.

DISCUSSION

The current narrative review pursues the objective to determine the Effect of psychological interventions on accommodative Behaviors of family members of patients with OCD. The experimental, review, and meta-analytic studies in this area were reviewed. After reviewing the articles and eliminating the ones that did not meet the inclusion criteria or inconsistent with the objectives of the present study, 13 papers were selected and their results were employed for final writing of this article, 13 papers were reviewed and their results were employed for final writing of this article.

This narrative review results showed that accommodative behaviors are common in patients with OCD' families and evidence suggests that approximately 90% of Patients with OCD' family members have some degree of accommodation and also family accommodation is significantly and positively associated with symptoms' severity and the patients' dysfunction.[14] Given the disruptive nature of family accommodative behaviors both in the patients and in their family, the interventions aimed at reducing family accommodative behaviors result in better therapeutic outcomes such as lower family accommodation, better patient performance, as well as, reduced patient OC symptoms.[32] The above-mentioned papers' review findings also showed that as family members' accommodative behaviors decreased, the therapeutic outcomes also showed a greater improvement indicating the importance of reducing these destructive behaviors to the improvement of patients with OCD' symptoms and their functioning.[12,13,24,26]

In the articles analyzed in this review, the patients and the family members participated in the treatment together or the family members participated separately in the interventions. In some interventions, the family members

Table 1: A brief overview of experimental studies used in this narrative review

Authors (year)	Type of study	Sampling and participants	Measures	Results
Upasana Baruah and *et al*. (2018) Journal of Affective Disorders (India)	Randomized controlled trial	Random allocation 64 individuals, the number of men and women was not specified separately	The FAS The mini-international neuropsychiatry interview The SCID-II Y-BOCS The CGI scale	In the intervention group: The severity of the disease was reduced. Family accommodation decreased over time
Johanna Thompson-Hollands (2015) J. behavior therapy (united states)	Randomized clinical trial	Random allocation 36 individuals (16 men and 20 women)	FAS ADIS-IV Y-BOCS BAI BDI-II OCI-R	In the intervention group: The mean score of family accommodation was significantly reduced. Also, patients in this group had a significant decrease in obsessive-compulsive symptoms
Jonathan S. Abramowitzand *et al*. (2012) J. behavior therapy (united states)	Clinical trial	Random allocation 21 couples	FAS Y-BOCS DOCS BABS HAM-D BDI DAS CPQ	There was a significant decrease in obsessive-compulsive symptoms and a moderate to severe decrease in symptoms of depression in patients. Family accommodative behaviors decreased significantly. Relationships between couples improved
Juliana Braga Gomesand *et al*. (2016) J. Psychiatry Research (Brazil)	Randomized clinical trial	Random allocation 98 couples (52 couples in the intervention group and 46 couples in control group)	FAS The OCI Y-BOCS The CGI Scale BDI BAI	In the intervention group: Patients' obsessive-compulsive symptoms and family accommodative scores were significantly improved
Michael S. Grunesand *et al*. (2001) J. behavior therapy (united states)	Experimental	Randomization could not be clearly explained 28 patients with OCD along with their family members divided into two groups	FAS Y-BOCS OVIS BDI BAI	In the intervention group: Family' accommodative behaviors as well as their depression and anxiety levels decreased. the patients' obsessive-compulsive symptoms and their depression were significantly reduced
Jennifer M. Belusand *et al*. (2014) J. Behavior Therapy and experimental Psychiatry (united states)	Open trial	Random allocation 16 couples (one of the couples had a diagnosis of OCD)	BDI DAS CPQ	The relationship between the couple and their performance improved in the short term. Couples' critical and antagonistic behaviors decreased
Karin C.P. Remmerswaal and *et al*. (2016) J. Psychotherapy and psychosomatics (Netherlands)	Experimental	The sampling method was not clearly described 32 individuals (16 patients, 15 partners, and 1 mother)	Y-BOCS FAS WHODAS PCM on the patient	Obsessive-compulsive symptoms of the patients significantly reduced. Family accommodative behaviors significantly reduced. The home atmosphere also improved significantly

FAS: Family Accommodation Scale, SCID: Structured clinical interview for personality disorders, Y-BOCS: Yale-brown obsessive-compulsive scale, CGI: Clinical global impression, ADIS: Anxiety disorders interview, BAI: Beck anxiety inventory, BDI-II: Beck depression inventory-II, OCI-R: Obsessive-compulsive inventory - revised, DOCS: Dimensional Obsessive-compulsive Scale, BABS: Brown assessment of beliefs Scale, HAM-D: Hamilton rating scale for depression, DAS: Dyadic adjustment scale, CPQ: Communication patterns questionnaire, OVIS: Overloud ideas scale, WHODAS: World Health Organization disability assessment schedule, PCM: Perceived criticism measure, OCD: Obsessive-compulsive disorder

participated in all sessions;[20,26,27] however, in some studies, the family members participate in some sessions.[24] The results gained by Thompson Holland's meta-analysis indicated that family members' participation in all sessions may not be feasible and attending a few meetings can also lead to positive results. Thompson's study derived results also showed that family-centered interventions exclusively involving the family members in the interventions are more effective than group formats (family and patient).[12] The results of the present review also revealed that in a number of studies the family members participated alone in the training sessions[13,28,29] and in some interventions, both the patient and the family members participated in the training sessions.[20,26,27] It seems that if family members attend private sessions where the patient is not present, they may feel more comfortable for talking over their feelings and expressing the negative effects of patient's symptoms on their quality of life. On the other hand, if the patient and the family participate in the training sessions together, the patient may feel more relaxed and confident and their motivation to continue treatment increases.

In all of the experimental interventions reviewed, psychoeducation has been part of the training sessions' content, which confirms the significance of being aware of the disease.[13,20,24,26] In the psychoeducational interventions, the patients and their family members get the information related to disease and its causes and treatment, the right

Table 2: A brief overview of review and meta-analysis studies used in this narrative review

Author (year) and country and journal	Purpose	Type of article	Methodology	Main results
Keith D. Renshaw and *et al*. (2005) J Cognitive Behavior Therapy (United) states	Determining the impact of involving family members in the treatments of OCD	Review	Thirteen studies were reviewed with 1818 participants	Accommodative behaviors are associated with poor patient treatment outcomes. The involvement of the members in the treatment of patients reduced the symptoms of OCD
Eli R. Lebowitz and *et al*. (2012) J. Anxiety disorders (United States)	Determining the relationship between family accommodation and severity of obsessive-compulsive symptoms and clarify important variables in this field	Review	After searching the PUBMED and PSYCINFO databases 64 articles were selected and finally, 22 articles were reviewed, participants: 141 relatives, 97 adults with OCD	Accommodative behaviors are significantly associated with the severity of obsessive-compulsive symptoms, and significant improvement in symptoms of OCD is associated with reduced family accommodation
Johanna Thompson-Hollands and *et al*. (2014) Journal of Family Psychology (United States)	Review of family involvement in the psychological treatment of OCD	Meta analyze	A total of 1629 articles were searched through databases, and 29 were finalized after screening, including 1366 samples	Family-centered interventions have a greater impact on patients 'obsessive-compulsive symptoms and improve their performance to a greater extent
Eli R. Leibowitz and *et al*. (2015) J. Expert Review of Neurotherapeutics (United States)	Five-year study of the impact of family accommodation in obsessive-compulsive and anxiety disorders	Met analyze	A total of 121 articles were searched by searching the databases of PUBMED and PSYCINFO, and after final screening 57 articles were reviewed participants	Regarding to accommodative behaviors, results showed that accommodation associated with more severe clinical symptoms and poorer therapeutic outcomes in obsessive-compulsive patients
Clara Strauss and *et al*. (2015) Journal of Anxiety Disorders (England)	Review of the relationship between family accommodation and OCD symptom severity	Meta-analytic review	Searching the databases, 99 articles were selected, and after final screening, 14 articles with 849 participants were reviewed	Family accommodation was significantly associated with the severity of obsessive-compulsive symptoms. The results of this study indicate the positive effect of family participation on psychological interventions in patients with OCD
Monica S. Wu and *et al*. (2016) J. Clinical Psychology Review (United States)	Determine the relationship between family accommodation with OCD symptom severity	Meta analyze	A total of 326 articles were searched by searching the databases and finally, 41 articles were reviewed with 2509 participants	Results highlight the moderate relationship between family accommodation and OCD severity

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and wrong behaviors in dealing with its symptoms and the required techniques. As they become more aware, they are more likely to participate in the treatment process and as a result, better treatment outcomes emerge. On the other hand, OC symptoms can also cause problems for the family members, which can reduce their stress through training and teaching them the appropriate coping techniques.[33] In 2006, a study was designed to evaluate family-based treatments for OCD and the results of all of these treatments indicated that family members should be involved in the treatment process. In addition, its results showed that psychoeducation considered as a small part of the treatment should be given more attention to complete OCD treatment.[34]

In these experimental studies reviewed, home assignments were also given to the patients for the patient and the family member so that to do the tasks together.[20,24,25,30,31,34] It seems that the participation of family members in performing the assigned tasks as well as supporting their patient in performing the trained techniques is effective in reducing the patients OC symptoms and the family members also feel more relaxed and their accommodative behaviors will decrease.

In the study of Baruah *et al*., immediately after the intervention, no significant decrease was observed in the family members' accommodative behaviors, but 1 month after the intervention and 3 months later, the accommodative behaviors significantly decreased. It seems that modifying family accommodative behaviors requires a longer time, which is achieved by giving home assignments and pursuing longer follow-up.[29]

Some studies have also investigated the variables affecting family accommodation. According to the findings, the patients' characteristics, lack of comorbidity with other

mood disorders, OCD's severity and higher education level of the family members have been reported to be the effective variables in lowering family accommodation. In addition, no effect has been observed due to age and gender on family accommodative behaviors. Comorbidity with anxiety disorders increases family accommodative behaviors and the amount of time spent on family accommodative behaviors is related to OC symptoms' severity. In the families where the patient experiences more positive emotions, better treatment outcomes and fewer relapses have been reported.[24,33,35] Based on the results of this narrative review, the questionnaire type also influences the results as demonstrated in the studies in which the FAS self-reporting format yields better results than the interview format, stressing the importance of using standard scales to obtain accurate results. In addition, the sample size and publication year have also exerted effects on the results. The relatives' anxiety and depression can also affect the disease process.

As it is true about any study, there are some limitations in the present study as it follows: The studies on family accommodative behaviors have been conducted mostly in Western societies (especially in the US), indicating the need for doing further studies in other cultures, particularly in Iranian and Asian cultures where family plays an important role in patient care. Also, the studies analyzed in this narrative review have only concentrated on adults, so there is a need to compare different age groups. It is suggested that the personality traits of family members of individuals with OCD be explored in the future researches, as some individuals appear to be more likely to engage in accommodative behaviors and others to be more tolerant. It is also suggested that psychiatrists encourage family members of patients to participate in patient visits. It is also recommended that the patient and family participate in training sessions simultaneously because it seems that participation together in intervention is more effective.

CONCLUSION

Since a review of the studies indicated that family strategies can play a critical role in maintaining or improving the symptoms of OC patients and on the other hand, accommodative or antagonistic behaviors lead to poor treatment outcomes and exacerbating the symptoms, it's imperative to consider family responses and interpersonal interactions of family members in OCD suffering patients' treatment. Besides, the rich source of family should be employed for participating in the treatment to achieve better treatment outcomes.

Conflicts of interest

There are no conflicts of interest.

Authors' contribution

T.Heidari: Study conception and design, data collection and analysis, drafting of manuscript. H.Azimi Lolaty : critical revisions for important intellectual content, contributions to analysis and interpretation of data , supervision and final approval of the version to be published.

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