

## Effect of Family and Patient Centered Empowerment Program on Depression, Anxiety and Stress in Patients with Obsessive-Compulsive Disorder and Their Caregivers' Burden

### Abstract

**Background:** Considering the importance of family participation in patients' treatment and the positive effects of simultaneous patient and family education, this study was conducted to determine the effect of a family and patient-oriented empowerment program on depression, anxiety, and stress in patients with Obsessive-Compulsive Disorder (OCD) and their caregivers' burden. **Materials and Methods:** This quasi-experimental study was conducted on 50 OCD patients along with their primary caregivers. The intervention group participated in eight sessions of training, each lasting from 60 to 90 min (twice a week), and the control group received the usual treatment. The Depression, Anxiety and Stress Scale, Maudsley's Obsessive-Compulsive Inventory, Goldberg's General Health Questionnaire, and Zarit's Burden Inventory were used to collect the data before, immediately after and 1 month after the intervention, and then the gathered data were analyzed with *t*-test and analysis of variance using the Statistical Package for the Social Sciences software, version 21. **Results:** The changes in the mean scores of depression ( $F_{2,48} = 21.02, p < 0.001$ ), anxiety ( $F_{2,48} = 29.72, p < 0.001$ ), and stress ( $F_{2,48} = 16.52, p < 0.001$ ) of the patients in the intervention group showed significant decrease over time; however, in the control group, there was no significant decrease in the mean scores of depression ( $F_{2,48} = 1.69, p = 0.19$ ), anxiety ( $F_{2,48} = 0.47, p = 0.62$ ), and stress ( $F_{2,48} = 1.09, p = 0.34$ ) over time. The changes in the caregiver's burden score in both groups indicated a significant decrease over time in the intervention group ( $F_{2,48} = 24.70, p < 0.001$ ) and the control group ( $F_{2,48} = 33.30, p < 0.001$ ). **Conclusions:** The findings of this study revealed that concurrently training the patients and caregivers could reduce the negative emotions of the patients and their caregivers' burden.

**Keywords:** Anxiety, caregivers, depression, obsessive-compulsive disorder, patients

### 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 distress and explicit disorder.<sup>[1]</sup> The lifetime prevalence of OCD is approximately 2%,<sup>[2]</sup> and its prevalence in Iran is reported to be 21.57%.<sup>[3]</sup> Due to OCD's clinical features, the patients' families often change their daily activities in response to symptoms, in an attempt to relieve anxiety and/or reduce the time spent in the rituals.<sup>[4]</sup> This situation considerably enhances its objective and subjective burden. Family nuisances, depression, fatigue and exhaustion, anger, and social and interpersonal problems were reported by the family members.<sup>[5]</sup> In a study, 42% of the caregivers reported a high objective

burden.<sup>[6]</sup> Another study revealed that OCD caregivers also had considerable burden of care along with psychiatric morbidity.<sup>[7]</sup>

Today, in the health care system, there is a care transition from hospital to home.<sup>[8]</sup> The patients' families often tend to take care of their patients and play the role of a valuable source for their patients and undertake essential roles in patients' support.<sup>[9]</sup> In recent years, a growing number of interventions in nursing have typically focused on providing psychosocial support to caregivers.<sup>[10]</sup> In this regard, empowerment is one of the strength-based approaches.<sup>[11]</sup> According to Kabeer (1999), empowerment is a dynamic process through which individuals acquire decision-making power. More precisely, empowerment can be defined as the process of change by

Tahereh Heidari<sup>1</sup>,  
Seyed-Mohammad  
Mousavi<sup>2</sup>,  
Seyed-Nouraddin  
Mousavinasab<sup>3</sup>,  
Hamideh  
AzimiLolaty<sup>4</sup>

<sup>1</sup>Student Research Committee, Mazandaran University of Medical Sciences, Sari, Iran, <sup>2</sup>Associate Professor, Mazandaran University of Medical Sciences, Sari, Iran, <sup>3</sup>Assistant Professor, Department of Biostatistics, Mazandaran University of Medical Sciences, Sari, Iran, <sup>4</sup>Associate Professor, Psychiatry and Behavioral Sciences Research Center, Addiction Institute, Department of Psychiatric Nursing, Mazandaran University of Medical Sciences, Sari, Iran

### Address for correspondence:

Dr. Hamideh AzimiLolaty,  
Department of Psychiatric  
Nursing, Nasibeh School  
of Nursing and Midwifery,  
Mazandaran University of  
Medical Sciences, Sari, Iran.  
E-mail: azimihamideh@gmail.  
com

### Access this article online

Website: [www.ijnmrjournal.net](http://www.ijnmrjournal.net)

DOI: 10.4103/ijnmr.IJNMR\_161\_19

### Quick Response Code:



**How to cite this article:** Heidari T, Mousavi SM, Mousavinasab SN, AzimiLolaty H. Effect of family and patient centered empowerment program on depression, anxiety and stress in patients with obsessive-compulsive disorder and their caregivers' burden. Iran J Nurs Midwifery Res 2020;25:482-9.

**Submitted:** 01-Oct-2019. **Revised:** 18-Aug-2019.

**Accepted:** 27-Jun-2020. **Published:** 07-Nov-2020.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: [reprints@medknow.com](mailto:reprints@medknow.com)

which individuals gain the freedom to act and achieve what is valuable to them.<sup>[12]</sup>

The literature review revealed that several studies have been conducted on family participation in OCD treatment. In some of these studies, the patients and their family members participated in all sessions<sup>[5,13]</sup> and, in some, only the family members or the patients participated in the interventions alone.<sup>[14]</sup> It seems that the simultaneous presence of patients and their caregivers in the interventions will increase the patients' confidence and sense of security as well as increase the patients' and their caregivers' participation in the treatment process. The results of some studies' also confirm that OCD patients' family members' participation increased the likelihood of response to treatment,<sup>[5]</sup> reduced negative emotions of the patients and also those of their family members, and lowered the disease severity.<sup>[5,13]</sup>

Since little literature supports empowerment testing as a nursing intervention and the previous studies focused on cognitive-behavioral therapies in order to support the patients and their caregivers, And analyzing the literature found no study with an interactive perspective that the patient and the family participate simultaneously and actively in the treatment process, this study was conducted to assess the effect of a family- and patient-centered empowerment program on depression, anxiety, and stress levels of OCD patients and their caregivers' burden.

## Materials and Methods

Fifty patients with OCD and their caregivers (50 caregivers), who were referred to Baghban Specialized Clinic, affiliated with the Medical Science University of Mazandaran, in Sari, Iran, participated in this quasi-experimental study from 20 April to the end of September 2018. The inclusion criteria for this study were divided into two parts: one part consisted of the patient and the second part consisted of the primary caregiver. The inclusion criteria for the patients included primary diagnosis of OCD by a psychiatrist and passing at least 6 months, having a medical record at Baghban Specialized Clinic, Iran, being  $\geq 18$  years of age, having the ability to communicate, read, and write in Persian, lack of personality disorders based on the psychiatrist's diagnosis, not suffering from substance-related disorders, absence of major depression and other psychiatric disorders based on the history of psychiatry in the patient's file, not having received similar psychological treatments, lack of physical problems (being deaf, blind, and physically challenged) and mental retardation, getting a depression score  $\geq 14$  or anxiety score  $\geq 10$  or stress score  $\geq 19$  based on the Depression, Anxiety, and Stress Scale (DASS), and the willingness to participate in the study. The inclusion criteria for the caregivers included the willingness to participate in the study, being the patient's main caregiver, having the ability to communicate, read, and write in Persian, being  $\geq 18$  years of age, the patient agreeing with the family member's participation, lack of physical problems, not suffering

from OCD based on Maudsley's Obsessive-Compulsive Inventory (MOCI,  $< 11$ ), having a general health score  $\geq 14$  based on Goldberg's General Health Questionnaire 12-options (GHQ-12), and no current substance abuse. The exclusion criteria included not attending two sessions at most, not fully answering the questionnaire, and not cooperating in the assigned tasks as required.

Using the mean comparison formula with confidence level 95% and the statistical power 90%, the sample size was determined to be 22 patients in each group, considering the probability of the loss of the participants, 10% was added to the sample size, and the final sample size of 25 individuals was considered for each group.<sup>[15]</sup> In each group, one patient and one caregiver participated in the intervention, thus, 50 participants were included in each group (25 patients and 25 caregivers).

Initially, the records of the patients in the psychiatric clinic of the Baghban Center were reviewed and the records of the patients with OCD were determined. Of the 289 cases of OCD patients, 194 met the initial inclusion criteria and were contacted by phone, and, finally, 69 individuals were willing to participate in the study. During a face-to-face meeting with these patients and their caregivers, brief information about the purpose of the study and its methodology was presented and written consent was obtained from the participants. The demographic characteristics form and DASS were completed by the patients, and the demographic characteristics form, MOCI, GHQ-12, and Zarit's Burden Inventory (ZBI) were filled in by the caregivers. The completed questionnaires by the patients and their caregivers were reviewed by the researcher, and 50 eligible patients were selected along with their eligible caregivers (based on MOCI-related obsessive-compulsive grades [ $< 11$ ], the general health score  $\geq 14$  based on GHQ-12, Zarit score  $\geq 30$  for the caregivers, and depression score  $\geq 14$  or anxiety score  $\geq 10$  or stress score  $\geq 19$  based on the DASS for the patients). Then, they were divided into two groups as the intervention and the control (25 patients and 25 caregivers in each group).

The intervention group received eight sessions of training, each lasting from 60 to 90 min. Educational sessions were held twice a week for a month in the form of lecture, question and answer, and film display. The patients and their caregivers participated in training sessions together. These sessions were in a group-based format and were held on Saturdays, Sundays, Mondays, and Wednesdays at different times (at 09–10:30 AM and 5–6:30 PM). The groups included three groups of 12 and one group of 14. The educational sessions were held in classes with adequate audio-visual and sufficient lighting facilities. The training material was prepared as a slide and displayed in the classes. In these training sessions, first, the concepts and the techniques were explained and, then, the techniques were practiced using the slides and film display. The educational sessions' contents consisted of

psychoeducation (information about OCD and its treatment and complications), family participation, information about self-care in OCD, negative emotions (depression, anxiety stress, and anger) management, and mindfulness. One session was devoted to free discussion. The training sessions' content is presented in Table 1. At the end of each training session, the educational material pamphlets were given to the patients and caregivers. In addition, home assignments were also given, and they were required to report doing them at the beginning of the following session and discuss it. The caregivers were asked to help the patients in doing their home assignments. The control group received routine treatment. After the intervention, the posttest was run. Then, phone-based follow-up was performed for a month (once a week). Besides, the patients kept in contact with the researcher through a virtual network. For the control group, no intervention was done during this period. After the follow-up, again the questionnaires were completed by the patients and the caregivers. After the intervention getting over and the results being received, regarding the intervention-induced effects, the educational content was transferred to the control group.

The patient's data were collected using the demographics form and DASS-21. The caregivers' data were collected using the demographics form, MOCI, GHQ-12, and ZBI.

The DASS-21, originally developed by Lovibond and Lovibond in 1995, is a self-report symptom-based scale. The subjects were asked to rate the extent to which they experienced each item during the past week on a 4-point Likert scale with the following options: "Not applied to me at all" (score = 0), "Applied to me to some degree, or some of the time" (score = 1), "Applied to me to a considerable degree, or a good part of the time" (score = 2), and "Applied

to me very much, or most of the time" (score = 3). The final score of the three scales ranged from 0 to 42, with higher scores representing greater depression, anxiety, and stress. The validity and reliability of the DASS have been well-confirmed by Lovibond and Lovibond.<sup>[16]</sup> In a study conducted in Iran, the internal consistency (Cronbach's alpha) was calculated to be 0.94 for the overall score of DASS-21. The Cronbach's alpha for depression, anxiety, and stress was 0.85, 0.85, and 0.87, respectively.<sup>[17]</sup> In this study, DASS-related Cronbach's alpha was estimated to be 0.73.

MOCI developed by Hodgson and Rachman (1997) is a self-report questionnaire encompassing 30 options with true/false format developed for evaluating the type of obsessive-compulsive symptoms and discriminating the obsessive patients from other neurotic ones and as a screening tool in nonclinical population. The reliability coefficients of Cronbach's alpha of the questionnaire's components ranged from 0.63% to 0.84%.<sup>[18,19]</sup> In Iran, the reliability of this tool has been reported as 0.84 by a test-retest and its convergence validity as 0.78 by Yale-Brown's Obsessive-Compulsive Scale.<sup>[20]</sup> The Cronbach's alpha of MOCI was 0.62 in this study.

Goldberg's GHQ is a screening tool that includes 12 options to identify the severity of psychological distress experienced by an individual within the last few weeks.<sup>[21]</sup> In a research in India, the internal consistency (Cronbach's alpha) for this instrument was 0.9.<sup>[22]</sup> In Iran, research analyzing the questionnaire's validity using the tool's internal consistency calculated the Cronbach's alpha of this questionnaire as 0.79.<sup>[23]</sup>

ZBI is a widely used 22-item assessment tool for assessing the burden perceived by caregivers. This questionnaire is

**Table 1: Intervention protocol**

Session Number/session Title	Session's main content
1-Introducing and orientation	Introducing the group members, giving explanations about the training sessions' content, and briefly defining the disease
2-Self-care in OCD*	A brief explanation about disorder's treatments, tips on the importance of medicine-taking as prescribed by the doctor and their side effects, methods to reduce complications, techniques and self-care methods in OCD
3-Family involvement in patient care	Explanations on the importance of family role in treatment of patient, how the family should interact with OCD sufferer, and the significance of family participation and attendance in treating this disorder
4-Stress management	Familiarity with the concept of stress, the importance behind recognizing this concept, and training some simple strategies to manage negative emotions and training deep abdominal breathing technique
5-Dealing with unpleasant feelings	Familiarity with the concept of anger and anxiety, the importance of the negative emotions' role in aggravating OCD symptoms, familiarity with these unfavorable feelings-induced psychological and physiological symptoms, and training for simple techniques negative emotions' management
6-Depression	Familiarity with the concept of depression, familiarity with the emotional symptoms and its induced physiological symptoms and changes, and training simple techniques for managing negative emotions
7-Mindfulness skills	Brief explanations about the concept of mindfulness, the importance of the presence of mind and being at the time, training deep abdominal breathing technique and some simple techniques of mindfulness, and training some simple yoga movements
8-Free discussion and summarizing	Open discussion, Sharing the successful experiences of patients and their caregivers

\*OCD=Obsessive-Compulsive Disorder



consists of 22 questions asking family caregivers about physical, psychological, economic, and communication problems that cause stress and strain among the caregivers. The options are scored in a 5-point Likert scale. The scores were calculated by summing up the total selected statement ranging from 0 to 88, in which, higher scores imply a greater perceived caregiver's burden. ZBI was translated and modified according to Iranian culture. Its reliability was calculated using the test-retest method ( $r = 0.94$ ) and the internal consistency of Cronbach's alpha as 0.91.<sup>[24]</sup> The Cronbach's alpha of ZBI in this study was estimated as 0.71.

The questionnaires were completed by both groups, before, immediately after, and 1 month after the intervention. The data were analyzed using the Statistical Package for the Social Sciences software, version 21 (SPSS Inc. Chicago, IL, USA). The Shapiro-Wilk test was used to test the variables' normality. The Chi-square test, Fisher exact test, *t*-test, and repeated measure analysis of variance were used to compare demographic variables and the DASS scores in the groups. The significance level was considered less than 0.05 in all the tests.

### Ethical considerations

The ethics approval code given was IR.MAZUMS.REC.1397.1504 and received from the Ethics Committee of Mazandaran University of Medical Sciences. Written informed consent form was obtained from patients. The right to anonymity and confidentiality of information and the right to leave the investigation at any desired time was also preserved.

### Results

The results of this study showed that demographic characteristics of the patients, such as age, marital status, educational level, the duration of the disease, the history of drug-taking, and residence status, did not reveal any significant differences in the two groups. All of the patients were female, and the mean (SD) age of the intervention and control groups were 34.16 (6.73) and 33.40 (7.16), respectively. The demographic characteristics of the caregivers were also the same and the mean (SD) ages of the caregivers in the intervention and control groups were 37.04 (9.76) and 37.76 (7.51), respectively. The demographic characteristics of the patients and caregivers are presented in Tables 2 and 3, respectively.

Table 4 indicates that the mean (SD) scores of depression, anxiety, and stress in the intervention group significantly decreased over time; however, in the control group, this decline was not significant. The results of the independent *t*-test revealed that the decrease in the depression scores before and 1 month after the intervention was 6.43 (5.73) in the intervention group and 0.13 (2.74) in the control group, demonstrating a significant difference between the two groups ( $t_{48} = 4.96, p < 0.001$ ). The decrease in the anxiety scores before and 1 month after the intervention

was 9.58 (7.35) in the intervention group and 0.51 (3.09) in the control group, which showed a significant difference between the two groups ( $t_{48} = 5.68, p < 0.001$ ). In terms of the patients' stress scores, the decrease in the stress scores before and 1 month after the intervention was 6.53 (6.97) in the intervention group and 0.47 (1.97) in the control group, stating a significant difference between the two groups ( $t_{48} = 4.17, p < 0.001$ ).

Table 5 presents the mean (SD) of the caregivers' burden scores in the two groups in the three stages, namely, before, immediately after, and 1 month after the intervention. The results of the paired *t*-test showed that immediately after the intervention the mean score of the burden decreased in both groups and there was a significant difference between the two groups ( $t_{48} = 2.21, p = 0.03$ ). One month after the intervention, the mean score of the burden decreased in both the groups, but there were no statistically significant differences between the two groups ( $t_{48} = 1.78, p = 0.90$ ). The results of the independent *t*-test also demonstrated that the decrease in the burden scores before and 1 month after the intervention was 5.95 (5.26) in the intervention group and 2.22 (1.30) in the control group, which indicated a significant difference between the two groups ( $t_{48} = 3.44, p = 0.002$ ).

### Discussion

In this study, the empowerment program was designed as a nursing intervention to determine the effect of a family- and patient-centered empowerment program on depression, anxiety, and stress among patients suffering with OCD and their caregivers' burden. The patients' demographic characteristics, such as their age, marital status, education level, occupation, and residence status, were similar, and the caregivers also did not differ in their demographic characteristics. The results of this study revealed that the patients' empowerment significantly decreased depression scores in the intervention group over time ( $F_{2,48} = 21.02, p < 0.001$ ). In addition, the patients' anxiety scores significantly decreased in the intervention group over time ( $F_{2,48} = 29.72, p < 0.001$ ) and their stress scores also showed a significant decrease over time ( $F_{2,48} = 16.52, p < 0.001$ ), but the DASS score changes in the control group fluctuated and were not statistically significant [Table 4].

The results of this study revealed that concurrent presence of the patient and their caregiver in educational sessions had a positive effect on decreasing the symptoms of depression and anxiety of the patients, which is consistent with the results gained by Abramowitz *et al.* Their intervention was couple-based and both partners participated in all sessions, with a focus on behavioral treatment of OCD.<sup>[13]</sup>

Unlike some previous studies,<sup>[4,14]</sup> in this study, the patients and their primary caregivers actively and simultaneously attended their training sessions together. In the process of empowerment, some simple and new techniques for

**Table 2: Patients' demographic characteristics in intervention and control groups**

Variable	Intervention group, n (%)	Control group, n (%)	Chi-square test result ( $\chi^2$ )	p
Marital status				
Single	6 (24%)	3 (12)	1.08*	0.46
Married	19 (76%)	22 (88%)		
Education				
Associate degree	9 (36%)	13 (52%)	1.30	0.25
Bachelor and higher	16 (64%)	12 (48%)		
Employment				
Employed	11 (44%)	8 (32%)	0.76	0.38
Unemployed	14 (56%)	17 (68%)		
OCD** suffering period (years)				
1-5	11 (44%)	17 (68%)	2.92	0.09
>5	14 (56%)	8 (32%)		
History of drug-taking				
Yes	13 (52%)	18 (72%)	2.12	0.14
No	12 (48%)	7 (28%)		
Stressful events experienced in the last 6 months***				
Yes	14 (56%)	17 (68%)	0.76	0.38
No	11 (44%)	8 (32%)		
Suffering from a disease other than OCD****				
Yes	7 (28%)	6 (24%)	0.10	0.75
No	18 (72%)	19 (76%)		
Perceived economic status				
Low	3 (12%)	2 (8%)	2.95	0.23
Average	11 (44%)	17 (68%)		
Good	11 (44%)	6 (24%)		
Residence status				
Urban	20 (80%)	21 (84%)	0.09*	1
Rural	5 (20%)	4 (16%)		
Residence Type				
Personal	24 (96%)	22 (88%)	1.18*	0.61
Rental	1 (4%)	3 (12%)		

\*Fisher exact test. \*\*OCD=Obsessive-compulsive disorder. \*\*\*The stressful events reported by the patients include the death of a loved one, physical impairment, financial problem, and divorce. \*\*\*\*The patients reported a history of suffering from diseases like allergy, diabetes, hypertension, anemia, and thyroid disorder

managing negative emotions and some easy mindfulness techniques were taught by a psychiatric nurse.

In terms of this study's results of [Table 4], it can be concluded that the patient and family together as a company can play an important role in lowering the patients' depression, anxiety, and stress symptoms. Besides, possessing sufficient knowledge about the disease and being aware of how to participate in the treatment process, the family can perform better and effectively help the sick member of the family.<sup>[25]</sup> The results of previous studies also confirm that the participation of a family member in the training sessions increases the effectiveness of education and raises the level of self-care and adherence to the treatment.<sup>[26]</sup>

In this study, one session was devoted to free discussion, and in this discussion, the patients and their caregivers shared their experiences. It seems that listening to each other's experiences and acknowledging competence by

focusing on the patients and the caregivers strengths and encouraging them to tell their stories increased their sense of confidence in self-care. One session focused on mindfulness. Results of a study focusing on mindfulness-based cognitive therapy revealed the positive effects of mindfulness and the concept of being at present in reducing obsessive-compulsive symptoms, depressive symptoms and anxiety in patients.<sup>[27]</sup> Another study on nursing students revealed that using mindfulness techniques, especially when accompanied by regular practice, had a significant impact on stress, depression, anxiety, and well-being.<sup>[28]</sup> In addition, it seems that as the knowledge of the patients and their caregivers about appropriate coping skills increases and they are trained with some simple techniques on how to manage their negative emotions, they will experience lower negative emotions' unfavorable effects, report better feelings and their interpersonal interactions get improved. Besides, in terms of the group training method in these training sessions, the patients talked about their

**Table 3: Caregivers' demographic characteristics in intervention and control groups**

Variable	Intervention group, n (%)	Control group, n (%)	Chi-square test result ( $\chi^2$ )	p
Gender				
Woman	10 (40%)	8 (32%)	0.35	0.56
Man	15 (60%)	17 (68%)		
Caregiver-patient relation				
Spouse	15 (60%)	17 (68%)	0.38	0.56
Other members*	10 (40%)	8 (32%)		
Marital status				
Single	8 (32%)	3 (12%)	2.91	0.09
Married	17 (68%)	22 (88%)		
Education				
Associate degree	10 (40%)	12 (48%)	0.32	0.57
Bachelor and higher	15 (60%)	13 (52%)		
Employment				
Employed	18 (72%)	20 (80%)	0.44	0.51
Unemployed	7 (28%)	5 (20%)		
History of suffering from a special disease**				
Yes	5 (20%)	3 (12%)	0.50***	0.70
No	20 (80%)	22 (88%)		
Stressful events experienced in the last 6 months****				
Yes	12 (48%)	10 (40%)	0.32	0.57
No	13 (52%)	15 (60%)		

\*Other members include mother, sister, and child (ren). \*\*The caregivers have reported the history of suffering from diseases like diabetes, hypertension, allergy, hyperlipidemia, and thyroid disorder. \*\*\*Fisher exact test. \*\*\*\*The stressful events reported by the caregivers include the death of a loved one, financial nuisances, driving accident, divorce, and working problems

**Table 4: Mean (SD) of depression, anxiety, and stress scores in intervention and control groups**

Variables	Before the intervention, mean (SD)	Immediately after the intervention mean (SD)	One month after intervention mean (SD)	F	df	p (within)
Depression						
Intervention	21.52 (7.51)	19.52 (7.07)	15.08 (6.84)	21.02	(2, 48)	<0.001
Control	17.76 (7.42)	18.48 (7.00)	17.62 (6.71)			
t-test	1.78	0.52	1.32	1.69	(2, 48)	0.19
df	48	48	48			
p (between)	0.08	0.60	0.19			
Anxiety						
Intervention	20.56 (6.49)	17.28 (7.36)	10.97 (7.31)	29.72	(2, 48)	<0.001
Control	17.84 (6.08)	17.72 (5.92)	17.33 (5.99)			
t-test	1.53	0.23	3.33	0.47	(2, 48)	0.62
df	48	48	48			
p (between)	0.13	0.81	0.001			
Stress						
Intervention	30.64 (5.58)	27.44 (5.33)	24.10 (4.50)	16.52	(2, 48)	<0.001
Control	31.52 (5.78)	31.43 (5.21)	31.04 (5.39)			
t-test	0.55	2.67	4.93	1.09	(2, 48)	0.34
df	48	48	48			
p (between)	0.58	0.01	<0.001			

experiences and exchanged information. In these group sessions, both the patient and the family were accompanied by the individuals suffering from similar problems. It seems that being with the individuals suffering from the same problems and exchanging information and experiences influenced the patients' negative emotions to get down.

The results of a trial study conducted to define the effect of family and friends on self-care in patients with diabetes type II denoted that the patient's support system influences their self-care behaviors. Better the family and friends' support system, better are the patient's self-care behaviors, medicine, and compliance with the treatment.<sup>[25]</sup>

The results of this study also showed that the mean (SD) scores of the caregivers' burden decreased over time in the intervention group ( $F_{2,48} = 24.70, p < 0.001$ ). There was also a significant reduction in the mean (SD) score of the caregiver's burden in the control group ( $F_{2,48} = 33.30, p < 0.001$ ), but the decrease in the burden scores before and 1 month after the intervention was 5.95 (5.26) in the intervention group and 2.22 (1.30) in the control group, denoting a significant difference between the two groups ( $t_{48} = 3.44, p = 0.002$ ) [Table 5]. As can be seen in Figure 1, the changes in the deviation of the caregiver's burden over time in the intervention group were greater than that of the control group [Figure 1]. It seems that this mild decline of the caregiver's burden in the control group can be attributed to the patient's usual treatment and the decrease in the symptom; however, a higher decrease of the patients' caregivers' burden in the intervention group might be because of the effect of the empowerment program and the usual treatment. It seems that increasing caregivers' awareness of the disease and how to participate in the patients' treatment are effective in reducing their burden. On the other hand, by increasing the patients' awareness and applying simple techniques to manage their negative emotions, the patients feel more relaxed, which reduces their caregiver's burden.

No study has discovered the effect of the family and patient-oriented empowerment on OCD patients in literature, but some studies have conducted with other psychiatric patients.<sup>[29]</sup> Seemingly, concurrently training

the patient and the family leads to lowering the patients' negative emotions and decreasing their caregivers' burden, the issue which can result when the family environment gets peaceful, the interpersonal interactions between the family members get improved, and the patients better comply with their treatment. In this study, in addition to phone contact, the researcher kept in touch with the patients through a network that might be effective in boosting the intervention outcome. Several studies reported some achievements behind applying the internet-based methods for performing the OCD family-oriented interventions.<sup>[30,31]</sup>

This study had some limitations. All the participants were female and the randomization was not done, therefore, it limits the generalizability of the findings. It is recommended to develop some interventions with a combination of both genders and implement random allocation in future studies and, also, perform some studies to compare the family-oriented empowerment with only patient-oriented empowerment interventions.

### Conclusion

On the basis of the positive effects of a family- and patient-centered empowerment program on depression, anxiety, and stress of the patients with OCD and its effective results on caregivers' burden, this method could be considered as a part of nursing care. Moreover, because of the significant position of the nurses interacting with patients and their caregivers, they have a key role in empowering the patients and their family members by training them some simple techniques on how to manage their negative emotions and promote family participation. The results of this study could be considered as an appropriate ground for the researchers to develop and evaluate this method in other psychiatric disorders or other diseases.

### Acknowledgments

This study was derived from an MA thesis in psychiatric nursing. The authors would like to express their gratitude to the honorable research council, respected professors, all dear patients, and their respected families for their participation in this study and all the personnel working in Baghban Center for their sincere cooperation.

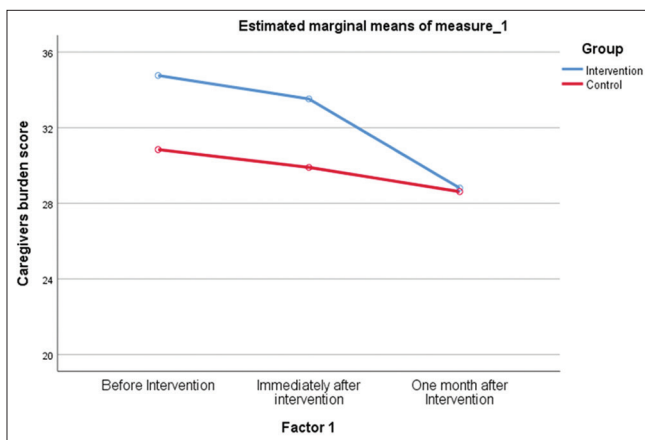


Figure 1: Comparison of mean (SD) of caregivers' burden score before, immediately after, and 1 month after intervention

Table 5: Mean (SD) of caregivers' burden scores of intervention and control groups

Variable	Before the intervention, mean (SD)	Immediately after the intervention mean (SD)	One month after intervention mean (SD)	F	df	p (within)
Caregivers' burden						
Intervention	34.76 (7.57)	33.52 (7.87)	28.80 (7.36)	24.70	(2, 48)	<0.001
Control	30.84 (1.21)	29.89 (2.15)	28.61 (1.54)	33.30	(2, 48)	<0.001
t-test	2.55	2.21	1.78			
df	48	48	48			
p (between)	0.01	0.03	0.90			



## Financial support and sponsorship

Mazandaran University of Medical Sciences, Sari, Iran

## Conflicts of interest

Nothing to declare.

## References

- Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadocks Synopsis of Psychiatry. Behavioral Sciences/Clinical Psychiatry Text Book. 11<sup>th</sup> ed. 2015. p. 753-5.
- Sassano-Higgins S, Pato MT. Obsessive-compulsive disorder: Diagnosis, epidemiology, etiology, and treatment. *Clin Synth* 2015;13:129-41.
- Zamanian-Azodi M, Sarokhani D, Sarokhani M, Sayehmiri K. The evaluation of obsessive-compulsive disorder prevalence in Iran: A meta-analysis and systematic review. *Int J Pharm Technol* 2016;8:21482-92.
- Bragagomes J, Cordioli AV, Bortoncello CF, Tusibraga D, Goncalves F, Elizethheldt A. Impact of cognitive-behavioral group therapy for obsessive-compulsive disorder on family accommodation: A randomized clinical trial. *Psychiatry Res* 2016;246:70-6.
- Baruah U, Pandian RD, Narayanaswamy JC, Math SB, Kandavel T, Reddy YCJ. A randomized controlled study of brief family-based intervention in obsessive compulsive disorder. *J Affect Disord* 2018;225:137-46.
- Grover S, Dutt A. Perceived burden and quality of life of caregivers in obsessive-compulsive disorder. *Psychiatry Clin Neurosci* 2011;65:416-22.
- Oza H, Parikh MN, Vankar GK. Comparison of caregiver burden in schizophrenia and obsessive-compulsive disorder. *Arch Psychiatry Psychother* 2017;2:32-41.
- Backman C, Chartrand J, Dingwall O, Shea B. Effectiveness of person- and familycentered care transition interventions: A systematic review protocol. *Syst Rev* 2017;6:158.
- Masoudi R, Abedi H, Abedi P, Mohammadinejad E. Iranian family caregivers' challenges and issues in caring of multiple sclerosis patients: A descriptive explorative qualitative study. *Iran J Nurs Midwifery Res* 2014;19:416-23.
- Mollica MA, Litzelman K, Rowland JH, Kent EE. The role of medical/nursing skills training in caregiver confidence and burden: A cancers study. *J Cancer* 2017;123:4481-7.
- Pattoni L. Strength-based approaches for working with individuals (2012). Available from: [www.iriss.org.uk/resources/strengths-based-approaches-working-individuals](http://www.iriss.org.uk/resources/strengths-based-approaches-working-individuals). [Last accessed on 2012 May].
- Arestoff F, Djemai E. Women's empowerment across the life cycle and generations: Evidence from Sub-Saharan Africa. *World Dev* 2016;87:70-87.
- Abramowitz JS, Baucom DH, Boeding S, Wheaton MG, Pukay-Martin ND, Fabricant LE, *et al.* Treating obsessive-compulsive disorder in intimate relationships: A pilot study of couple-based cognitive-behavior therapy. *Behav Ther* 2013;44:395-407.
- Thompson-Hollands J, Abramovitch A, Tompson MC, Barlow DH. A randomized clinical trial of a brief family intervention to reduce accommodation in obsessive-compulsive disorder: A preliminary study. *Behav Ther* 2015;46:218-29.
- Mehta M. A comparative study of family-based and patient-based behavioural management in obsessive compulsive disorder. *Br J Psychiatry* 1990;157:133-5.
- Szabo M. The short version of the Depression Anxiety Stress Scales (DASS-21): Factor structure in a young adolescent. *IJCBNM* 2018;6:1-8. doi: 10.1016/j.adolescence.2009.05.014.
- Asghari A, Saed F, Dibajnia P. Psychometric properties of the Depression, Anxiety, Stress Scales-21 (DASS-21) in a non-clinical Iranian sample. *Int J Psychol* 2008;2:82-102. (in Persian).
- Sanchez-Meca J, Lopez-Pina J, Gomez-Conesa A. The maudslay obsessive-compulsive inventory: A reliability generalization meta-analysis. *Int J Clin Health Psychol* 2011;11:473-93.
- Heybati A, Ahi G, Sharifzadeh G. Psychometric properties and factor structure of the child version of intellectual-practical obsessive compulsive inventory (OCI-Y) with regard to junior high school students in Birjand. *J Birjand Univ Med Sci* 2017;24:136-46. (in Persian).
- Vosoghi A, Bakhshipour A, Hashemi T, Fathollahi S. Structural relations of neo's personality dimensions with symptoms of anxiety and depression. *Iran J Psychiatry Clin Psychol* 2012;18:233-44. (in Persian).
- Zulkefley N, Baharudin R. Using the 12-item general health questionnaire (ghq-12) to assess the psychological health of malaysian college students. *Glob J Health Sci* 2010;2:73-80.
- Qin M, Vlachantoni A, Evandrou M, Falkingham J. General Health Questionnaire-12 reliability, factor structure, and external validity among older adults in India. *Indian J Psychiatry* 2018;60:56-9.
- Tagharrobi Z, Sharifi K, Sooky Z. Psychometric analysis of Persian GHQ-12 with C-GHQ scoring style. *Prev Care Nurs Midwifery J* 2015;4:66-80. (in Persian).
- Navidian A, Kermansaravi F, Rigi SN. The effectiveness of a group psycho-educational Program on family caregiver burden of patients with mental disorders. *BMC Res Notes* 2012;5:1-7.
- Arch JJ, Ayers CR, Baker A, Almklov E, Dean DJ, Craske MG. Randomized clinical trial of adapted mindfulness-based stress reduction versus group cognitive behavioral therapy for heterogeneous anxiety disorders. *Behav Res Ther* 2013;51:185-96.
- Hu J, Wallace D, McCoy T, Amirehsani K. A Family-based diabetes intervention for hispanic adults and their family members. *Diabetes Educ* 2014;40:48-59.
- Key BL, Rowa K, Bieling P, McCabe R, Pawluk EJ. Mindfulness-based cognitive therapy as an augmentation treatment for obsessive-compulsive disorder. *Clin Psychol Psychother* 2017;24:1109-20. doi: 10.1002/cpp.2076.
- Riet P, Levett-Jones T, Aquino-Russell C. The effectiveness of mindfulness meditation for nurses and nursing students: An integrated literature review. *Nurse Educ Today* 2018;65:201-11.
- Aghayusefi A, Mirzahoseini H, Khazaeli M, Assarnia A. The effect of psychoeducational interventions on illness management in families of schizophrenic patients. *J Pract Clin Psychol* 2016;4:129-35.
- Comer JS, Furr JM, Cooper-Vince CE, Kerns CE, Chan PT, Edson AL, *et al.* Internet-delivered, family-based treatment for early-onset OCD: A preliminary case series. *J Clin Child Adolesc Psychol* 2014;43:74-87.
- Storch EA, Caporino N, Morgan J, Lewin A, Rojas A, Brauer L, *et al.* Preliminary investigation of web-camera delivered cognitive-behavioral therapy for youth with obsessive-compulsive disorder. *Psychiatry Res* 2011;189:407-12.