



Journal of Fundamentals  
of Mental Health



Mashhad University  
of Medical Sciences



Psychiatry and Behavioral Sciences  
Research Center

*Original Article*

# The effect of combination therapy of exposure with prevalent response and children learning behavior on obsessive compulsive symptoms in children with comorbidity of oppositional deficit disorder and obsessive compulsive disorder

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## Abstract

**Introduction:** The purpose of the present study was to study the effect of combination therapy of exposure with prevalent response and children learning behavior on obsessive compulsive symptoms in 4-8 year of children with comorbidity of oppositional deficit disorder and obsessive compulsive disorder.

**Materials and Methods:** In this research, among 4-8 year of children of Khansar city, 3 children, a 7.5 year old girl, and 2 boys of 6 and 7 years of that had the symptoms of comorbidity of oppositional deficit disorder and obsessive compulsive disorder and according to DSM-5, Yale Brown obsessive compulsive scale and SNAP-IV test were selected by convenience sampling method and were studied by using these questionnaires. To analyze the data, descriptive data like mean, median, determination of PND percent (non-overlapping data) and POD percent (overlapping data) were used.

**Results:** With the study of the obtained mean and median and comparing them in 3 situations of baseline, intervention and follow up and the calculation of PND (80%) and POD (20%) in intervention and follow up situations, it was found that the combination therapy of exposure with prevalent response and parent learning behavior have had an effect on the reduction of obsessive compulsive symptoms in all 3 studied children with comorbidity of oppositional deficit disorder and obsessive compulsive disorder.

**Conclusion:** Thus, it can be concluded that the combination therapy of exposure with prevalent response and parent learning behavior affects the reduction of obsessive compulsive symptoms in 4-8 year of children with comorbidity of oppositional deficit disorder and obsessive compulsive disorder. Thus, this kind of therapy can be suggested to psychologists, counselors and other therapists.

**Keywords:** Learning behavior, Obsessive compulsive symptoms, Oppositional deficit disorder, Parents

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## Please cite this paper as:

Mehdi H, Faramarzi S. The effect of combination therapy of exposure with prevalent response and children learning behavior on obsessive compulsive symptoms in children with comorbidity of oppositional deficit disorder and obsessive compulsive disorder. *Journal of Fundamentals of Mental Health* 2016; 18(Special Issue): 467-474.

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Received: Aug. 22, 2016

Accepted: Sep. 29, 2016

## Introduction

Anxiety disorders are among the most common psychiatric disorders, and it is said that this disorder has always existed in human history. Obsessive Compulsive Disorder is one of the anxiety disorders that is in the fourth row of the most common psychiatric diagnoses, and its lifetime prevalence is estimated at 2-3% (1).

According to the definition of the fifth diagnostic and statistical manual of mental disorders, obsessive-compulsive disorder is an obsessive action or thought that has lasted for a long time (more than a month) and causes severe discomfort in the person, and the person must be unusual and irrational. recognize (2).

Various theories have been proposed in the etiology of obsessive-compulsive disorder. In the biological-neural dysfunction hypothesis, it is believed that damage to the brain can be one of the causes of this disorder. Graeme Shaw found that 20 of 105 cases of OCD had a previous neurological history. Also, defects in the serotonin system have been proposed as one of the biological causes of this disorder (3).

In the family system model, there is not only one theory regarding the etiology of OCD. But different theories have some basic assumptions in common. In these theories, attention has been paid to the similarities within the interpersonal context, that is, a person's family. The signs indicate the malfunction of the system. The system consists of relationships or patterns of interaction between its members (3).

Obsessive Compulsive Disorder treatments include medication and psychotherapy. Among the methods of psychological treatment, we can mention psychodynamic therapy and cognitive and behavioral therapy. Among the common behavioral treatments in the treatment of obsessive-compulsive disorder is exposure therapy with response inhibition. In this method, it may be necessary for the patient to be exposed for one or two hours with inhibition of response for several sessions (4).

Many researches have been conducted on the treatment of obsessive-compulsive disorder. For example, in Hamid et al.'s research, three methods of cognitive therapy, drug therapy, and cognitive behavioral therapy combined with response prevention have been effective in the treatment of obsessive-compulsive disorder, and

in the long term, cognitive behavioral therapy combined with exposure method combined with response inhibition and behavioral therapy Cognitive therapy has had a longer-lasting effect than drug therapy (5).

In the research of Abolghasemi and Safrizdi, it has been shown that the technique of exposure combined with response inhibition and drowning was effective on the washing obsession of patients with obsessive-compulsive disorder, and the technique of exposure combined with response inhibition is more effective than drowning (6).

In Mikayili et al.'s research, it was concluded that exposure therapy with response inhibition and Islamic therapy are equally effective in treating obsessive-compulsive disorder (7).

In addition to this, Mokogli et al. have concluded that exposure and inhibition of response in an individual and group manner is effective in reducing the symptoms of obsessive-compulsive disorder (8).

Also, Haley and Andrews, who have reviewed 6 studies on the treatment of obsession through cognitive behavioral therapy in children and adolescents over the past 10 years, have concluded that cognitive behavioral therapy has effective results in the treatment of symptoms of obsessive-compulsive disorder (9).

Behavioral training of parents refers to ways in which parents are trained to interact with the child in a different way. Education is based on the general idea that problem behavior is unintentionally created and established through maladaptive interactions in the home (3). The researches that have been conducted on the effectiveness of behavioral training for parents are mostly on behavioral problems such as aggression and oppositional defiant disorder.

Regarding the prevalence of coexistence of oppositional defiant disorder and obsessive-compulsive disorder in children aged 4 to 8 years, 12% has been reported. Also, children who have these two disorders at the same time experience significantly more obsessive-compulsive disorder, have more family background and are less successful in keeping their impulsive behaviors stable compared to children who only have obsessive-compulsive disorder (10).

In the case study of Chelsea ML and Elisa Kracho, the method of exposure along with

inhibition of response and behavioral training of parents in the treatment of co-occurring symptoms of oppositional defiant disorder and obsessive-compulsive disorder in a 6-year-old child has been investigated, and the effectiveness of this treatment method in the co-occurrence of these two disorders has been confirmed. (10).

According to the research done in this field, the aim of this research is whether the combined treatment of exposure along with response inhibition and behavioral training of parents is effective on the symptoms of obsessive-compulsive disorder in the coexistence of oppositional defiant and obsessive-compulsive disorders in children?

### Materials and Methods

The method used in this research is the single case method. In this research, a multiple baseline was used among three research subjects. The statistical population was all children aged 4 to 8 years old in Khansar city. The sampling method was available, so that among the children aged 4 to 8 years who were referred to the Mehrpouyan Counseling Center in Khansar city, children who have obsessive-compulsive disorder and confrontational neglect based on DSM-5 criteria and obsessive-compulsive questionnaire were selected. Yale-Brown practical (Y-BOCS) and SNAP-IV test (parent form) were selected, based on which three children were selected as follows:

The first subject (subject A): a 6-year-old boy who is in preschool. Subject A was referred to the counseling center by the pre-school teacher and the school due to frequent fights in the school and by forcefully taking the belongings and food of his classmates and threatening the school to expel the students.

According to his parents, reference A was very interested in keeping his personal belongings at the age of 4, so that since then he does not allow anyone to touch his toys and does not share them with anyone. The client has a lot of relationships with older children and fights with them every day. The second subject (subject B): A 7-year-old boy in the first grade of elementary school was brought to the counseling center after his parents complained that the bathroom and toilet were too long. The second subject in this research is called subject B. Reference B had shown signs of obsession with washing following a skin disease

that he contracted at the age of 6 and lasted only two weeks. The client's mother stated that the client did not listen to her words and forced her to accept her demands by shouting. A few days ago, he broke the TV in the house and he does not feel any remorse for doing these things. The client argues with his parents many times during the week, and one of his characteristics is to get angry in this situation.

The third subject (subject C): a seven-and-a-half-year-old girl, a student in the first grade of elementary school, was referred to the counseling center by the school due to academic problems. In this research, the third subject is called subject C. According to the report of the client's teacher, they stated that due to his bigger size than the other students in the class, the client often harasses his other classmates. His classmates complain about subject C's behavior every day. Most of the time, he takes the belongings of his classmates by force. Marjah C's father separated from his mother a few years ago, and Marjah lived with his mother and grandfather. Reference C was obsessed with controlling household appliances, especially cooking gas, and had communication problems and arguments with his grandfather and grandmother.

### Research instruments

A) *SNAP-IV scale (parental form)*: It is used to diagnose oppositional defiant disorder. This scale was first created in 1980 by three authors named Swanson, Nolan and Pelham, and it was known as SN-AP with the initials of the creators of the test. Simultaneously with the revision of the DSM criteria and the DSM-IV compilation, the said scale was rewritten and published in 2001. According to the research conducted by Aghaei et al. in 2009 regarding the validity and reliability of this test, the correlation coefficient of the questionnaire questions with the total score was between 0.38 and 0.63. The results of factor analysis (structural validity) showed that this scale is a multidimensional scale that explains 0.37 of the variance. The total reliability coefficient is 0.89. The correlation coefficient of this test with Connors grading scale is 0.72 (11).

B) *Yale-Brown Obsessive Compulsive Questionnaire*: It is a semi-structured interview to assess the intensity of obsessions and compulsions regardless of the content of current

obsessions and compulsions. This questionnaire has a high sensitivity to therapeutic changes and is widely used to evaluate the effectiveness of pharmacological and psychological treatments for obsessive-compulsive disorder. In a research conducted by Rajzi Esfahani et al. The questionnaire has been completed. In this research, reliability was investigated using three methods: Cronbach's alpha, test-retest and two-dimensionalization, and validity as a simultaneous criterion (correlation with two SCID-I and SCL-90-R-OCS tests) and exploratory factor analysis structure, which indicates the existence of validity. And the reliability is high in this questionnaire (12).

After selecting the research subjects, based on the multiple baseline design method, which is one of the single case research methods, the subjects entered the treatment process in order. A multiple baseline design is essentially a set of A-B designs presented sequentially for each baseline (13).

Explanation: First, for the subject A, during three sessions without presenting the treatment method, based on the Yale-Brown Obsessive Compulsiveness Questionnaire (parent's report), the amount of oppositional defiant disorder symptoms was measured, and the subject's position was drawn in the baseline. In the fourth session, the combined treatment method of exposure combined with response inhibition and behavioral training of parents was started for subject A, and in this phase, subject B was drawn for the same baseline position as subject A during

three weeks. In the seventh session, when subject A had undergone four sessions of the intervention situation, subject B entered the first session of the intervention situation, and subject C, during three sessions, like the previous two subjects, the baseline position was drawn for him. After each of the subjects were affected by the treatment method in the study for 10 sessions, two follow-up sessions (one week apart) were conducted for each of the subjects, and just like the baseline and intervention sessions, in the follow-up situation as well. Each session with the help of Yale Brown's Obsessive Compulsiveness Questionnaire (Parent Report) based on visual assessment, the results were drawn on the graph, and based on this, each subject has 15 visual assessment points, three of which are related to the baseline, 10 points are related to The intervention position and its 2 points correspond to the follow-up position.

The method of data analysis in this research was done with the help of descriptive statistics and by using the calculation of the median, mean and calculation of PND (percentage of non-overlapping data) and POD (percentage of overlapping data) and using graphs.

## Results

Based on the analysis done with the help of descriptive statistics and calculating the mean, average and using graphs, the following tables and figures have been used in the description of this research.

**Table 1.** Intra-situational and inter-situational visual analysis variables of subjects in baseline and intervention positions

Subject C	Subject B	Subject A		Subject C		Subject B		Subject A		
B to A	B to A	B to A	Compare the situation	B	A	B	A	B	A	Sequence of situation
			Changes of process	10	3	10	3	10	3	length of situation
Descending to Ascending. ..	Descending to fixed	Descending to Ascending	Changing Direction							level
Negative	Negative	Negative	The effect depends on the target	19	25	20	26	15	25	median
Stable to stable	Stable to stable	Stable to stable	Change of stability	17.4	24.67	19.30	26.0	15.80	25.34	mean
			Changes in the level	8-24	24-25	9-26	26-26	7-25	25-26	variation range

22 to 25	15 to 26	25/5±10	Relative change	Stable	Stable	Stable	Stable	Stable	Stable	20% of mid-range stability chamber each situation
8 to 25	9 to 26	7 to 26	Absolute change							Change of level
19 to 25	20 to 60	15 to 25	Change of median	13-22	24.5-25	15-25	26-26	10-21	25-25.5	Relative change
17.4 to 24.67	19.3 to 26	8.15 to 25	Change of Average	8-24	24-25	9-26	26-26	7-25	25-26	Absolute change
			Overlapping data							Trend
80%	80%	80%	PND	Descending	Ascending	Descending	stable	Descending	Ascending	Direction
20%	20%	20%	POD	stable	stable	stable	stable	stable	stable	Stability

Table 1 shows the results of calculating the median, mean and percentage of PND and POD for all three subjects in the baseline and intervention positions.

### Subject A

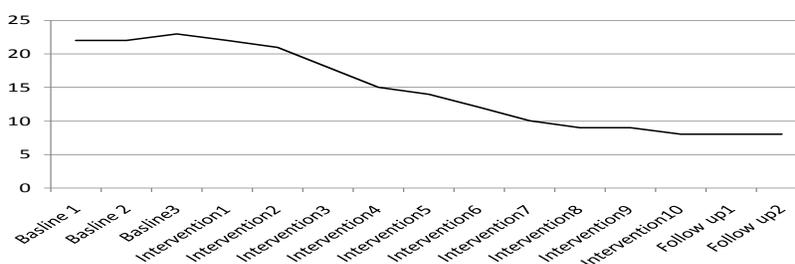


Figure 1. Intra-situational and inter-situational visual analysis of Subject A in three situations

Figure 1 shows the intra-situational and inter-situational analysis of subject A in three positions: baseline, intervention and follow-up. The direction of the graph is downward.

### Subject B

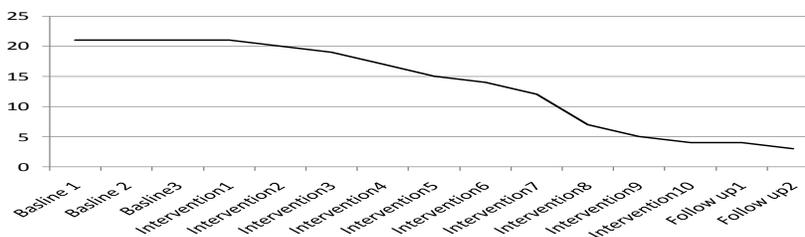
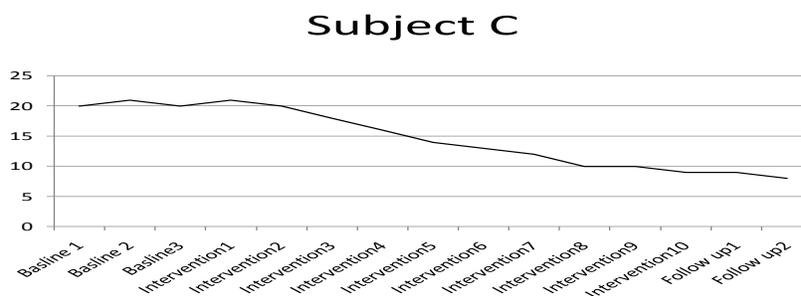


Figure 2. Visual analysis drawing for subject B in the position of baseline, intervention and follow-up

In Figure 2, the visual analysis of the effect of the independent variable of the research is shown in the three positions of the baseline, intervention and follow-up, which indicates a decrease in the intervention and follow-up positions.



**Figure 3.** Visual analysis of subject C in baseline, intervention and follow-up situations

Figure 3 shows the visual analysis of subject C in the baseline, intervention, and follow-up situations, which shows a decline in the intervention and follow-up situations.

### Discussion

The purpose of this study was to investigate the effectiveness of combined exposure therapy with response inhibition and parental behavioral training on reducing the symptoms of obsessive-compulsive disorder in 4 to 8-year-old children with comorbid obsessive-compulsive disorders and confrontational neglect. As shown in the table and figures, in subject A, in the baseline, where the treatment method had not yet been applied to the subject, not only did the symptoms of obsessive-compulsive disorder not decrease, but it also increased, but after using the treatment method In the research, the symptoms of obsessive-compulsive disorder have decreased, and in the follow-up situation, which was conducted without applying the research treatment method, the stability of the changes made in the signs and symptoms of obsessive-compulsive disorder is observed. Also, in the intra-situational and inter-situational analysis of subject A (Table 1), the rate of PND (non-overlapping data) is 80% and the rate of POD (overlapping data) is 20%, which indicates the effectiveness of the treatment method used in the research in the treatment of OCD symptoms. is. In subject B (Figure 2), after applying the treatment method used in the research, the symptoms of obsessive-compulsive disorder have decreased. Also, the rate of PND was 80% and POD was 20% in the baseline and intervention position, which indicates the effectiveness of the

treatment method in the treatment of obsessive-compulsive symptoms of subject B.

In subject C, after applying the treatment method used in the research, the symptoms and severity of OCD decreased (Figure 3). Also, the rate of PND is 80% and POD is 20% in the baseline and intervention position, which indicates the effectiveness of the treatment method in the symptoms of obsessive-compulsive disorder of subject C.

According to the results obtained from the data analysis of this research, it can be said that the combination treatment method of exposure combined with response inhibition and behavioral training of parents is effective in treating the symptoms of obsessive-compulsive disorder in children suffering from co-occurrence of obsessive-compulsive disorder and obsessive-compulsive disorder.

The results of this research are consistent with the research conducted by Chelsea ML and Elisa Kracho (10), which investigated the effectiveness of exposure therapy with response inhibition and behavioral training of parents in the coexistence of confrontational neglect and obsessive-compulsive disorders. Also, this research is consistent with the researches of Healy and Andrews (9), Morkkeli et al. (8), Mikaili et al. The answer is addressed in the treatment of symptoms of obsessive-compulsive disorder.

In explaining the effectiveness of this treatment method in reducing the symptoms of obsessive-compulsive disorder in children suffering from co-occurring, neglectful, and obsessive-compulsive disorder, it should be said that according to Plywitt and Tim Williams (14), one of the beginning periods of obsessive-compulsive

disorder. It is in the childhood period, which is probably the beginning in this period is a reflection of the transformational periods in order to increase the independence in the children's lifestyle. The symptoms of obsession in children are somewhat similar to the symptoms in adults, these symptoms have a significant and significant impact on children's lives. Their families put them in such a way that it disrupts the child's academic, family and social performance. Also, children with obsessive-compulsive disorder often have other psychological problems. About 75% of these people have a high degree of comorbidity with other disorders, such as anxiety, attention deficit hyperactivity disorder, and oppositional defiant disorder, due to having the full criteria of a specific disorder. One of the treatment methods that can reduce the symptoms of this disorder and as a result reduce its negative effects on the life of the child and his family is the combined treatment of exposure with inhibition of response and behavioral training of parents. According to Kratochvil and Morris (3), exposure causes the child to face the factor or factors that cause anxiety in him, and this exposure increases the level of anxiety in the child and prevents him from performing rituals by inhibiting the response. Obsession is caused to avoid or escape the child from the anxiety-provoking situation. When this method is used repeatedly and for long hours, it leads to the reduction of obsessive behaviors in the child. Also, behavioral training of parents leads to parental supervision of children's homework. These supervisions require detailed training, an overview of the logic of treatment, specific supervision guidelines and mentoring by the

therapist to the parents, which leads to training the parents as therapists' assistants to treat the child's obsessive symptoms at home.

As shown in previous studies, cognitive behavioral therapy methods are effective in treating obsessive-compulsive disorder symptoms.

Based on this, in justifying the findings of this research, it can be said that due to the prevalence of obsessive-compulsive disorder and confrontational neglect, the combined method of exposure therapy along with response inhibition and behavioral training of parents can lead to the reduction of obsessive-compulsive disorder symptoms in this become children

The limitations of this research can be pointed to the small statistical sample of the research, which makes it difficult to generalize the research data. Also, considering that it was done on children aged 4 to 8, it is difficult to generalize its results to other ages.

Also, considering that in the present study, except for one of the subjects, both parents did not participate in the treatment process, it is suggested to conduct researches with the presence of both parents in the treatment process.

### Conclusion

Therefore, it can be concluded that combined exposure therapy with response inhibition and behavioral training of parents has an effect on reducing obsessive-compulsive symptoms in children aged 4 to 8 years with comorbid obsessive-compulsive disorders and confrontational neglect. We suggest this treatment method to psychologists, counselors and other therapists.

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