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The Effectiveness of Acceptance and Commitment Therapy on Empathy and Interpersonal Relationships in Obsessive-Compulsive Patients

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ABSTRACT

Objective: The purpose of this study was to investigate the efficacy of acceptance and commitment-based treatment on empathy and interpersonal relationships in patients with obsessive-compulsive disorder.

Methods: This study employed a semi-experimental research design, utilizing a pre-test, post-test with a control group. The statistical population of the study consisted of all patients with obsessive-compulsive disorder seeking treatment in psychiatric clinics in Tehran in 2022. A total of 30 participants (15 in the experimental group and 15 in the control group) were selected through the accessible sampling method. Data collection tools included the Basic Empathy Scale ((Heinke & Louis, 2009)) and Trust in Close Relationships (Rempel & Holmes, 1986). The intervention, which involved acceptance and commitment-based treatment, was administered over 8 sessions of 90 minutes each, once a week, to the experimental group, while the control group did not receive any training. Data analysis was performed using covariance analysis.

Results: The results of multivariate covariance analysis indicated that in the experimental group, there was a significant increase in the mean of empathy scores after the intervention. Similarly, the mean of scores for interpersonal relationships increased after the intervention ($P < 0.01$).

Conclusions: The results generally endorse the efficacy of third wave psychotherapies, such as Acceptance and Commitment Therapy (ACT), in relation to emotional and interpersonal consequences.

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Introduction

Obsessive-Compulsive Disorder (OCD) is a mental illness characterized by the repetitive occurrence of specific thoughts known as obsessions and the compulsion to repeatedly engage in certain actions. The symptoms of OCD are so severe that they cause distress and disrupt the overall functioning of the individual. Despite brief periods of control, individuals are unable to manage their obsessive thoughts and behaviors (Bublitz et al., 2023). OCD can be classified into two categories: cognitive and behavioral. Common behavioral obsessions include excessive handwashing, constant counting, and persistent checking of locked doors. These obsessions significantly impact a person's daily life, often consuming more than an hour each day. Most adult patients acknowledge the irrationality of these behaviors. Additionally, OCD is associated with tic disorders, anxiety disorders, and an increased risk of suicide (Safari et al., 2023).

A notable challenge faced by individuals with OCD is their difficulty in experiencing empathy. Empathy is characterized as an emotional response that arises from understanding the emotions of others, accompanied by a temporary identification with them. It is also defined as the ability to emotionally react, identify, and comprehend the emotional experiences of others (Demetriou et al., 2022). Empathy is acquired through engaging in role-playing activities. According to researchers, individuals gradually develop the capacity to adopt the perspectives of others during their growth, enabling them to place themselves in the position of the person being observed. As individuals mature, they are encouraged to cultivate interpersonal skills and engage in moral and altruistic behaviors, such as role-playing, which contribute to the formation of their cognitive structure. This process leads to a decrease in self-centeredness and an increase in the ability to predict, identify, and understand the emotions and feelings of others (Aminifar et al., 2023). The foundation of empathic behavior lies in instinctive attachment behaviors, which are established during infancy through the relationship between the infant and their caregiver, typically the mother. The quality of the child's primary attachment relationship with their caregiver in the first two years of life may significantly influence their prosocial and empathetic responses in their current and future lives (Cho et al., 2022).

Another challenge faced by individuals with OCD is their struggle to form successful interpersonal relationships. In today's world, characterized by the need for adaptability and strong connections, the importance of social relationships and flexibility cannot be overstated. Developing and

maintaining positive social relationships involves aligning one's behavior to meet the demands of the environment, often requiring the regulation of impulses, emotions, and attitudes (Amani et al., 2019).

If an individual is unable to communicate with others and their social environment for any reason, it can lead to incompatible behaviors or behavioral disorders. The measurement of an individual's social development is determined by the type of relationships they have with others. Social growth not only enhances relationships with immediate contacts but also impacts one's future career and academic success. Enhancing interpersonal relationships encompasses good mental health, personal life satisfaction, and emotional, activity, and cognitive harmony. In essence, improving emotional relationships involves establishing mechanisms for emotional stability.

The aspects of enhancing relationships encompass physical, psychological, social, and moral adaptation, with social adaptation being the highest priority. Enhancing relationships and withstanding the impact of complex stimuli are fundamental requirements for personal and continued existence. Individuals must adapt to these conditions. Consequently, the social environment not only contributes to obstacles, problems, and failures, but also shapes an individual's needs, ideals, and goals based on the prevailing culture and environment.

Presently, psychological therapies are utilized to alleviate the problems faced by individuals with obsessive tendencies, and one such treatment method is acceptance and commitment therapy. Acceptance and commitment therapy is a process-oriented approach and is categorized as one of the third wave psychotherapies. It employs clinical behavior analysis and is commonly used in psychotherapy. The ultimate goal of acceptance and commitment therapy is to attain psychological flexibility. This is achieved by not needing to eliminate negative emotions, but rather by behaving in alignment with one's valued thoughts despite their presence. The primary objective is to cultivate psychological flexibility, which enables individuals to respond to momentary psychological experiences by enhancing self-awareness.

Showani et al. (2023) and Mohammadi Farshi et al. (2023) discovered in their research that acceptance and commitment-based therapy enhances empathy. Similarly, Safari et al. (2021) and Dahoui et al. (2023) demonstrated through their studies that therapy based on acceptance and commitment improves interpersonal relationships.

Due to the frequent occurrence of psychological issues in patients with obsessions, the treatment method centered on acceptance and commitment possesses an advantage over other treatments. This advantage stems from its consideration of motivational aspects in addition to cognitive aspects. Rather than attempting to modify cognitions, this method aims to enhance the psychological connection between an individual and their thoughts and feelings, as well as fostering empathy. Consequently, individuals undergoing this treatment are likely to experience success in their interpersonal relationships. Given the aforementioned points, as well as the limited existing research in Iran that comprehensively examines all variables, it becomes apparent that conducting further research in this area is necessary. Therefore, the present study was conducted in order to investigate the effectiveness of acceptance and commitment therapy in enhancing empathy and improving interpersonal relationships among individuals with obsessive-compulsive disorder.

Materials and Methods

The current study was a quasi-experimental type of pre-test-post-test with a control group. The statistical population of this research included all patients with obsessive-compulsive disorder who referred to psychiatric offices in Tehran in 2022, and 30 people (15 people in the experimental group and 15 people in the control group) were selected as a sample using accessible sampling. The required number of samples was calculated based on considering the effect size of 0.40, the confidence level of 0.95, the power of the test 0.80 and the drop rate of 10%, 15 people for each group.

Empathy and interpersonal relationship questionnaires were implemented as a pre-test. The training of the approach based on acceptance and commitment was carried out on the experimental group during 8 sessions of 90 minutes and as a group once a week, and during this period the members of the control group did not receive any intervention. Finally, after the end of the treatment sessions, a post-test was taken from both groups. The inclusion criteria included declaring consent to participate in training sessions, suffering from obsessions, being a resident of Tehran, not participating in any psychotherapy sessions at the same time. Exclusion criteria included simultaneously receiving another type of psychotherapy and missing more than three sessions. Self-report questionnaires were used to collect data. The ethical aspects of this study

encompassed the subsequent factors: a) The participants engaged in the study voluntarily and out of their own volition b) In relation to the principles of privacy and anonymity of the participants' identity, they were guaranteed that all data would be kept confidential c) Ultimately, the participants in the study were valued and expressed gratitude towards d) The participants possessed the autonomy to withdraw from the study at any given moment.

Instruments

Empathy Questionnaire: This questionnaire, which was first developed by Heinke and Louis (2009), has 22 statements and measures the individual's emotional responses to the emotional reactions of others in a nine-point Likert scale from completely agree to 1 to completely disagree" is measured with a score of 9. The minimum and maximum score of the subject will be 22 and 392, respectively. Louis reported a Cronbach's alpha coefficient of 0.91 for this questionnaire in a sample of 934 people from the general population. It indicates its good internal consistency. In order to check the construct validity of this scale, exploratory factor analysis with principal component variance analysis was used, which showed that its validity was confirmed (Heinke & Louis, 2009). In the research of Mohammadi Farshi et al. (2023), the reliability coefficient with Cronbach's alpha method was 0.78 and its content and face validity were also reported as favorable.

Trust in Close Relationships: The scale of Trust in Close Relationships was created by Rempel et al. (1985). This scale is an 18-item self-report instrument. The subject should indicate his disagreement or agreement with each of the statements on a 7-point Likert scale from completely disagree to completely agree. The trust scale is designed to evaluate the level of trust in one's spouse or friends. This scale has three subscales: predictability, trust and loyalty. The Cronbach's alpha coefficient of the whole test is equal to 0.81, and for the predictability subscale equal to 0.70, the trust is 0.72 and the reliability is 0.80. Its validity is also reported favorable (Rempel et al., 1985). Also, in Amani et al.'s research (2019), the Cronbach's alpha of the trust test in interpersonal relationships was calculated, which was 0.89, and its content and face validity were also confirmed.

Implementation method: The doctorate in psychology, who had undergone the required training conducted the training protocol centered around acceptance and commitment at the counseling center of Aramesh in Tehran. This protocol consisted of 8 sessions, each lasting 90 minutes, and took place once a week in the experimental group. Table 1 provides a summary of the content

covered in these training sessions, which followed the acceptance and commitment approach (Naderi Moghaddam et al., 2023).

Table 1. Summary of acceptance and commitment therapy sessions

Session	Content
1	Familiarity of the members with the therapist and each other, description of group rules, familiarity and general description of the therapeutic approach. Homework: listing 5 examples of the most important problems that patients face in life. Extracting the experience of avoidance, fusion and value.
2	Examining the assignment of the previous session, assessing the patients' problems from the individual's point of view. Homework: preparing a list of advantages and disadvantages and ways to control problems
3	Examining the assignment of the previous session, explaining the ineffectiveness of controlling negative events using metaphors and teaching the tendency towards emotions and negative experiences. Homework: recording cases where patients have succeeded in abandoning ineffective control methods.
4	Examining the assignment of the previous session, learning to separate evaluations from personal experiences (metaphor of a bad cup) and adopting a position of observing thoughts without judgment. Homework: record cases that patients have managed to observe and not evaluate experiences and emotions.
5	Examining the assignment of the previous session, connecting with the present time and considering oneself as a background (chess board metaphor) and teaching mindfulness techniques. Homework: Record the cases where the patients were able to observe their thoughts using mindfulness techniques.
6	Examining the task of the previous session, identifying the values of the patients' lives and measuring the values based on their importance. Preparation of a list of obstacles to the realization of values.
7	Examining the assignment of the previous meeting, providing practical solutions to remove obstacles while using metaphors and planning for commitment to pursuing values. Homework: a report of the steps of following the values and thinking about the achievements of the meetings.
8	Summarizing the concepts studied during the meetings, asking the members to explain their achievements from the group and their plans for the rest of their lives.

Data were analyzed using descriptive statistics (mean and standard deviation) and analysis of covariance test in SPSS-24 software. Before analyzing the data with the covariance analysis method, the assumptions of the covariance analysis include the normality of the distribution of the dependent variables using the Shapiro-Wilk test ($P < 0.05$) and the homogeneity of variances based on the Levene test (0.05). $P > 0$) was investigated and the results showed that these assumptions were met.

Results

Data analysis was done in order to determine the effectiveness of treatment on acceptance and commitment on empathy and interpersonal relationships of obsessive-compulsive patients. This study included 30 people in the experimental group (15 people) with an average age of 35.87 and a standard deviation of 3.28 and a control group (15 people) with an average age of 37.26 and 4.29. Descriptive information related to research variables is presented in Table 2.

Table 2. Descriptive statistics of variables

Variable	Group	Pretest		Posttest	
		Mean	SD	Mean	SD
Empathy	Control	77.23	6.85	54.27	5.52
	Experimental	53.40	5.18	77.15	5.82
Interpersonal relationship	Control	48.64	6.25	49.56	6.54
	Experimental	35.47	5.36	48.46	7.67

According to Table 2, there is a considerable difference between the pre-test and post-test scores in the experimental group compared to the control group in the variables of empathy and interpersonal relationships. The results of examining the effectiveness of the treatment based on acceptance and commitment on empathy and interpersonal relationships are presented in Table 3.

Table 3. Analysis of covariance to investigate the effectiveness of ACT on empathy and interpersonal relationships

Variable	Phase	SS	DF	MS	F	P	Effect size
Empathy	Pretest	19.55	1	19.55	0.82	0.28	0.58
	Group	147.67	1	147.67	8.24	0.012	
	Error	613.24	27	24.36			
Interpersonal relationship	Pretest	18.88	1	18.88	0.92	0.36	0.62
	Group	188.52	1	188.52	10.16	0.013	
	Error	524.63	27	21.08			

After eliminating the impact of the pre-test, it is evident from Table 3 that the efficacy of acceptance-based therapy has exerted a substantial influence on the augmentation of empathy and interpersonal relationships ($P < 0.05$). Furthermore, acceptance-based therapy elucidates a noteworthy 58% enhancement in empathy and a remarkable 62% growth in interpersonal relationships.

Discussion

The objective of the current study was to ascertain the efficacy of acceptance and commitment therapy in enhancing empathy and interpersonal relationships among patients with obsessive-compulsive disorder. The findings revealed that acceptance and commitment therapy led to an increase in empathy among individuals with obsessive-compulsive tendencies. These results were consistent with previous research conducted by Shawani et al. (2023) and Mohammadi Farshi et al. (2023), which also demonstrated the positive impact of acceptance and commitment therapy on empathy.

In elucidating this discovery, it can be posited that acceptance and commitment therapy represents a psychological intervention that approaches inevitable challenges and sufferings from a distinct and practical standpoint. It is considered one of the most prominent treatment modalities within the third wave of behavioral therapy, characterized by its functional context-oriented approach based on the relationship framework theory. This therapy views human suffering as a consequence of psychological inflexibility, which is reinforced by cognitive fusion and experiential avoidance (Zarling et al., 2022). The primary objective of this treatment is to cultivate psychological flexibility, enabling individuals to make practical choices that align with their values rather than solely avoiding distressing thoughts, feelings, or memories. The processes involved in this treatment include acceptance, self-disruption as a means of engaging with the present moment, identification of personal values, and the development of a broad range of committed actions aligned with these values (Jabalameli et al., 2020).

Obsessive-compulsive patients experience various emotions in response to the incompatible reactions of their family and others, which can be categorized into four domains: criticism from others, lack of attention and emotional support, aggression and immorality, and excessive interference. These experiences give rise to feelings of low self-confidence, diminished sense of control, invasion of privacy, lack of empathy, nervousness, guilt, despair, loneliness, depression, worthlessness, neglect, anxiety, and self-blame among individuals with obsessive-compulsive tendencies. It profoundly impacts their interpersonal interactions (Dahoui et al., 2023). The promotion of empathy and flexibility, which are the primary goals of acceptance and commitment therapy, aids individuals with obsessions in recognizing that the presence of obsessive thoughts is not the core issue; rather, the focus should be on taking action in line with one's values. By

engaging in empathic behaviors, individuals are trained to expand their behavioral repertoire and enhance overall functioning (Safari et al., 2021).

Another finding of this research showed that treatment based on acceptance and commitment improved interpersonal relationships in obsessive-compulsive patients. The results of this finding were consistent with other findings. Safari et al. (2021) and Dahoui et al. (2023) showed in their research that therapy based on acceptance and commitment improves interpersonal relationships. In explaining this finding, it can be said that the treatment based on acceptance and commitment, together with the method of breaking and accepting, as well as detailed discussions about the values and goals of the individual and the need to specify values, all increase trust in interpersonal relationships. This treatment teaches obsessive-compulsive patients that if they have made choices in life to stay, they must work hard. If they had deep trust in others and now this trust is taken away, it will take a long time for them to feel safe and secure. Therefore, if they have chosen to stay in the relationship, they can expect various thoughts such as doubt, insecurity, jealousy, or anxiety to come to them, and if they want their relationship to be preserved and restored, are they eager? Are they creating a space for thoughts and feelings and do they want to trust again? If their answer is negative, they are still attached to their thoughts and are under its influence. If their answer is yes and they want to work hard on rebuilding their relationship with others, it is necessary to distinguish between blind trust and conscious trust. Blind trust means that you trust someone without evaluating them. Conscious trust is that you examine him with open eyes, and control his words and actions, and based on that, you trust him so that they can rebuild the relationship (Safari et al., 2021).

In this therapy, the goal of emphasizing people's desire for internal experiences is to experience their disturbing thoughts only as thoughts and to become aware of the ineffective nature of their current program and to implement it instead of responding to it. They should pay what is important to them in life and in line with their values. Acceptance and commitment therapy tries to teach people to experience their thoughts and feelings; Instead of trying to stop them. People are asked to experience their work, thoughts and feelings in the direction of their goals and values. Therefore, accepting and rejecting it can be the basis for changing the emotions and cognitions of patients suffering from obsessions, which improves their relationships with others (Dahoui et al., 2023).

Among the limitations inherent in this study, it is worth mentioning that the research was exclusively conducted on patients with OCD in Tehran, thereby limiting the generalizability of the findings to the broader population. Therefore, it is advisable to replicate this study in other societies as well. Another limitation of this research was the absence of a follow-up period. It is recommended that future studies investigate the effectiveness of the acceptance and commitment approach on other emotional and cognitive variables in OCD patients. In light of the effectiveness of commitment and acceptance-based training, it is highly recommended to provide specialized workshops for counselors and therapists to enhance their proficiency in utilizing this treatment method to alleviate behavioral issues and enhance satisfaction and adaptability among OCD patients. Additionally, it is suggested that follow-up courses be organized in forthcoming research endeavors.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis and contributed to the article and approved the submitted version.

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