



Effectiveness of Psycho-Educational Intervention in Improving Symptoms of Patients with Obsessive-Compulsive Disorder and General Family Functioning of Companions

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Received 2018 January 19; Revised 2018 April 10; Accepted 2018 August 04.

Abstract

Background: Obsessive-Compulsive Disorder (OCD) disrupts individual and family functioning because of its characteristics. Therefore, the intervention based on patient and family participation can enable the sufferers and their families reach the desired level of functioning.

Objectives: This study was conducted to evaluate the effect of psychoeducational intervention on improvement of symptoms of patients with Obsessive-Compulsive Disorder (OCD) and general family functioning of companions, using the McMaster model dimensions.

Methods: In this quasi-experimental study, the first population included all the patients who referred to psychiatric clinics in Yazd City, Iran, in 2016 with the diagnosis of obsessive-compulsive disorder. The second population consisted of one member of their family who was selected using purposive sampling method and included 30 patients and 30 members of their family. Of these, 15 patients with their family members were assigned to the control and experimental groups. The patients completed the Yale-Brown questionnaire and the family members completed Family Assessment Device (FAD) questionnaire before and after the intervention. Only the experimental groups received eight intervention sessions. Finally, the experimental and control groups were compared in terms of general functioning and improvement of symptoms. The data were analyzed with SPSS 23.0 using independent *t*-test and analysis of covariance tests.

Results: The difference in the average age and length of marriage in both groups was not significant ($P > 0.05$). The results of independent *t*-test showed that there was a significant difference between the two groups in general family functioning ($P < 0.05$). In addition, analysis of covariance showed that psycho-educational intervention led to significant reduction in obsessive-compulsive disorder in the experimental group ($P < 0.05$).

Conclusions: This study showed that psycho-educational intervention was effective in improving the general family functioning of a companion, and therefore, it was effective in reducing the severity of obsessive-compulsive disorder in patients.

Keywords: Educational, Family Functioning, Model, Obsessive-Compulsive Disorder, Psycho-Educational

1. Background

Obsessive-compulsive disorder (OCD), as a mental illness, was introduced more than 100 years ago. Until a few years ago, this disorder was thought to be a rare disorder, however, in the last 20 years; research projects have shown that it is more than what it was previously thought to be (1). This disorder is characterized with frequent distressful thoughts and repetitive behaviors or habits of mind (2) and is the fourth most common psychiatric disorder in America (3). Patients with this disorder are often very lonely, often suffer from other psychiatric disorders (1), and

compared with healthy people gain less close and emotional support from their families (3, 4).

Non-medical treatments were always tried as a substitute for drug therapy or to strengthen the effects of drug use due to the fact that 40% to 60% of OCD patients do not respond to medical treatments adequately (5). On the other hand, the recognition of the fact that the family has an important role in maintaining the disorder attracts the attention to the interventions and treatments in which family members are involved (6).

Psycho-educational family therapy, as one of the in-

interventions that reduces the direct involvement of family members in obsessive rituals and the burden of the disorder, is performed with a family or some families at the same time, and was developed by Carol Anderson and her colleagues at West Institute of Psychiatry in Pittsburgh (7). Due to the fact that patients with obsessive-compulsive disorder need to become familiar with the illness and their families to cope with this problem, Tynes and colleagues developed educational and psychological support group meetings for patients and their supportive people in 1992. The results showed that information has been helpful for patients and the important people in their lives (8). In a study conducted in 2006 to evaluate the treatments based on families of OCD, the results showed that all these treatments reported that family members should be involved in the treatment process. In this study, it was also suggested that psycho-educational intervention, which was considered as a small part of the treatment for many years, should receive more attention for complete treatment of OCD patients (9). Although research projects carried out to determine the impact of psycho-educational intervention on families with mentally ill members showed that this intervention can be effective in multifamily therapy or treatment with a single family (10), in performing these interventions for people with OCD and their families, satisfaction was the only thing indicated. There is no more information regarding the effect of this intervention on OCD patients and their families, therefore, in this study, the researchers examined the effectiveness of psycho-educational intervention in reducing OCD symptoms and improving the general family functioning of companions using McMaster model dimensions. Hence, this study evaluated the effect of the psycho-educational intervention on improvement of symptoms of patients with OCD and general family functioning of companions.

2. Methods

2.1. Participants

This quasi-experimental study used the pre-test and post-test design with the control group. The first population consisted of all the patients admitted to the psychiatric private and governmental centers in Yazd city in 2016 with a diagnosis of obsessive-compulsive disorder by a psychiatrist and a clinical psychologist, according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM4).

The inclusion criteria for these patients were: (1) Willingness to participate in this study, (2) being married, and (3) affliction with obsessive-compulsive disorder. The 2nd-population included one of the family members of these

individuals (people with obsessive-compulsive disorder) who wished to participate in the intervention, held at least a high school diploma, and being healthy. The people who were considered as family members included the patient's spouse or child who lived with the patient. The exclusion criterion was lack of desire to continue participating in the study.

2.2. Sampling

In this study, purposive sampling method was used to select 30 patients according to the semi-experimental studies ($\alpha = 0.05$, effect size = 0.50 and test power = 0.88) (6, 11). In this way, 30 patients and 30 family members were selected; of these, 15 patients and their family members were assigned to the control and experimental groups. Therefore, 15 patients were placed in each of the experimental and control groups randomly. Each of the 30 patients with obsessive-compulsive disorder completed Yale-Brown Obsessive Compulsive Scale to determine the severity of OCD and their family members completed family functioning assessment questionnaire to determine the general family functioning. The patients completed the Yale-Brown questionnaire and their family members completed the Family Assessment Device (FAD) questionnaire before and after the interventions.

2.3. Interventional Program

After completing the questionnaires, 30 patients with obsessive-compulsive disorder, as well as 30 members of their family members were divided into the control and experimental groups. The experimental group (except for their family members) received eight sessions of intervention over a period of four months (one session every two weeks), while the control groups received no intervention. People with obsessive-compulsive disorder in both experimental and control groups were similar in terms of drug use; both groups underwent treatment for six months (at the time of the intervention). After two sessions, three people from the experimental group (people with obsessive-compulsive and family members) were excluded from the study due to lack of desire to continue participating in the study. One week after completing the sessions, family members in both control and experimental groups completed the family functioning device again. In addition, patients with obsessive compulsive disorder in both control and experimental groups completed the Yale-Brown questionnaire, and finally, the two groups were compared.

2.4. Data Collection Instruments

The 10-item Yale-Brown questionnaire designed by Wayne Goodman, measures the severity of obsessive-

compulsive disorder in which five questions focus on obsession and five on compulsion. The highest score on this scale is 40 (12). In a pilot study on 26 patients performed to determine the convergent validity, correlations between this scale and Maudsley Obsessive-Compulsive Scale were 0.72 (13). The instrument had a high internal consistency (Cranach's $\alpha = 0.89$). Test-retest reliability was estimated at 0.91 indicating the interclass correlation coefficient (ICC) with 95% confidence interval (CI) (14).

The family functioning questionnaire was used to evaluate the performance of the family and introduced as the McMaster model of family functioning was designed by Epstein, Baldwin, and Bishop (6). This 60-item questionnaire has seven dimensions, six of which are related to family dimensions, and one of them measures the general family functioning. General family functioning considered in this study is a combination of six dimensions and measures health and family problems (15). Alpha coefficients of the scales and subscales of the questionnaire including problem-solving, communication, roles, affective responsiveness, affective involvement, behavior control, and general functioning have been reported in the research by Zareei Mahmoodabad et al. (6), as 0.92, 0.61, 0.38, 0.72, 0.64, 0.65, 0.61, and 0.81, respectively.

2.5. Statistical Analysis

The gleaned data were analyzed with IBM SPSS Statistics for Windows, version 23.0 (IBM Corp., Armonk, N.Y., USA) using descriptive statistics (i.e., frequency, percentage, mean, and standard deviation) to calculate the demographic variables. The Analysis of Covariance (ANCOVA) was used to compare the groups. Also, independent *t*-test was used to compare the mean scores of the family members of the experimental and control groups. The normal distribution assumption was tested by Kolmogorov-Smirnov test. The *P* Value < 0.05 was considered as significant difference in this study.

2.6. Ethical Considerations

This study was approved by the Committee of Ethics in Research at Shahid Sadoughi University of Medical Sciences, Yazd, Iran with code of ethics no.: IR.AJUMS.REC.1395.26.

3. Results

Descriptive statistics of age and the length of marriage in both experimental and control groups showed that the average age in the experimental and control groups were 28 and 30 years, respectively. The average length of marriage in experimental and control groups was eight and

nine years, respectively. The difference in the average age and length of marriage in both groups was not significant ($P > 0.05$). In addition, seven women and five men were in the experimental group and nine women and six men in the control group.

Table 1 represents the mean and standard deviations of the components in both experimental and control groups before and after the interventions.

As can be seen, Family Assessment Device (FAD) scores have decreased significantly in the experimental group compared to the control group. Note that in the FAD test, scores >24 indicate weak functioning and scores < 24 indicate strong function (16).

In this study, analysis of covariance (ANCOVA) was used for analytical results. One of the assumptions of parametric tests is the assumption of normal distribution of scores of groups in the society under study. Kolmogorov-Smirnov test was used to determine the assumptions.

As can be seen, all significance levels were higher than the assumed amount (0.05). Therefore, these results showed no violation of the normality assumption of group scores. The homogeneity assumption of the regression slope will be established when the Covariance Variable (pre-test) and the dependent variable (post-test) in all operating levels (experimental and control groups) are equal ($P > 0.05$). In addition, the equality of variance in both groups was equal ($P > 0.05$).

The first hypothesis of this study indicated that psycho-educational intervention affects the improvement of symptoms in patients with OCD. Analysis of covariance was used to test the hypothesis.

As Table 4 shows, after adjusting pre-test scores, a significant difference between the two groups was found in OCD mean ($P < 0.001$, $F(24,1) = 9.39$). Therefore, the hypothesis was confirmed. The test power was 0.85. It means 85 percent of individual differences in post-test grades of experimental group were related to the training effect.

The second hypothesis: Psycho-educational intervention affects the improvement of the general family functioning of companions. Since there was no intervention on the spouses of the patients and they merely saw changes, independent *t*-test was used to compare the two groups. The findings showed that family functioning improved in experimental group compared to control group ($T = 4.33$, $df = 25$, $P < 0.05$). Therefore, training has been able to improve family functioning in OCD patients.

5. Discussion

The first hypothesis indicated that psycho-educational intervention affects the improving of obsessive-compulsive symptoms in patients with OCD. This re-

Table 1. Comparison of the Mean and Standard Deviation of OCD Scores in the Experimental and Control Groups in the Pre-Test and Post-Test.

| Factor | Group | Number | Pre-Test | | Post-Test | |
|----------------------------|--------------------|--------|----------|------|-----------|------|
| | | | Mean | SD | Mean | SD |
| General family functioning | Experimental group | 12 | 52.58 | 6.28 | 19.41 | 5.61 |
| | Control group | 15 | 24.60 | 6.31 | 22.86 | 7.37 |

Table 2. Comparison of the Mean and Standard Deviation of General Family Functioning in Experimental and Control Groups in the Pre-Test and Post-Test

| Factor | Group | Number | Pre-Test | | Post-Test | |
|----------------------------|--------------------|--------|----------|------|-----------|------|
| | | | Mean | SD | Mean | SD |
| General family functioning | Experimental group | 12 | 29.16 | 3.04 | 22.92 | 2.15 |
| | Control group | 15 | 28.93 | 2.80 | 29.88 | 3.20 |

Table 3. Kolmogorov-Smirnov Test for Normality of General Family Functioning and OCD in Two Groups

| Variable | Group | Kolmogorov-Smirnov | | |
|----------------------------|--------------------|--------------------|----|---------|
| | | Statistic | df | P Value |
| General family functioning | Experimental group | 0.225 | 12 | 0.09 |
| | Control group | 0.165 | 15 | 0.20 |
| OCD | Experimental group | 0.21 | 12 | 0.05 |
| | Control group | 0.22 | 15 | 0.10 |

Table 4. Test Results of Effects Between Subjects (Dependent Variable: OCD)

| Change Source | Total Squares | df | Mean Square | F | P | Test Power |
|---------------|---------------|----|-------------|-------|-------|------------|
| Pre-test | 807.57 | 1 | 807.57 | 64.37 | 0.001 | 1 |
| Groups | 124.58 | 1 | 124.58 | 9.93 | 0.001 | 0.85 |
| Error | 301.07 | 24 | 301.07 | | | |

Table 5. Independent *t*-test for Comparing Two Groups in Family Functioning

| | t-observed | df | P Value | Mean Difference | 95% Confidence Interval of the Difference | |
|--------------------|------------|----|---------|-----------------|---|-------|
| | | | | | Lower | Upper |
| Family functioning | 4.33 | 25 | 0.03 | 3.88 | 1/61 | 3.28 |

sult is consistent with Grunes and his colleagues (17). Other researchers have carried out different models of psycho-educational intervention for patients, however, unfortunately none of them reported the efficiency of their models; they only reported results of the satisfaction of participants (18). In explaining these findings, it can be said that Van Noppen considered diagnosis and recognition of OCD symptoms as an effective first step in helping people with this disorder (19) due to the fact that family members do not consider many of the patient's symptoms as OCD symptoms. Nonetheless, it is essential that these symptoms be taken into account as obsessive-compulsive symptoms and not as personality traits. In this case, the family can help the patient overcome the symptoms. On

the other hand, some studies suggest that the adjustment behaviors with obsessive-compulsive disorder by helping procedures, ensuring or facilitating the avoidance of scary stimuli, can reinforce and maintain symptoms (20). Therefore, psycho-educational intervention can be effective in improving the symptoms of OCD due to its features. In this intervention, patients and their family members receive information about the disease such as the type of obsessive-compulsive symptoms and its causes, right and wrong behavior of others against the disease, treatment for OCD, and the required skills. Therefore, knowledge of these behaviors and their effect on people with OCD doubles the optimism toward treatment. In this study, patients with OCD and their family members be-

came familiar with the skills and many problems such as frequent washing, checking, and so on, all of which were due to the lack of confidence and low self-esteem. Patients with obsessive-compulsive disorder consider knowing of others and relationships with others as a criteria for their self-esteem more than any other people with anxiety disorders, and also render the judgment of others about themselves more negative than others (21). Therefore, learning the ways of self-confidence can prevent problems and also solve the problems when they happen.

The second hypothesis of this study indicated that psycho-educational intervention causes improving general family functioning of companions of OCD patients. Therefore, considering that the effect of psycho-educational intervention on families of people with OCD had not been studied in Iran, and also given that the researcher did not find any other studies related to the effect of this intervention on general family functioning, although there are different models of this intervention in other countries, there was no more result to be mentioned by the researcher (16, 22). For the explanation of this finding, we can say that OCD has a negative impact on the lives of family members, and it seems that it disrupts family functioning in different ways (16). Families of patients with OCD are severely affected by the disease, and as the results of family functioning questionnaires completed by the family of patients with OCD showed, these people have problems in multiple dimensions. Some studies have shown that families of patients with OCD have problems in all aspects of family functioning except communication dimension (6, 17). Nevertheless, in another research, the results showed that although family members of people with OCD have higher pathological scores than the control group in all aspects of functioning measurement questionnaire, there was a significant difference between the two groups only in two dimensions of general functioning and communication (23-25). This finding was confirmed in the Gholizadeh and Pourmovahed study (26, 27).

An OCD patient can cause problems with his or her family. Sometimes, training the family members can stop stress. With this intervention, family members can learn how to cope with an obsessive person. This awareness can save the family and prevent its collapse (28).

In this study, there were two limitations; first, the volume of the sample was relatively small, which makes the generalizability of the findings difficult jeopardizing the external validity of the results, therefore, it is necessary to consider larger sample volumes in subsequent studies. Second, the study was limited to OCD patients and their families in Yazd city. Therefore, we suggest that for future research, the follow-up phase be considered and obsessive-compulsive patients and their families take part in the

treatment at one time.

4.1. Conclusion

Briefly, all the findings indicated that families of patients with OCD are weaker than the normal families in general functioning (29-31). This research showed similar problems in OCD patients and families of patients with OCD (31-33). We found that results of psycho-educational interventions affect the improving of general family functioning of companions of patients with OCD disorder. It means that this intervention is effective for them and their families (26, 27, 34, 35). Therefore, this intervention is not only important for OCD patients it is also effective for their families. We can provide such training for families to improve the relationship between OCD patients and their families.

Acknowledgments

This paper has been conducted in some psychiatrist's clinics. The authors of this paper appreciate the kind of cooperation of Dr. Zare et al.

Footnotes

Authors' Contribution: Study concept and design and analysis and interpretation of data: Hassan Zareei Mahmoodabadi; drafting of the manuscript critical revision of the manuscript for important intellectual content: Niloufar Sardadvar; statistical analysis: Mansoureh Nasirian.

Conflict of Interest: The authors declare no conflict of interest.

Ethical Considerations: This study was approved by the research ethics committee of Shahid Sadoqi Medical Sciences University, Yazd, Iran, 2017 (IR.AJUMS.REC.1395.26).

Funding/Support: Research has been conducted at a personal expense.

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