

Prevalence of Depressive Symptoms in Patients With Epilepsy

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Abstract

Background: Epilepsy is the third most common neurological disorder in adults after Alzheimer's disease and stroke.

Aim: To study the prevalence of depressive symptoms in patients with epilepsy.

Materials and Methods: Cross-Sectional Study of epileptic patients attending neurology OP department from 01.09.2010 to 30.08.2011.

Results: Results showed high psychiatric morbidity especially depression and anxiety can occur co-morbidly in patients with epilepsy. Depression was associated significantly with duration of seizures and frequency of seizures per month and also predominantly with female sex.

Keywords: DSM-IV axis 1 disorders, Epilepsy, Depression

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I. Introduction

Epilepsy is the most common neurological disorder affecting about 40 million people around the world. One in 20 people in the general population have a seizure at some point in their lives and 1 in 200 have epilepsy [1]. Being a disorder of early onset, epilepsy has significant effects on the overall development of a person. Hence, early recognition and treatment of epilepsy is very important. On treatment with anti-epileptic drugs only 65 to 75 % of patients with epilepsy achieve adequate control of seizures [2]. Epilepsy is the third most common neurological disorder in adults after Alzheimer's disease and stroke. In North America, the overall prevalence of epilepsy in adults is about 5 to 10 per 1000 population [3]. A prevalence rate of 1.28 to 4.7 per 1000 population has been reported from India [4-6]. In pediatrics, epilepsy is the most common neurological disorder, affecting upto 1% of children under the age of 16 [7]. The most frequent psychiatric diagnosis reported in people with epilepsy include psychosis, neurosis, mood disorders (DSM-IV axis 1 disorders), personality disorders (DSM-IV axis 2 disorders) and behavioral problems [8]. The psychiatric symptoms can be classified according to their temporal relationship with seizure occurrence. They can be divided into ictal symptoms (related to the seizure itself) or inter ictal symptoms (independent of individual seizures).

There is ample research and clinical evidence indicating that patients with epilepsy have psychological problems including psychiatric disorders, personality problems, aggression, cognitive and psychosocial difficulties more frequently than that are seen in general population [9,10] and in other neurological disorders. [11]. Generally the rates of psychological problems are higher in complex partial epilepsy upto 30 to 50% [12,13]. Available evidence indicates that rates of psychological problems increase further up to 50 to 80% in patients with intractable epilepsy, though the research in this area is limited [14,15].

II. Aim of The Study

To study the prevalence of depressive symptoms in patients with epilepsy.

III. Material And Method

3.1 Type of Study: - Cross-Sectional Study of epileptic patients attending neurology OP department from 01.09.2010 to 30.08.2011.

3.1 Sample

The sample was collected from all the consecutive cases of epileptic out-patients aged between 18-60 yrs at the department of neurology, Narayana Medical College and Hospital, Nellore from 01.09.2010 to 30.08.2011. The sample consisted of hundred patients.

3.2 Inclusion Criteria

1. Clinically patients with epilepsy diagnosed as the condition of having recurrent (two or more) unprovoked seizures .
2. All consecutive patients diagnosed with epilepsy in between the age of 18-60 yrs.
3. Those patients who gave informed consent for the study.

3.3 Exclusion Criteria

1. Acute symptomatic seizure disorders.
2. Cerebral infections.
3. Cerebro-vascular diseases.
4. Presence of associated mental retardation.
5. Patients with a seizure occurring on the day of research or interview or within one week.
6. Co-morbid Pseudo seizures.

3.4 Tools Used

1. Pre-diagnosed proforma to collect data, which included socio-demographic, seizure related and anti-epileptic drug related history.
2. Clinical assessment was done using the following relevant scales.

3.5 MMSE

- a. This is a 30 point cognitive test for assessment of a broad array of cognitive functions. Patients with a cut off score of more than 24 were included in the study.
- b. The diagnosis of generalised anxiety disorder or depression are confirmed according to DSM- IV-TR Criteria.
- c. Patients are assessed with the Hamilton Depressive rating scale – HAM – D for depression.

IV. Hamilton Depression Rating Scale – (Ham-D)

The Hamilton Depression Rating Scale (Ham-D) Has Proven Useful For Many years as a way of determining a patients' level of depression before, during, and after treatment. It should be administered by a clinician experienced in working with psychiatric patients. Although the HAM-D form lists 21 items, the scoring is based on the first 17. It generally takes 15-20 minutes to complete the interview and score the results. Eight items are scored on a 5-point scale, ranging from 0 = not present to 4 = severe. Nine are scored from 0-2 Since its development in 1960 by Dr. MAX. HAMILTON of the University of LEEDS, ENGLAND, the scale has been widely used in clinical practice and become a standard in pharmaceutical trials.

V. Results

Table-1: Socio-demographic details

Sl. No.	CHARACTER	FREQUENCY	PERCENTAGE
1.	AGE		
	1. 18-31 Yr	56	56.0
	2. 32-45 Yr	21	21.0
	3. 46-60 Yr	23	23.0
2.	SEX		
	1. Male	55	55.0
	2. Female	45	45.0
3.	MARITAL STATUS		
	1. Never Married	34	34.0
	2. Married	66	66.0
4.	RESIDENCE		
	1. Urban	25	25.0
	2. Rural	75	75.0
5.	RELIGION		
	1. Hindu	77	77.0
	2. Muslim		

	3. Christian	16 7	16.0 7.0
6.	EDUCATION 1. Nil to < 10 yrs. 2. 10-15 yrs. 3. > 15 yrs.	26 65 9	26.0 65.0 9.0
7.	OCCUPATION 1. Labourer 2. Student 3. Non-professional 4. Professional	21 15 58 6	21.0 15.0 58.0 6.0
8.	SOCIO-ECONOMIC STATUS 1. Low & Low medium 2. Middle 3. High Middle & High	65 21 14	65.0 21.0 14.0

56 patients are in between 18-30 yrs. 21 patients are in between 31-45 yrs. 23 patients are in between 46-60 yrs. Males comprised of 55% of the sample and female comprised of 45%. Majority of the patients were from rural background and married were 34%, 65% of patients were educated between 10-15 and 26% of patients were educated less than 10 and 9% of patients were educated above 15. 21 patients were manual labourers, 15 patients were students, 58 patients were non-professionals and 6 patients were professionals. As shown in the Seizure Variable table – Majority (56%) of patients had seizures at younger age < 32 years and frequency of seizures in majority of them was below 5 times per month.

Table 2: Seizure Related Variables

Sl. No.	CHARACTER	FREQUENCY	PERCENTAGE
1.	Duration of Seizures < 5 Yrs > 5 yrs	42 58	42.0 58.0
2.	Frequency of Seizures/ 1 month Below 5 times Above 5 times	80 20	80.0 20.0
3.	Type of Seizure SPS CPS CPS GTC GTC	8 23 69	8.0 23.0 69.0
4.	No. of AED's used Mono-pharmacy Poly-pharmacy	67 33	67.0 33.0
5.	Compliance of the drugs Good Poor	29 71	29.0 71.0
6.	Name of the drug used Phenytoin Carbamazepine Valproic Acid Others	57 19 13 11	57.0 19.0 13.0 11.0

Duration of the seizure disorder in majority was above 5 yrs – 58% and about 42% below 5 yrs.

Table 3: Frequency of depression

Diagnosis	Frequency	Percentage
Nil	56	56.0
Mild Depression	8	8.0
Moderate depression	15	15.0
Severe depression	14	14.0
Very severe depression	7	7.0

Out of 100 patients screened, 44 patients had symptoms of depression. Out of them 21 persons had severe to very severe depression. 23 persons had mild to moderate depression. 56 patients were found to be normal with no depressive features.

Table 4: Association between Depression and Socio-demographic variables.

Sl. No.	Character	No psychiatric Diagnosis/no depression	Psychiatric Diagnosis / Depression	X ² /t	P
I.	Sex Male Female	40 16	15 29	0.008	0.014*
II.	Education Nil to < 10 10-15 > 15	26 65 9	12 27 5	0.165	0.176
III.	Occupation Labourer Student Non-Professional Professional	21 15 58 6	11 7 25 1	0.183	0.103
IV.	Marital Status Married Un-married	66 34	30 14	1.000	0.535
V.	Residence Rural Urban	17 39	8 36	0.163	0.245

There was significant association of depression with female sex observed and none of the other socio-demographic variables including age, education, occupation, marital status and residence showed significant association.

Table 5: Association between Depression and Seizure Variables

Sl. No.	Character	No psychiatric Diagnosis/no depression	Psychiatric Diagnosis / Depression	X ² /t	P
1.	Duration of Seizure disorder < 5 yrs > 5 yrs	30 26	12 32	0.000	0.000*
2.	Seizure frequency/ 1 month < 5 times > 5 times	50 6	30 14	0.009	0.012*
3.	Seizure Type GTC SPS CPS	38 4 14	31 4 9	0.267	0.383
4.	Compliance of AEDs Good Poor	16 40	12 32	0.788	0.826

Among the seizure variables, there was a significant association of depression with duration of seizures (>5yrs) and frequency of seizures(>5times/1month). Seizure type, type of anti-epileptic drugs and compliance of drugs showed no association with depression.

VI. Discussion

With the change in focus from treatment of the medical conditions to improvement of overall health and wellbeing of a person, evaluation and treatment of psychological problems among patients with different medical illnesses have become important. This is particularly relevant in chronic and disabling illnesses such as epilepsy. The frequent co-occurrence of psychiatric problems with epilepsy adds to the burden and stigma of the epilepsy among both the patients and caretakers. Overall, diagnosis of depression was present in 44% of subjects in the current sample. Earlier studies in patients with epilepsy have reported similar rates of 35% to 48% [12,13,17]. Prevalence figures ranging from 20% to 55% in patients with recurrent seizures and 3-9% in patients with controlled epilepsy have been reported [18]. Thus previous studies in patients with epilepsy have reported rates of depression ranging from 9% to 54%. [12,18-20]. The higher rate of the mood symptom in patients with epilepsy could be a reflection of increased rates of psychiatric disorder itself in these highly selected samples. Many earlier studies have not specified if depression means depressive symptoms or depressive disorders in their studies. [17-19]. So consistent with the previous studies, the current study reported 44% patients with depression.

1. 8 patients showed mild depression.
2. 15 patients showed moderate depression.
3. 14 patients had severe depression.
4. 7 patients had very severe depression.

Most earlier studies showed no significant association of age, education, socio-economic status, occupation, marital status with depression. [21-23]. But few studies earlier demonstrated significant association of female gender and frequency of seizure with depression [24,25] the current study consistent with the previous studies showed an association of females with depression and showed no significant association of socio-demographic variables like age, marital status, education and occupation with depression. Psychiatric Diagnosis and seizure related variables:- Most earlier studies have not found any association between age at onset and duration of seizures with depression [23-25] except a few [24,25]. In the current study an association between longer duration of seizure disorder and presence of depression was found. There are reports of both decrease and increase in seizure frequency being associated with depression. [26-28]. The current study found an increase in seizure frequency to be associated with the presence of depression supporting the agonistic relationship between epilepsy and psychopathology. In the present study we did not find any association between family history and presence of either a psychiatric diagnosis or depression. The current study did not find any positive correlation between the use of anti epileptic drugs and depression. Several studies have demonstrated the negative impact of depressive disorders on the quality of life of patients with epilepsy [29-31]. For example in a study of 56 patients with epilepsy carried out in Germany by Lehrner [28] depression was the single strongest predictor for each domain of health – related quality of life (HRQOL). Suicide rates for patients with epilepsy and depression have been reported to be 5 times higher compared to general public [32]. The impact of depression on quality of life scales in epilepsy is substantial. Depression has been noted in some studies to be the most closely linked variable to quality of life scaled scores [33]. The treatment of depression in epilepsy is complicated by potential drug interactions and effects on seizure threshold. In some patients cognitive and behavioral therapy may be useful.

V. Conclusion

44% of the sample had depressive symptoms. Depressive symptoms was found to be positively correlated to the duration of seizures and frequency of seizures per month. Depressive symptoms were found to be significantly commoner in females.

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