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Research Paper

Functional Impairment in OCD and Cognitive Intervention

Laxmi Narayan Rathore¹*

ABSTRACT

Obsessive Compulsive Disorder (OCD) is characterized by presence of obsessions & compulsions and has a life time prevalence of around 2%-3%. Increase in symptoms severity in OCD is associated with noticeable impairment in daily psycho-social functioning of the patient, that further add-on to the stress level of the individual and increases burden on the family and society. Therefore effective and timely management is required. Literature favours cognitive intervention in the form of restructuring techniques in managing symptoms severity in OCD. Present study attempts to look its role on functional impairment of such patients. Pre and post intervention with a control group design were made to conduct this study involving 20 patients with OCD. Patients were equally divided in two groups where one group was given cognitive intervention for 10 weeks. Pre and post intervention assessment was done on YBOCS & DAQ and results were compared. Obtained data indicates significant improved scores on YBOCS and DAQ at post intervention assessment, in the intervene group. Finding reveals that cognitive intervention does have an impact in improving functional ability along with remission of primary obsessive compulsive symptoms in patients with OCD.

Keywords: OCD, Functional Impairment, Cognitive Intervention

Obsessive compulsive disorder (OCD) includes obsessions and compulsions and is one of the major psychiatric diagnoses in out-patients settings (Sadock and Sadock, 2002). It is believed to share a lifetime prevalence rate of around 2% to 3% (Karno et al, 1985; Antony et al, 1998) and expresses mainly in the adolescent period of life with men typically have an earlier age of onset than women (Clark, 2007; Husted and Shapira, 2004; Sadock and Sadock, 2002). OCD is found to share high diagnostic co-morbidity with depressive episodes, ranging from 30 to 50% (Clark, 2007). This disorder is known to be associated with functional disability and is believed to cause debilitating effect in patient's day to day normal functioning to great extent (Bellodi et al, 1992; Bystritsky et al, 2001; Calvocoressi et al, 1995; Karno et al, 1985). Diminished quality of overall functional capacity is reported in patients with OCD, which increases with chronicity of illness and with emergence of further co-morbid psychopathology (Lensi et al, 1996; Mortiz et al, 2005; Rachman & Hodgson,

¹ Clinical Psychologist, Gwalior Mansik Arogyashala (Govt. Mental Hospital), Gwalior, M.P. India *Responding Author

1980; Brown et al, 1993). Studies have reported effectiveness of cognitive restructuring techniques in decreasing the severity of primary obsessive compulsive symptoms in OCD. Present research investigation is an attempt to see the role of such measures on the functional ability of the patients with OCD.

METHODOLOGY

Aims and objectives

The primary aim of this study has been to see the impact of cognitive intervention on functional impairment of patients with obsessive compulsive disorder.

Study design

It has been a pre-post intervention based study with control group design, which was conducted at Gwalior Mansik Arogyashala (Mental Hospital), Gwalior, M. P., which is a tertiary level mental health care setting of Madhya Pradesh Government.

Study sample

Twenty patients diagnosed with OCD as per ICD-10-DCR (WHO, 1992) criteria were enrolled for this study using purposive sampling. Patients were alternatively divided into two sub groups, experimental and control, having equal number of ten OCD patients.

Inclusion Criteria for Both Groups

- Patients diagnosed with Obsessive Compulsive Disorder as per ICD-10 DCR criteria. 1.
- 2. Age ranges between 25 to 40 years.
- 3. Duration of illness between 2 to 5 years.
- 4. Patients who have attained education of at least primary level.
- 5. Patients who are able to understand Hindi.

Exclusion Criteria for Both Groups

- 1. Patients having co- morbid psychiatric conditions except secondary depression.
- 2. Patients having brain damage.
- 3. Patients having mental retardation or epilepsy.
- 4. Patients with substance or drug dependence.

Tools

- Socio-demographic and Clinical data sheet- A socio-demographic and clinical data sheet has been prepared and used to collect information regarding various socio-demographic and clinical variables.
- Yale -Brown Obsessive Compulsive Scale (Y-BOCS) This rating scale was originally developed by Goodman et al (1989). It is a widely used instrument to rate the severity of obsessive and compulsive symptoms and to monitor the improvement in OCD patients. This scale measures obsessions and compulsions separately. It is a clinician rated 10 items scale. Each item is rated from 0 (no symptoms) to 40 (severe symptoms). The scale includes item about the amount of time spends on obsessions, impairment or distress

experienced and resistance or control patients have over such thoughts. The cut off point for presence of obsession and compulsions is 7, that is a score of 7 or less indicates no obsessions and/or compulsion. A score of 8-15 indicates mild, 16-23 indicates moderate, a score of 24-31 indicates severe and a score of 32-40 indicates extreme obsessions and compulsion. The internal consistency of YBOCS was found to be of acceptable level and the inter-rater reliability has been found to be excellent, that is, correlation coefficients is r = 0.85 for the total YBOCS score.

- 3 Dysfunctional Analysis Questionnaire (DAQ)- DAQ is a fifty item questionnaire developed and standardized in India by Pershad et al (1985). This measures dysfunction in five areas of activity, mainly social, vocational, personal, familial and cognitive. The instrument can be either self administered or administered in a structured clinical interview. There are ten items each for the above mentioned five areas of activity. Each item is rated on a five point scale (1-5), comparing the present level of functioning to that before the onset of illness. A score of 1 indicates functioning better than that before the onset of illness, 2 indicating no impairment and 3, 4, and 5 indicating mild, moderate and severe impairment respectively. The total score for each of the activity areas is converted to a percentage score, which has a range of 20 to 100. A score of 20-39 indicates better functioning than premorbid level, 40 indicates no change and a score of more than 40 is an indication of dysfunction. DAQ has been used in various previous researches and found quite useful to assess dysfunction level in various areas of patients living. The test retest reliability of this scale ranges from 0.76 to 0.92 and the spilt half reliability was also found to be significant
- Intervention Package consisted of Cognitive intervention in the form down ward arrow and socratic questioning (Beck, 1995).

Procedure

The present study has been carried out in three steps.

Step I- This step involved enrolment of OCD patients fulfilling inclusion criteria and have consented for participation in the study. Total of 20 patients with OCD were enrolled and subsequently divided in to two equal groups, namely experimental and control. The assessment procedure involved a clinical interview to list their current obsessive and compulsive symptoms and to understand other clinical aspects of illness like presence of insight, avoidance behavior, use of resistance against compulsive rituals etc. Baseline assessment of obsessive compulsive symptoms and current functional ability of all patients in both groups has been done on YBOCS and DAQ respectively

Step II- In this step all OCD patients in the experimental group were given cognitive intervention in the form of cognitive restructuring sessions. Twenty sessions of cognitive restructuring were demonstrated with a frequency of two sessions per week and duration of forty five minutes per sessions. Downward arrow technique and Socratic questioning were implied for restructuring as per the need. Patients in experimental group were also allowed to continue with their 'Treatment As Usual' on ethical grounds. However no sessions of cognitive intervention were demonstrated to OCD patient of control group during this step but they were also allowed to continue with their 'Treatment As usual' on ethical grounds.

Step III- This is the final phase of data collection. For experimental group, this phase comes after administration of minimum 20 cognitive intervention sessions (ten weeks) and for control group, this phase come after ten weeks of their baseline assessment. During this phase, patients of both groups were again assessed on YBOCS and DAQ. After the reassessment, control group of OCD patients were also given therapeutic intervention sessions of cognitive restructuring on moral and ethical grounds.

Statistical Analysis

The obtained data has been analyzed using Statistical Package for Social Sciences (SPSS) version 16.0 of windows. As the study sample was small, non parametric test measures were used for analysis of the data. Group difference was seen using chi square and Mann Whitney U test for categorical and continuous variables respectively. Wilcoxon Sign Rank test was used to compare pre and post intervention phase scores in case of experimental group subjects.

RESULTS

Table-1: Shows Comparison between Experimental Group and Control Group of OCD Patients on Socio-Demographic Variables.

	Subjects	Experimental Group of OCD Patients (N=10)	Control Group of OCD Patients (N=10)	Fisher Test	
Variables	Variables		(n= %)	Value	
Corr	Male	7(70)	4(40)	1.72	
Sex	Female	3 (30)	6 (60)	NS	
Type of Family	Joint	3(30)	3(30)	0.00	
Type of Family	Nuclear	7 (70)	7(70)	NS	
Marital Status	Married	5(50)	4(40)	0.19	
Maritai Status	Unmarried	5(50)	6(60)	NS	
	Graduate	7 (70)	8(80)	1.12	
Education	Matriculate	2 (20)	2(20)	1.12 NS	
	Primary	1 (10)	0(0)	No	
Occupation	Employed	4(40)	2 (20)	0.90	
	Unemployed	6 (60)	8 (80)	NS	

NS = P value not significant.

Table 1 indicates that both the compared groups did not differ significantly with regard to various socio demographic variables.

Table-2: Shows Comparison of Age and Clinical Variables between Experimental Group and Control Group of OCD Patients.

Subjects	Group of		Control Group of		Mann Whitney U Test				
					Mean R	ank			
	OCD Patient (N=10)	Patients		OCD Patients (N=10)		Contr ol Group	U	Z	
Variable	M	±SD	M	±SD					
Age	28.90	±3.38	26.90	±1.72	12.10	8.90	34.00	1.23 NS	
Age of Onset	25.80	±3.52	24.20	±1.75	11.50	9.50	40.00	0.76 NS	
Duration of Illness	3.10	±0.56	2.70	±0.82	12.10	8.90	34.00	1.31 NS	

NS = P value not significant.

Table 2 revealed that both the groups did not differ significantly in terms of age, age of onset and duration of illness.

Table-3: Shows Baseline Assessment of OCD Patients of Experimental Group and Control on YBOCS.

Subjects	Experimental Group of OCD		Control	Group	Mann V	Mann Whitney U Test				
			of OCD Patients		Mean Rank					
	Patients (N=10)	\$	(N=10)		Exp.	Control	U	Z		
Variable	M	SD	M	SD	Group	Group				
Obsession	14.20	1.50	15.10	2.39	09.02	10.59	41.01	0.31		
Domain Score	14.20	1.52	13.10	2.39	09.02	10.39	41.01	NS		
Compulsion	12.60	1.31	14.60	2.21	09.50	11.02	40.09	0.51		
Domain Score	12.60	1.31	14.00	2.21	09.30	11.02	40.09	NS		
YBOCS:	26.30	1.22	25.50	1.34	09.10	10.12	37.05	0.93		
Composite Score	20.30	1.22	23.30	1.34	09.10	10.12	37.03	NS		

NS = P value not significant

Table 3 depicts that there is no significant statistical difference between OCD patients of both compared groups at baseline.

Table-4: Shows Baseline Assessment of Experimental Group and Control Group of OCD Patients on DAQ.

Subjects	Experin	nental	Control		Mann Whitney U Test				
	Group of OCD		Group of OCD		Mean Rank		U	z	
	Patients (N=10)		Patients (N=10)		Exp. Control Group Group				
Variable	M	SD	M	SD	Group	Group			
Domain One Score (Cognitive Adjustment)	26.80	4.16	30.10	4.11	7.10	11.90	25.09	1.82 NS	
Domain Two Score (Family Adjustment)	36.00	2.76	36.30	3.81	8.98	11.60	26.00	1.73 NS	
Domain Three Score (Personal Adjustment)	33.50	5.50	32.20	3.10	10.30	9.20	40.00	0.67 NS	
Domain Four Score (Vocational Adjustment)	28.90	8.46	31.20	7.12	11.01	11.60	43.00	0.37 NS	
Domain Five Score (Social Adjustment)	33.80	5.19	33.10	2.26	8.51	12.51	32.00	1.51 NS	
Composite Score	167.00	19.14	163.90	12.18	8.22	12.74	27.50	1.70 NS	

NS = P value is not significant.

Table 4 indicates that experimental and control group of OCD patients did not differ significantly at baseline for their assessment on DAQ.

Table-5: Shows Post Intervention Assessment of Experimental Group and Control Group of OCD Patients on YBOCS.

	Experimental Control Group Mann Whitney U Test							
Subjects	Group of		of		Mean Rank			
	OCD	Patients	OCD	Patients	Experimental	Control	U	Z
	(N=10)		(N=10)		Group	Group		
	Post		Post					
Variable \	M	SD	M	SD				
Obsession	5.60	1.13	12.70	1.59	5.60	13.50	0.00	3.83*
Domain Score	3.00	1.13	12.70	1.57	3.00	13.30	0.00	*
Compulsion								3.72*
Domain	6.80	1.53	11.90	1.89	5.40	14.50	0.00	*
Score								
YBOCS:								3.70*
Composite	13.40	2.01	24.60	2.09	5.70	14.50	0.00	*
Score								

^{**} P value is significant at 0.01 level.

Table 5 suggests that OCD patients of both compared groups differ significantly (P>0.01) at post intervention phase assessment on YBOCS.

Table-6: Shows Post intervention assessment of Experimental Group and Control group of OCD patients on DAO.

Subjects	Experin	nental			Mann Whitney	U Test			
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Group	of		Group	Mean Rank				
	OCD I	Patients	of	OCD	Experimental	Control	U	Z	
	(N=10)		Patients	s (N=10)	Group	Group			
	Post		Post		-				
Variable \	M	SD	M	SD					
Domain One									
Score	12.50	3.70	22.30	5.09	5.60	15.40	1.00	3.72**	
(Cognitive	r2.30	3.70	22.30	3.09	3.00	13.40	1.00	3.72***	
Dysfunction)									
Domain Two									
Score	13.30	3.43	28.80	4.45	5.50	15.50	0.00	3.78**	
(Family	13.30	3.43	20.00	7.73	3.30	13.30	0.00	3.70	
Dysfunction)									
Domain Three									
Score	12.70	2.50	29.90	4.23	5.50	15.50	0.00	3.79**	
(Personal	12.70	2.50	27.70	1.23	3.30	13.30	0.00	3.17	
Dysfunction)									
Domain Four									
Score	09.30	4.10	31.10	7.30	5.50	15.50	0.00	3.79**	
(Vocational	07.50	1.10	31.10	7.50	3.30	13.30	0.00	3.17	
Dysfunction)									
Domain Five									
Score	15.60	4.24	33.50	6.58	5.50	15.50	0.00	3.78**	
(Social	13.00	1,27	33.30	0.50	3.50	13.50	3.00	3.70	
Dysfunction)									
DAQ:									
Composite	66.40	9.25	143.60	24.34	5.50	15.50	0.00	3.78**	
Score									

^{**}P value is significant 0.01 level.

Findings in Table 6 suggests that there is significant difference between OCD patients of experimental and control group (p>0.01) at post intervention phase assessment on DAQ.

Table-7: Shows Pre and Post Intervention Analysis of Experimental Group of OCD Patients on DAO.

Variables	Wilcoxon Sign Rank Test					
variables	Mean Rank	Sum of Rank	Z Value			
Domain One Score Post Intervention –	2.45	2.45	3.35**			
Domain One Score Pre Intervention	2.43	2.43	3.33***			
Domain Two Score Post Intervention –	1.09	1.09	3.44**			
Domain Two Score Pre Intervention	1.09	1.09	3.44			
Domain Three Score Post Intervention –	4.56	4.56	3.51**			
Domain Three Score Pre Intervention	4.50	4.50				
Domain Four Score Post Intervention –	2.27	4.45	3.02**			
Domain Four Score Pre Intervention	2.21	4.43				
Domain Five Score Post Intervention –	1.09	1.09	3.68**			
Domain Five Score Pre Intervention	1.09	1.09				
Composite Score Post Intervention –	9.09	145.00	3.62**			
Composite Score Pre Intervention	9.09	145.00	3.02**			

^{**} P value is significant at 0.01level.

Table 7 indicates significant difference between pre and post intervention phase assessment of OCD patients of experimental group on DAQ.

DISCUSSION

Functional impairment in daily living of patients with OCD has been well documented. Because of the severe debilitating effect of this illness on patient's overall daily functional capacity, the impetus is towards use of such intervention procedures, which may also improve the functional ability of such patients along with reduction in primary symptoms severity. As, poorer or diminished daily functioning of patients with increase in severity of illness has been reported previously (Hupport et al, 2009; Diefenbach et al, 2007; Grabe et al, 2000) therefore the point of interest in this study has been to see that to what role does cognitive intervention strategies have on functional capacity in different areas of daily living of patients having OCD. With such aim in mind, present research has been planned with twenty patients having primary diagnosis of OCD.

Analysis of result obtained indicates similar level (Table 1) of sample characteristics in both compared groups and no significant difference between both groups (Table 2) in terms of age, onset and duration of illness; factors that might affect the outcome of intervention (Jonathan et al, 2009). Baseline analysis on YBOCS (Table 3) indicates no overall difference in composite scores for obsession and compulsions between both groups. Findings revealed that statistically both groups were similar with regard to severity of OC symptoms at baseline. Review of related literature (Neil & Feusner, 2015; Masellis et al, 2003; Koran et al, 1996) suggests more diminished functional ability in patients having more severe symptoms presentation for such disorder. Further, baseline assessment on DAQ (Table 4) revealed similar level of dysfunctions in cognitive, family, personal, vocational and social areas of

daily functioning by patients of both groups. Obtained findings were consistent with previous researches (Masellis et al. 2003; Bobes et al. 2001; Grabe et al. 2000) that had also reported functional impairment with respect to different domains of daily living in OCD patients. Calvocoressi et al (1995) suggested that, in most of the cases of OCD, the patient finds it difficult to function effectively in various aspects of daily life and were unable to perform their roles and responsibilities in different areas like personal, social, vocational etc.

At post intervention phase, findings revealed (Table 5) decrease in severity of obsessive compulsive symptoms along with improvement in dysfunctional level (Table 6) in the group of OCD patients which has been given cognitive intervention with restructuring methods. However similar level of improvement in obsessive compulsive features and dysfunction in life were not observed in OCD patients of control group (which has not received cognitive intervention sessions). Therefore post intervention finding suggests that with decrease in obsessive compulsive features, such patient does exhibit improvement in their functional ability in various areas of daily living like cognitive, social, personal, vocational etc. Interestingly comparison of pre and post intervention level scores of OCD patients of experimental group (Table 7) also revealed significant change (improvement) after intervention with cognitive restructuring. Thus, overall it has been demonstrated that OCD patients who were given cognitive intervention with restructuring techniques exhibited features of reduced dysfunction in different areas of daily living like social, vocational, personal, familial and cognitive functioning. Our findings are in line with previous researches (Neil & Feusner, 2015; Diefenbach et al, 2007; O'Kearney, 1993) that also reported improvement in functioning level of OCD patients following use of cognitive intervention measures. They argued that the amount of time consumed by the patient in dealing with his primary obsessions and compulsions are directly proportional to the progress in the illness and subsequently these patients have been found to indulge more in their own thought matrix, with increase in severity of illness, which affects their functioning ability. However, application of cognitive measures resulted in changed (different) cognitive style with respect to handling their obsessive thoughts, that reflected in changed response pattern (compulsive ritual) and subsequently patients tend to carry out their responsibilities in different spheres of daily living more adaptively and effectively (Bystritsky et al, 2001; Mortiz et al, 2005; Koran et al, 1996).

However, in the present study, long term impact of cognitive intervention on functional ability of patients with OCD has not been looked in to.

CONCLUSION

Findings of the present study suggest that cognitive intervention (restructuring measures) does helps in improving the daily functional ability of patients having OCD along with remission of primary obsessions and compulsions.

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