The Effects of Mindfulness Group Training on the Rate of Obsessive-Compulsive Disorder Symptoms on the Women in Isfahan City (Iran)

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The Effects of Mindfulness Group Training on the Rate of Obsessive-Compulsive Disorder Symptoms on the Women in Isfahan City (Iran)

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ABSTRACT

Objective: **To analyze and evaluate the influence of mindfulness group training on the rate of obsessive- compulsive disorder symptoms.**

Method and Materials: **This research utilized the experimental method; consisting of a pre-test and post-test with one control group and one experimental group. The participants were 120 individuals who were clients of private & state clinical centres in Isfahan city, in Iran. In an interview, based on the revised text of the fourth diagnostic & statistical guide in mental disorders, the clients were diagnosed as suffering from obsessive- compulsive disorder. From among 120 clients, 24 people were randomly selected and were assigned to two groups: experimental and control group. The experiential group received eight sessions of treatment, that were held twice a week and each session was about two hours in length. The participants of the control group filled out the questionnaires without any instruction or treatment.**

Result: **The results of analysis of covariance showed that the training effects of mindfulness on general symptoms of obsession in post- test and a two months follow-up were significant ($P < 0.0001$). In addition, the results showed that the effect of training on washing/ cleaning ($P < 0.05$), verification ($P < 0.001$), clueless (slowness) ($P < 0.0001$) and obsessive hesitation ($P < 0.0001$) symptoms in post- test & follow-up after two months was significant.**

Conclusion: **Therefore, considering the effects, this training, with its advantages in treatment of obsessive-compulsive disorder, is suggested.**

KEY WORDS

mindfulness training, obsessive/compulsive disorder, obsession, compulsion

INTRODUCTION

Obsessive-compulsive disorder (OCD) is one of the serious psychological health problems that has imposed huge economic and social costs in society every year (Barlow, 2002). Obsessive-compulsive disorder (OCD) is one of the disabling conduct disorders which lend individuals, with this disorder, to have unwelcome involuntary thoughts, images or unpleasant ideas by repetitive and unwanted intrusive thoughts. The main feature of the obsessive and compulsive (thoughts and behaviours) is not enjoyable for the affected person. In order to reduce the discomfort, the patient continues to repeat the thoughts and rumination. The individual may initially attempt to resist the obsessive-compulsive thoughts and actions, but as the disease advances the influence of the obsessive compulsive thoughts and actions become so overwhelming that they take over to the point where they influence and sometimes disrupt the individual's personal, family and social life (Kaplan and Sadock, 2004).

Until recently it was believed that obsessive-compulsive disorder does not affect more than five percent of the global population; however, research conducted over the past 10 to 15 years has revealed that obsessive-compulsive disorder affects more than 50 million people around the world (Montgomery and Zohar, 2003). Different kinds of theories have been proposed to explain OCD. From a historical view, psychoanalytic is one the most famous and oldest theories which believe that OCD's symptoms, like any other sort of neurosis, are the efforts to cover the unconscious's impulses and conflicts in order to protect the person consciousness from these conflicts. From this point of view, obsession is a means of expressing suppressed feelings and thoughts in a relatively safe manner. Some researchers then have declared that, OCD is the result of a biological disorder which is caused by a biological-chemical imbalance in the brain, with the mail cause being inadequate levels of serotonin in the brain. Serotonin (5-hydroxytryptamine, 5-HT) is a neurotransmitter in the brain that has enormous influence over many of the brains functions. This theory believes that the serotonin reuptake inhibitors (SRIs), including clomipramine, fluvoxamine, fluoxetine, sertraline, and paroxetine are effective for the treatment of adults with obsessive-compulsive disorder (De Silva and Rachman, 2007).

Recently, new approaches in the treatment of OCD has emerged which enhance the effectiveness of the treatment by combining pharmacotherapy with homework aimed at helping the patient to process their obsessive-compulsive habits. These methods are aimed at

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exploring the root causes of the obsession; mindfulness is one of these new methods. The cognitive theory of obsession proposes that, obsessive-compulsive disorder is caused by catastrophic misinterpretation of the significance of one's thoughts (Rachman, 1997). This theory proposes that the obsession persists as long as these misinterpretations continue and only diminish when the misinterpretations are weakened (Rachman, 1997). Recently, cognitive therapy has combined with Eastern philosophies, such as Buddhism, which has led some researchers to introduce methods based on the concept of mindfulness (Segal, 2002; Williams & Teasdale, 2002).

Mindfulness means paying attention in a particular way: on purpose, in the present moment, and non-judgmentally (Kabat-Zinn, 1990). Many recognize mindfulness as deriving from the Buddhist practice of meditation as an exercise (Thera, 1962). In this practice conscious awareness and attention towards a particular thought expands and increases. Though mindfulness is not a method or technique, there are many practices in place for one to pursue the concept of mindfulness. Mindfulness can be explained as a method of "being" or "understanding" that requires an individual to be aware of one's own personal feelings and thoughts (Barlow, 2002).

Findings have shown that, mindfulness can be a complement for Cognitive Behaviour Therapy (CBT) traditional interventions, helping to increases their effectiveness and prevents relapse when used correctly (Fairfax, 2008). Research conducted by Singh *et al*. (2004) has shown that mindfulness training can help improve the style, quality of life, and adjustment method in individuals suffering from OCD. Therefore, while other common treatments for OCD, such as CBT techniques and serotonin intake inhibitors have failed to show high satisfactory responses amongst patients, the mindfulness method appears to be proving a useful technique in effectively limiting the symptoms displayed amongst OCD patients.

Sajadiyan (2006) surveyed the effects of mindfulness training on obsessive-compulsive disorder symptoms in women from Esfahan city (Iran). Her research has shown that there was a significant recovery within individuals who practiced mindfulness training, as compared to the control group. Firouzabadi and Shareh (2009) conducted a case study focusing on the effectiveness of the mindfulness technique on obsessive-compulsive treatment. There research has shown that mindfulness techniques are a significant therapy approach to be used in helping individuals suffering from the obsessive-compulsive disorder. Mindfulness training is aimed at assisting OCD individuals not only in the functional and clinical changes of the disorder but also with brain functioning changes, by mind training.

Schwartz (2004), believes that the mindfulness scientific method of OCD therapy is a biological-cognitive-behavioural method, which is quite different from the traditional encounter and prevention response therapy. Mindfulness training helps to assist obsessive-compulsive patients through practical and clinical periods of treatment where the focus is on making them aware of their mindset and fluctuations in their thinking and feelings. Mind changing can easily bring expectable functional changes. In contrast to behavioural approaches, which affect and control outputs, the mindfulness training method affects inputs and the fundamental biological process of compulsive behaviour. These changes are taught to the patients as a process, and in steps, in which the individual is asked to guide themselves by self-observation through the steps. This study investigates the mindfulness functions and effectiveness utilizing the experimental method as a selective therapy for obsessive-compulsive disorder. The main purpose of this study is to investigate the effectiveness of group mindfulness training in helping to relieve the symptoms of obsessive-compulsive disorder in individuals.

The present study was conducted with one main aim and four subsidiary aims. First, we examined the effects of mindfulness group training on the rate of obsessive-compulsive disorder symptoms. The other four subsidiary aims of this study examined the effects of mindfulness group training on the rate of verification, clueless, hesitation, and cleaning obsessive-compulsive disorder symptoms.

METHOD

Participants

There, target population for this study consisted of a total of 120 possible participants, which consisted of women attending public and private centres in Isfahan City who were diagnosed as having obsessive-compulsive disorder by a psychiatrist or clinical psychologist during the time this research was carried out (fall 2009). Diagnostic interviews were based on the revised fourth Diagnostic and Statistical Manual of Mental Disorder.

Materials

For the purpose of this research, a Demographic Data Form and the Yale-Brown Obsessive-Compulsive Scale was utilized.

Demographic Data: A portion of the survey asked the participants to provide demographic information. Demographic data collected for this research included the participant's age, marital status, educational status, occupation, parental education and occupations, previous visit to a psychiatrist or psychologist because of psychological problems and the duration of illness.

Yale-Brown obsessive-compulsive scale: The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is widely acknowledged as the gold standard measure for determining the extent of one's obsessive-compulsive disorder (OCD) and the severity of the symptoms. The scale is divided into two parts of five questions each: the obsession subscale and the compulsion subscale. The purpose of the rating scale is to determine the overall severity and type of symptoms experienced by the individual (Esteki, 2000).

Reliability: Previous reliability tests run for the Yale-Brown Obsessive Compulsive Scale have shown the scale to have an interratter reliability score of 98/0, internal consistence of 0/98 (Sabori et.al 1987), and a test-retest reliability, with a duration of two weeks of 0/84 (Dadfar et.al, 2001).

Validity: In the preliminary study conducted with a total of 26 participants, a convergent validity test was conducted. The results of this scale in correlation with Maudsley obsession compulsive inventory were reported to be 0/72 (Hollender *et al*, 1994).

Procedure

Four clinics were selected and randomly visited three days out of the week. A total of 30 out of 60 obsessive-compulsive disorder patient files were randomly selected and placed in either the control group (n = 15) and the experimental group (n = 15). In order to help ensure the accuracy of the research findings, participant selection and placement was completely randomized. Due to the fact that three participants from the experimental group were absent during the mindfulness training sessions, three participants from the control group were randomly excluded from the data analysis in order to equalize the sample size of both groups. Therefore, the data analysis consisted of analysis the data from a total of 24 participants (12 from the experimental group and 12 from the control group). Experimental design and method (pre-test, post-test and follow up with control group) was used in this study. The participants were randomly assigned to the experimental and control group. Both groups were given a pre-test and post-test as well as provided medication for obsessive-compulsive disorder. The experimental group was given the added measure of mindfulness training.

RESULTS

Descriptive statistic

The demographic data for the experimental and control group is portrayed below in table one.

Table two shows the mean and standard deviation for both the control and experimental group in the pre-test, post-test and follow up.

Inferential statistics

Main hypotheses: In comparison with the control group, mindfulness group training will reduce the symptoms of obsessive-compulsive disorder at post-test and follow-up.

As shown in table three, there is a significant differences between the weighted means of obsessive - compulsive disorder at post-test and follow-up as compared to the pre-test scores (P = 0/0001).

Table 1. Experimental and control group's demographic data

Variables 'level participants			control group		experimental group	
			percentage	frequency	percentage	frequency
Edudation	Father	Under Diploma	4/16	1	16/66	4
		Diploma	33/33	8	25	6
		Advanced Diploma	12/5	3	4/16	1
		Degree	0	0	4/16	1
	Mother	Under Diploma	20/83	5	25	6
		Advanced Diploma	0	0	8/33	2
		Degree	4/16	1	0	0
	Participant	Under Diploma	4/16	1	12/5	3
		Diploma	12/5	3	12/5	3
		Advanced Diploma	16/66	4	12/5	3
		Degree	12/5	3	12/5	3
Participants' career	Household		25	6	37/5	9
	Student		25	6	12/5	3

Table 2. Mean and standard division of control and experimental group in pre-test, post-test and follow up

Variable	Group	Number	Pre test	Pre test	Post test	Post test	Follow up	Follow up
			Mean	standard division	Mean	standard division	name	standard division
Vertification	Experimental	12	4/50	1/44	1/83	1/11	1/25	1/13
	Control	12	3/83	2/24	3/91	1/50	3/66	1/30
Cleaning	Experimental	12	4/50	1/83	2/91	1/56	1/16	0/71
	Control	12	3/75	1/86	3/66	1/55	3/75	1/60
Clueless	Experimental	12	2/75	1/21	1/50	0/92	0/91	0/79
	Control	12	2/83	1/46	3/50	1/56	3/66	1/37
Hesitation	Experimental	12	4/00	1/27	2/70	1/21	1/41	0/900
	Control	12	4/25	1/21	4/33	1/15	4/08	1/44
OCD' Total score	Experimental	12	12/83	5/07	7/41	3/36	14/41	4/74
	Control	12	12/33	6/30	13/83	4/98	12/25	2/89

Table 3. Covariance analysis of the impact of membership in experimental and control group in post-test and follow-up in obsessive-compulsive

Variable	Source of change	stage	Sum of square	Degree of freedom	Mean Square	F	Statistical significant	effectiveness	Statistical power
OSD	Pre-test	Post test	222/65	1	65/222	/5826	0/0001	0/55	0/99
		Follow up	3/49	1	3/49	/0434	0/09	0/12	3/04
	Group Membership	Post test	268/35	1	35/268	/0332	0/0001	0/60	1/00
		Follow up	46/43	1	46/43	/4740	0/0001	0/65	1/00

Table 4. Covariance analysis of the impact of membership in experimental and control group in post-test and follow-up in cleaning/washing

Variable	Source of change	stage	Sum of square	Degree of freedom	Mean Square	F	Statistical significant	effectiveness	Statistical power
Cleaning / Washing	Pre-test	Post test	70/17	1	17/70	10/36	0/004	0/33	0/89
		Follow up	15/9	1	9/15	7/76	0/01	0/27	3/75
	Group Membership	Post test	7/12	1	1/12	4/16	0/051	0/16	0/45
		Follow-up	46/47	1	46/47	39/42	0/0001	0/62	1/00

Table 5. Covariance analysis of the impact of membership in experimental and control group in post-test and follow-up in verification

Variable	Source of charge	stage	Sum of square	Degree of freedom	Mean Square	F	Statistical significant	effectiveness	Statistical power
Vertification	Pre-test	Post-test	12/08	1	12/08	9/57	0/005	0/31	0/83
		Follow-up	10/56	1	10/56	9/93	0/005	0/32	3/85
	Group	Post-test	31/92	1	31/92	25/28	0/0001	0/54	0/99
	Membership	Follow-up	41/09	1	41/09	38/61	0/0001	0/64	1/00

Table 6. Covariance analysis of the impact of membership in experimental and control group in post-test and follow-up in clueless

Variable	Source of charge	stage	Sum of square	Degree of freedom	Mean Square	F	Statistical significant	effectiveness	Statistical power
Clueless	Pre-test	Post-test	5/26	1	5/26	3/59	0/07	0/14	0/44
		Follow-up	4/96	1	4/96	4/61	0/04	0/18	0/53
	Group	Post-test	23/25	1	23/25	15/89	0/001	0/43	0/96
	Membership	Follow-up	44/36	1	44/36	41/19	0/0001	0/66	1/00

Table 7. Covariance analysis of the impact of membership in experimental and control group in post-test and follow-up in hesitation

Variable	Source of charge	stage	Sum of square	Degree of freedom	Mean Square	F	Statistical significant	effectiveness	Statistical power
Hesitation	Pre-test	Post-test	8/43	1	8/43	7/83	0/01	0/27	0/76
		Follow-up	4/03	1	4/03	3/04	0/09	0/12	0/38
	Group	Post-test	12/63	1	12/63	11/80	0/002	0/36	0/90
	Membership	Follow-up	39/53	1	39/53	29/86	0/0001	0/58	0/99

Sub hypothesis

1) In comparison with the control group, mindfulness group training will reduce the cleaning/washing compulsion at post-test and follow-up.

As table four portrays, there is no significant differences between the weighted means of cleaning/washing in post-test (05/0 = p). Though table four also reveals that the mindfulness group training technique may be a factor that can account for the decrease in the washing compulsive symptoms exhibited in the experimental group, as compared to the control group in the follow up ($p < 0/0001$). Therefore, the first sub hypothesis was not confirmed in the post-test but rather in the follow-up phase of the research.

2) In comparison with the control group, mindfulness group training will reduce the verification compulsion at post-test and follow-up.

As seen in table five, there is significant differences between the weighted means of post-test and follow-up after controlled pre-test scores ($P < 0/0001$). This would indicate that the second sub-hypothesis was confirmed.

3) In comparison with the control group, mindfulness group training will reduce the clueless compulsion at post-test and follow-up.

Table six portrays that there is significant differences between the weighted means of clueless post-test after controlled pre-test scores ($P < 0/001$). Also revealed in table six is significant differences between the weighted means in follow-up ($p < 0/0001$).Therefore, the third sub-hypothesis is confirmed.

4) In comparison with the control group, mindfulness group training will reduce the hesitation compulsion at post-test and follow-up.

As table seven shows, there is significant differences between the weighted means of hesitations post-test after controlled pre-test scores ($P < 0/002$). Table seven also reveals significant differences between the weighted means in follow-up ($p < 0/0001$). Thus, the fourth sub-hypothesis was confirmed.

DISCUSSION

This study contained a main hypothesis and four sub-hypotheses. Results are as follows:

The main hypothesis' result has shown that there is a significant difference between the obsessions-compulsions' means score for the control and experimental groups in post-test and follow-up. This research finding parallels those results obtained in the studies of Kocovski *et al.* (2009), Fire Fax (2008), Patel and Simpson, (2007), Twohig *et al.* (2006), Schwartz *et al.* (2005), Singh *et al.* (2004), Firouzabadi and Shareh (2009) and Sajadiyan (2006); all of which found a correlation between the mindfulness training technique and a reduction in obsessive-compulsive disorder symptoms. Therefore it seems that mindfulness training is a significant method which can be used as an alternative treatment approach in obsessive-compulsive disorder therapy. The overall results have shown that mindfulness group training on obsessive-compulsive disorder patients, which has not been done in Iran before, has reduced obsessive-compulsive disorder symptoms in treated patients.

Mindfulness is a technique which improves mind separation and increases mind awareness level towards one's body and environment. It helps individuals to distract their obsessive thoughts and compulsive behaviours by being conscious about the present. Mindfulness is a skill that will allow us to perceive the events less unpleasant of what they are in the time of the accident. Mindfulness is about awakening the mind to recognize what is taking place in the present. While we are aware about the present, our attention would not stray to the past or future. Most of the psychological problems associated with OCD individuals usually occur due to past events or as a result of being anxious, or fearful, of future events. Mindfulness is an anti-spontaneous and day dreaming phenomenon.

Results of the second main hypothesis have shown that, there is a difference between follow-up total means scores in the experimental and control group. These findings are consistent with the findings of

Kocovski and colleagues (2009), Patel and Simpson (2007), Twohig *et al*. (2006), Singh *et al*. (2004), Firouzabadi and Shareh (2009) and Sajadiyan (2006). The other eight sub-hypotheses of this study revealed that, verification, clueless, hesitation obsession and cleaning had a significant difference in the post-test and follow up scores between the two groups. The washing obsession failed to show any significant difference in the pre-test and post-test, but it is assumed that this was based on a low sample size.

The overall results of this research have shown that the mindfulness training, received by the experimental group, has helped to reduce obsessive-compulsive symptoms experienced by the participants as compared to the control group. The results of this research further indicated that mindfulness training has helped in decreasing obsessive habits of verification, clueless (slowness), and hesitation obsession in the post-test and follow-up for the experimental group in comparison with the control group. The accuracy of this assumption has been shown in a study conducted by Sajadiyan (2006), who believes that although the results of the research confirmed the effects of mindfulness on obsessive-compulsive disorder symptoms, the clueless obsession sub-scales have confirmed caution in the post test.

Prior to this research, there has been no official study conducted examining the effectiveness of mindfulness group training in helping to decrease the symptoms of obsessive-compulsive disorder. However, mindfulness techniques such as yoga, self-monitoring, self-controlling and commitment therapy have been used by OCD patients as a means of helping them to control their obsessive-compulsive tendency (Patel &Simpson, 2007).

CONCLUSION

In general, based on the results of this study it can be concluded that the mindfulness group training method helped to reduce the symptoms of OCD. Results also showed that the scores for individuals in the control group failed to change either decrease or increase, at post-test and follow up. Thus, it can be concluded that obsessive-compulsive disorder is a long-term persisting problem that, if not treated, will continue throughout the individual's life.

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