

## Original Research Article

# Obsessive compulsive symptoms in patients with primary generalized and partial onset epilepsy

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## ABSTRACT

**Background:** To find out and compare the obsessive-compulsive symptoms / disorder among patients of primary generalized and partial onset epilepsy.

**Methods:** Patients with epilepsy diagnosed clinically at psychiatric out patient's department were selected for the study and categorized as primary generalized onset tonic clonic seizure type and partial onset seizure. Yale-Brown obsessive-compulsive symptoms check list and scale was applied to find out the obsessive-compulsive symptoms.

**Results:** A total of 110 patients were categorized as primary generalized (GE) 49 and partial onset epilepsy (PE) 61 patients. Obsessive-Compulsive Symptoms (OCS) were found to be 19.9%, and OCD among 3.63%. Mean Y-BOCS scores for obsession were found to be  $3.77 \pm 1.93$  and  $4.93 \pm 2.03$ , ( $t = -3.034$ ,  $df = 108$ ,  $p = .003$ ). Whereas the mean Y-BOCS compulsions score was  $2.93 \pm 1.96$  and  $4.62 \pm 1.87$  was ( $t = -4.590$ ,  $df = 108$ ,  $p = .000$ ) for GE and PE group respectively.

**Conclusions:** OCD and OCS among the epilepsy patients were found to be 3.63%, and 19.9% respectively, and significantly higher mean obsessive and compulsive score were found for the group of partial onset epilepsy.

**Keywords:** Epilepsy, GTCS, Partial seizures, Obsessive compulsive symptoms

## INTRODUCTION

Temporal lobe epilepsy (TLE) or frontal lobe epilepsy may remain a focal onset seizure or may progress to a secondary generalization, it represents their corresponding lobe dysfunction, as literature suggests temporo-limbic structures are typically implicated in temporal lobe epilepsy.<sup>1</sup> Whereas dysfunction of fronto-striatal and amygdala-cingulate networks is being implicated as neurobiological basis for OCD.<sup>2</sup> TLE is known to have higher psychiatric problems (upto 80%) than in juvenile myoclonic epilepsy.<sup>3</sup> Further OC symptoms are reported quite high as upto 22% in temporal lobe epilepsy or partial onset seizures.<sup>1,4</sup>

There is some phenomenological similarity between OCD and the forced thinking that occurs in 2% of patients with temporal lobe epilepsy i.e. focal onset seizure.<sup>5</sup> Different types of epilepsy may be associated with different forms of psychopathology, such as specific TLE behavioral syndrome, including hyposexuality, religiosity, obsessional traits, and hypergraphia.<sup>6,7</sup> Regarding localization related issues many studies suggest that right hemispheric structural abnormalities occurs frequently in OCD patients.<sup>8</sup> All these findings suggest stronger association of partial onset epilepsy with obsessive compulsive symptoms in comparison to primary generalized epilepsy.

The relationship or higher prevalence of OCS and Epilepsy is found much stronger in cases of refractory epilepsy.<sup>1</sup>

However, the OCS are not reported with primary generalized onset seizures. With establishment of symptomatic association with representative structural location may further improve our understanding of neurobiological basis OCS, it also implements in early clinical suspicion, early diagnosis and appropriate management. In this view the aim of this study was to look for Obsessive compulsive symptoms and disorders across focal onset and primary generalized epilepsy patients.

## METHODS

Participants were patients of either gender between the ages of 18 and 60 years visiting at psychiatry outpatient department of Era’s Lucknow Medical College and Hospital, Lucknow with presenting complains of seizure and diagnosed as epilepsy. The total sample was semiologically diagnosed and categorized clinically among partial onset epilepsy (PE) and primary generalised tonic clonic seizures (GE). All consenting patients were provided with self-reporting personal and socio demographic details.

Further they were screened with Y-BOCS checklist. The exclusion criteria included patients with unstable or life-threatening cluster or status attacks, multiple seizure types, mixed and undetermined types of epilepsy, co morbid medical conditions like Hypertension, Diabetes, comorbid diagnosis of alcoholism or any psychoactive substance abuse or dependence, personality disorders, organic disorders or psychotic illness. Study was conducted at Eras Lucknow Medical College and Hospital Lucknow.

### Procedure and design

The current study was cross-sectional in design and did not include data collected at follow-up time points.

## Tools

Socio-demographic Data Sheet: The socio demographic data sheet included age, gender, religion, Years of education and socio-economic class of the patients. It also recorded provisional medical diagnosis for epilepsy.

### Yale-Brown obsessive-compulsive scale

This scale rates the severity of obsessive compulsive symptoms. The scale is a clinician-rated 10-item scale. Each item is rated 0 (not significant) to 4 (extreme symptoms). Separate total for severity of obsession and compulsion is calculated. The result can be interpreted as 0-7, subclinical; 8-15, mild; 16-23, moderate; 24-31, severe; and 32-40, extreme severity.<sup>9</sup>

### Statistical analysis

The collected data of all patients was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0. Data analysis included means and standard deviations for complete sample. Frequency analysis was used to determine the prevalence of Obsessive compulsive symptoms. Data analysis included means and standard deviations for each group, and clinical subgroup of the sample. The parametric t-test was used to determine if differences existed between the groups. Statistically significant levels are reported for p values less than or equal to 0.05. Highly significant levels are p values less than 0.001

## RESULTS

A total of 110 patients 61 (55.45%) male and 49 (44.54%) females were included for the study, Table 1 summarizes the sample characteristics. We categorized the sample as per diagnosis of epilepsy as into a Generalized onset epilepsy (GE) and another group of Partial onsetepilepsy (PE). Out of 110 total sample sizes, 49 and 61 constituted the GE and PE group respectively.

**Table 1: Comparison of sociodemographic variables and mean Y-BOCS scores across the group of GTCS and partial epilepsy.**

		GTCS (n=49)	Partial onset epilepsy (n= 61)	Chi square	df	Sig. (2-tailed)
Gender	Male	27	34	0.004	1	0.947
	Female	22	27			
		GTCS (n=49)	Partial onset epilepsy (n= 61)	t	df	Sig. (2-tailed)
Age		36.27± 8.73	35.72±8.83	.080	108	0.937
Years of education		10.10 ± 2.09	10.39±2.02	-.738	108	0.462
Duration of epilepsy (months)		9.65 ± 4.97	11.40±7.34	-1.431	108	0.155
Total Y-BOCS obsession score		3.77 ± 1.93	4.93±2.03	-3.034	108	0.003
Total Y-BOCS compulsion score		2.93 ± 1.96	4.62±1.87	-4.590	108	0.000

The mean age of the GE group (n= 49) was 36.27±8.73years, and for PE group (n= 61) was 37.72±8.83years (t= 0.080, df=108, p=0.937). The mean years of education for both the groups were 10.10±2.09years for GE group and for PE group it was 10.39±2.02years (t= -0.738, df=108, p=0.462). The mean total duration of epilepsy for the GE group was 9.65±4.97 months and for the PE group it was 11.40±7.34, (t= -1.431, df=108, p=.155) (Table 1).

On comparing mean Y-BOCS scores for obsession and compulsions separately, the mean Y-BOCS Obsession score for the GE was 3.77±1.93 and for PE group it was found to be 4.93±2.03, (t = -3.034, df= 108, p= 0.003). Whereas the mean Y-BOCS Compulsions score was 2.93±1.96 and 4.62±1.87 was for GE and PE group respectively (t = -4.590, df= 108, p= 0.000) (Table 1).

## DISCUSSION

The aim of the study was to find out the obsessive-compulsive symptoms among patients with epilepsy and to compare the ratings of OCS across generalized versus partial onset epilepsy. We found OCS among 21 patients across both groups, that constituted 19.09% of the sample size. However only 4 patients scored just above the diagnostic threshold of 8 for Y-BOCS total score, that constituted 3.63% of the total sample. This study is the extension of our previous study in which we estimated the prevalence of OCS and found it 20.4% among patients of epilepsy.<sup>10</sup> In this study we found similar prevalence of OCS, and even four cases (3.63%) crossed the diagnostic threshold, that qualifies for mild obsessive-compulsive disorder. In our study we found that the mean obsessive symptoms score on Y-BOCS was higher for PE compared to GE; but compulsive scores were very significantly higher for PE (p value= 0.000).

However, the disorder level of obsession and compulsion were equally distributed, two each among GE and PE type of epilepsy. This consisted 3.63% for total sample size, that is slightly higher but comparable to OCD prevalence of 2.3% among general non-clinical population.<sup>11</sup> There are varied ranges of prevalence of obsession and compulsions among various other diagnostic entity, and most commonly OCD and OCS are found with depression.<sup>12</sup> Other psychiatric disorders like schizophrenia may have varied prevalence of comorbid obsessive compulsive symptoms.<sup>13</sup> But there are few studies about non psychiatric studies. Overall, psychiatric comorbidity in the epilepsy population probably may have many etiological basis, this may include a combination of social and neurobiological interplay. Chronicity of epilepsy as an enduring condition implicated as predisposition and also brain dysfunction leads to psychological symptoms as OCS. It is also speculated that anatomical factors were more important than the chronicity of the disease.<sup>14</sup>

Small sample size is one of the major limitation to this study, in future we need larger samples size, along with a specific diagnostic group, such as temporal lobe epilepsy or frontal lobe epilepsy. Further lateralization categorization should also be considered for the prevalence of OCS and OCD. Simultaneous assessment of quality of life, disability and burden of various other psychological problems, and follow-up studies to know the longitudinal course of these problems may also be considered for future studies.

## CONCLUSION

In conclusion prevalence of obsessive-compulsive disorder and OCS among the epilepsy patients were found to be 3.63%, and 19.9% respectively, and there was significantly higher mean obsessive and compulsive score for the group of partial onset epilepsy, in comparison to primary generalized onset epilepsy.

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