

## Psychiatric Disorders in Patients with Idiopathic Tonic-Clonic Seizure

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Article information	Abstract
<p>Article history: Received: 23 Dec 2012 Accepted: 13 Feb 2013 Available online: 13 Aug 2013 ZJRMS 2015 Jan; 17(1): 40-42</p> <p>Keywords: Seizure Mental Health</p>	<p><b>Background:</b> Mental disorders severely affect the quality of life of epileptic patients. Due to the lack of adequate research, in the present study we assessed psychiatric disorders in patients with idiopathic tonic-clonic seizure.</p> <p><b>Materials and Methods:</b> This descriptive-cross-sectional research was conducted on 170 patients using the SCL-90-R questionnaire and the results were analyzed by <i>t</i>-test and <math>\chi^2</math> test.</p> <p><b>Results:</b> The prevalence of psychiatric disorders in patients was 38.8%. In order, the highest frequency belonged to obsessive compulsive, depression and interpersonal sensitivity 46.5%.</p> <p><b>Conclusion:</b> Mental disorders are present in a high percentage of epileptic patients, which shows the need for psychological evaluation.</p> <p>Copyright © 2015 Zahedan University of Medical Sciences. All rights reserved.</p>

### Introduction

Epilepsy is one of the most prevalent neurological diseases and its tonic-clonic form is the most common and best known. Studies show that 26-35% of patients with this complication suffer from mental disorders [1]. Studies show that the presence of some psychological disorders intensifies and even increases the chance of seizure onset [2, 3]. These disorders have a broad spectrum such as depression, anxiety, psychosis, agoraphobia, etc [4]. According to high prevalence of epilepsy (1.2-1.8% of lifetime) [5], mentioned issues about psychiatric disorders in epileptic patients, and necessity of regional studies, this research was conducted to determine the prevalence and types of psychiatric disorders in patients with idiopathic tonic-clonic seizure (ITCS).

### Materials and Methods

This descriptive and cross-sectional study was performed through simple sampling of 170 patients with ITCS. The population, who were diagnosed to have ITCS by neurologists, was consisted of direct referrals to Shafa hospital or referrals from private offices of Kerman city. The diagnosis was confirmed through physical findings and history (no aura, no focal signs), normal MRI, CT brain scans and laboratory findings. In addition, the patients had no abnormal focal findings in EEG. Patients who seized after head trauma and patients with mental retardation (IQ below 70) were excluded. Patients who had another disease or have been taking drugs other than antiepileptic medicines (especially psychiatric drugs) and patients abusing alcohol and drug were also excluded. A demographic questionnaire was completed for each

patient. Participation in the study was voluntary and the research was approved by the ethics committee of Kerman University. Sample size was determined as 170 subjects with 5% alpha, 10% beta and also, power of study was 90%. The Symptom Checklist-90-Revised (SCL-90-R) questionnaire, which reliability and validity was confirmed in Iran, was used to assess psychiatric disorders [6]. This test consists of 90 questions which examine 9 major psychiatric disorders. These aspects include: anxiety, hostility, depression, interpersonal sensitivity, somatization, obsessive-compulsive, phobic anxiety, paranoid ideation. Scoring of this 90 questions questionnaire includes five degrees (none=0, little=1, some=2, much=3, very much=4). To determine the prevalence of each mental disorder, a cut of point equal to 2.5 or greater was used and mean scores of 2.5 or more in each dimension was considered as morbid state. The test was interpreted using the Global Severity Index (GSI). In this index, the cut of point is 1.3 [6]. To analyze the data, SPSS-17 software and descriptive statistics (mean, frequency percent, and standard deviation), and *t*-test and  $\chi^2$  test were used. In this study,  $p \leq 0.05$  was considered statistically significant.

### Results

In the present research, 170 patients were evaluated whose age range was 15 to 60 years. The mean duration of suffering from epilepsy and the mean age of onset were  $9.6 \pm 8.69$  and  $14.4 \pm 10$  years, respectively. The prevalence of psychiatric disorders in patients was 38.8%. There was any correlation between gender, age, education, family history, hospitalization history, and status history with

GSI, but there was a significant correlation between GSI and belief in existence of mental illness ( $p=0.01$ ).

**Table 1.** Frequency of mental disorders in patients

Scale	Frequency N (%)	Mean±SD
Somatization	70 (41.2)	0.99±0.75
Obsessive-compulsive	84 (49.4)	1.04±0.74
Interpersonal sensitivity	79 (46.5)	1.03±0.79
Depression	81 (47.6)	1.02±0.77
Anxiety	73 (42.9)	1.01±0.85
Hostility	63 (37.1)	0.88±0.79
Phobia	54 (31.8)	0.73±0.66
Paranoid ideation	77 (45.3)	0.96±0.79
Psychosis	53 (31.2)	0.73±0.67
Others	77 (45.3)	0.97±0.67
Total (GSI)	66 (38.8)	0.94±0.66

**Table 2.** Demographic data of patients with epilepsy

Variable		Number (%)
Gender	Male	74 (43.5)
	Female	96 (56.5)
Age (yr)	15-19	61 (35.9)
	20-24	52 (30.6)
	25-29	28 (16.5)
	30-34	11 (6.5)
	35-39	13 (7.6)
	40 and over	5 (2.9)
Education	Illiterate	12 (7.1)
	Elementary	9 (5.3)
	Under diploma	49 (28.8)
	Diploma	70 (41.2)
Family history	Higher than diploma	30 (17.6)
	Yes	45 (26.5)
	No	125 (73.5)
Hospitalization history	Yes	62 (36.5)
	No	108 (63.5)
Status occurrence history	Yes	13 (7.6)
	No	157 (92.4)
Belief in mental problem existence	Yes	40 (23.5)
	No	130 (76.5)

## Discussion

In this study, the prevalence of psychiatric disorders in epileptic patients was 38.8% and in terms of nine dimensions of mental disorder, obsessive compulsive 49.4%, depression 47.6%, interpersonal sensitivity 46.5%, paranoid ideation 45.3%, and anxiety 42.9% had the highest frequency (Table 1).

This finding shows that the prevalence of mental disorders was much higher than its prevalence in Iran's community which is equivalent to 21.3% [7]. Several studies worldwide confirm our findings. Researchers conducted in Turkey [3], Canada [4], and Italy [8] show that people with epilepsy have a higher risk of developing mental disorders compared with people without epilepsy. In addition, the frequency of 38.8% of psychiatric disorders in epileptic patients obtained in this study (Table 2) is similar to studies in other countries, such as Canada, one-third of epileptic patients have mental disorders [4]. The only strong research methodology in Iran was performed in Tehran by Mohammadi et al. which reported the same frequency, although all types of epilepsy have been evaluated in this study [9]. However, the prevalence has been reported 17-44%, [3] in some studies. There is no doubt that some of statistical

differences are due to differences in survey methods, so that, in some studies, DSM-4 and ICD-10 system and in some others special questionnaires were used, or in some cases the studied population of epileptic patients were only children or adults [1]. Also in many studies the same cases were seen, but in many of them depression was more frequent. Studies in USA [10], Turkey [3], and confirmed this point, however anxiety and suicidal thoughts in India, [11] and neurotic disorders in Spain [12] were reported to be highly frequent in epileptic patients. The frequency of obsession-compulsion was slightly higher than depression in the present study. No evidence can be suggested for this finding; it may be an incidental finding or it may be due to different pattern of psychological problems in Iran including Kerman from other regions; the study of Mohammadi et al. had also showed the high frequency of obsessive-compulsive disorder in Iran [9] which may affect the results of the study. Also, a research in Turkey showed high frequency of obsessive-compulsive in patients with temporal lobe epilepsy [13]. Presence of mental disease was significantly correlated only with the belief in existence of the disorder. This finding was also observed in a study in United States [8] and showed that epileptic patients' talks about existence of mental disorder should be taken seriously. The results did not show a significant correlation between existence of mental disease and other demographic and disease related variables (Table 2).

The abundance and variety of psychiatric disorders in epileptic patients is not clear yet. Since epilepsy is a chronic disease that affects the patient's life for long times, it can be considered as a triggering factor for mental disorders [8]. Also, given that epilepsy and psychiatric disorders may have common roots, justification of some psychological symptoms is not hard, for example lesions in the left hemisphere that lead to convulsion, sometimes are simultaneously associated with psychotic disorders, especially schizophrenia. In addition, the balance between stimulating and inhibitory neurotransmitters is disturbed in epilepsy which can be a factor for producing psychiatric disorders [14]. The lack of normal function, such as induced hypo-metabolism in inter ictal phase may be a factor for developing depression or other behavioral changes. The decrease in cerebral blood flow during seizure attack or neuroendocrine dysfunction, such as decrease of prolactin or increase of dopaminergics and testosterone or endogenous opioids, may also cause behavioral changes [8, 14]. Fear of attacks in community, unconsciousness during attacks, urinary incontinence, and discomfort after attacks, hospitalization, and drugs [4] may also cause some psychiatric disorders.

Lack of confidence, fear of losing the partner, or marital failure can justify a part of depression and anxiety occurrence [14]. One limitation of this study was inconsideration of some psychiatric disorders in the questionnaire which were reported as frequent in some studies such as suicide attempt and autism [2]; this point should be considered.

Overall, the findings of this study suggest that epileptic patients in Iran are affected with a range of mental disorders. Proper and periodic evaluation, like other countries, can help control them and improve their quality of life.

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### Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

### Conflict of Interest

The authors declare no conflict of interest.

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