

## A STUDY TO ASSESS THE PREVALANCE OF ANXIETY SYMPTOMS IN PATIENTS WITH EPILEPSY

D. Padmavathi<sup>1</sup>, S. Sarath Krishna<sup>2</sup>, P. Ravi Kumar<sup>3</sup>

<sup>1</sup>Associate Professor, Department of Psychiatry, A.C. S. R Government Medical College, Nellore, Andhra Pradesh, India

<sup>2</sup>Assistant Professor, Department of Psychiatry, A.C. S. R Government Medical College, Nellore, Andhra Pradesh, India.

<sup>3</sup>Assistant Professor, Department of Psychiatry, Government Medical College, Anantapur, Andhra Pradesh, India.

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Corresponding Author:  
**Dr. D. Padmavathi,**  
Email: ponnadpadmavathi@yahoo.co.in

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### Abstract

**Background:** Epilepsy is the third most common neurological disorder in adults after Alzheimer's disease and stroke. Psychological problems have been reported in association with epilepsy since antiquity. To study the prevalence of anxiety symptoms in patients with epilepsy. **Materials and Methods:** Cross-Sectional study of epileptic patients attending psychiatry OP department from 01.07.2022 to 30.07.2023. **Result:** Results showed high psychiatric morbidity especially depression and anxiety can occur co-morbidly in patients with epilepsy. Anxiety symptoms were significantly correlated with female, sex, occupation, education status and also with frequency of seizures per month. **Conclusion:** Anxiety symptoms were found to be positively correlated to the duration of seizures and frequency of seizures per month. Anxiety symptoms were found to be significantly commoner in females. Education was found to have a protective effect as far as anxiety in epileptics was concerned. Anxiety was also found less frequently amongst the students.

## 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 & 1 in 200 have epilepsy.<sup>[1]</sup> 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 65-75% of patients with epilepsy achieve adequate control of seizures.<sup>[2]</sup> 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.<sup>[3]</sup> A prevalence rate of 1.28 to 4.7 per 1000 population has been reported from India.<sup>[4-6]</sup> In pediatrics, epilepsy is the most common neurological disorder, affecting upto 1% of children under the age of 16.<sup>[7]</sup> Over the past 20 years, population-based longitudinal epidemiological research studies have convincingly demonstrated that epilepsy has a generally positive long term outcome.<sup>[8]</sup> Patients with epilepsy have high rates of co-morbid psychopathology, poor psychosocial functioning and require more psychiatric treatment compared to

healthy controls. The psychiatric co-morbidities in patients with epilepsy have important clinical and therapeutic implications. 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.<sup>[9]</sup> 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). Generally the rates of psychological problems are higher in complex partial epilepsy upto 30 to 50%.<sup>[10,11]</sup> Available evidence indicates that rates of psychological problems increase further upto 50 to 80% in patients with intractable epilepsy, though the research in this area is limited.<sup>[12,13]</sup>

Psychopathology is particularly high in patients with complex partial epilepsy probably due to the important role of temporal lobe in psychiatric disorders. Common psychological and psychosocial problems that have been studied in patients with epilepsy include depression, anxiety, personality problems and aggression.

### Aims & Objectives of the Study

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

## MATERIALS AND METHODS

**Type of Study:** Cross-Sectional Study of epileptic patients attending psychiatry OP department from 01.07.2022 to 30.07.2023.

**Sample:** The sample was collected from all the consecutive cases of epileptic out-patients aged between 18-60 yrs at the department of psychiatry, A.C. S.R Government Medical College and Hospital, Nellore from 01.07.2021 to 30.07.2022. The sample consisted of hundred patients.

### 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.

### 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.

### 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.

#### I. MMSE,<sup>[15]</sup>

- 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.

#### II. Hamilton Anxiety Rating Scale (HAM-A):-

The Hamilton – Anxiety rating scale (HAM-A) is a widely used and well-validated tool for measuring the severity of a patients’ anxiety. It should be administered by an experienced clinician.

The HAM-A probes 14 parameters and takes 15-20 minutes. to complete the interview and score the results. Each item is scored on a 5-point scale, ranging from 0=not present to 4=severe. By administering the scale serially a clinician can document the results of drug treatment or psychotherapy.

Developed in 1959 by Dr. D. Hamilton, the scale has proven useful not only in following individual patients but also in research involving many patients.

## RESULTS

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 1: Socio-demographic details**

Sl. No.	Character	Frequency	Percentage
1.	AGE		
	18-31 Yr	56	56.0
	32-45 Yr	21	21.0
2.	SEX		
	Male	55	55.0
	Female	45	45.0
3.	MARITAL STATUS		
	Never Married	34	34.0
	Married	66	66.0
4.	RESIDENCE		
	Urban	25	25.0
	Rural	75	75.0
5.	RELIGION		
	Hindu	77	77.0
	Muslim	16	16.0
6.	EDUCATION		
	Nil to < 10 yrs.	26	26.0
	10-15 yrs.	65	65.0
7.	OCCUPATION		
	Labourer	21	21.0
	Student	15	15.0

	Non-professional	58	58.0
	Professional	6	6.0
8.	SOCIO-ECONOMIC STATUS		
	Low & Low medium	65	65.0
	Middle	21	21.0
	High Middle & High	14	14.0

**Table 2: Seizure Related Variables**

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

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

**Table 3: Frequency of Anxiety**

Diagnosis	Frequency	Percentage
Nil	54	54.0
Mild	21	21.0
Moderate	18	18.0
Severe	7	7.0

Among the screened 100 patients, 46 patients had anxiety symptoms. 7 patients had severe anxiety and 39 patients had mild to moderate anxiety.

**Table 4: Association between Anxiety and Socio-demographic variables.**

Sl. No.	Character	No psychiatric Diagnosis/no Anxiety	Psychiatric Diagnosis / Anxiety	X <sup>2</sup> /t	P
I.	Age				
	18-34	31	25	0.673	0.801
	32-45	10	11		
	46-60	13	10		
II.	Sex				
	Male	35	20	0.033	0.044*
	Female	19	26		
III.	Education				
	Nil-10	12	14	0.343	0.050*
	10-15	27	28		
	>15	15	4		
IV.	Marital Status				
	Married	35	31	0.670	0.835
	Un-married/Single	19	15		
V.	Occupation				
	Labourer	10	11	0.050	0.037*
	Student	13	2		
	Non-professional	27	31		
	Professional	4	2		
VI.	Residence				
	Urban	15	10	0.130	0.644
	Rural	39	36		
VII.	Socioeconomic status				
	Low & low medium	41	24	0.207	0.186
	Middle	9	12		
	High middle & high	19	10		

Among the socio-demographic variables, anxiety symptoms showed significant relation with female sex, education & occupation. No significant association of anxiety was seen with age, marital status, socio-economic status and residence.

**Table 5: Association between Anxiety and Seizure Variables**

Sl. No.	Character	No psychiatric Diagnosis/no Anxiety	Psychiatric Diagnosis / Anxiety	X2/t	P
1.	Duration of Seizure disorder				
	< 5 yrs	22	20		
	> 5 yrs	32	26	0.433	0.471
2.	Seizure frequency/ 1 month				
	< 5 times	46	34	0.002	0.001*
	> 5 times	8	12		
3.	Seizure Type			0.476	0.233
	GTC	37	32		
	SPS	2	6		
	CPS	15	8		
4.	Compliance of AEDs				
	Good	16	12	0.114	0.060
	Poor	27	45		

Among the seizure variables association, anxiety had significant association with more frequency of seizures. But no association was observed with duration of illness seizure type and type of anti-epileptic drugs.

## 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.

Inter ictal anxiety symptoms have been reported in different studies upto 66% of patients.<sup>[14]</sup> The variables associated with an increased rate of developing an anxiety disorder include female sex, education, socio-economic status, occupation, marital status, history of trauma due to seizure activity, seizure type and amount of medication showed no significant association with anxiety

Because the loss of control over when or where a seizure will occur can promote feelings of dread and fear. Because of the seizures, restrictions may be placed on driving and employment, which in turn can lead to a lack of financial security and need to depend on family members who may become overprotective and deprive the patient of growing and developing on his or her own. This can lead to poor self-esteem, as well as stigmatization and social ostracism by peers who are uneducated or misinformed about epilepsy.<sup>[15]</sup>

The studies done on neuro-behavioural comorbidities of epilepsy by Bruce Hermann, Michael Seidenberg, Jana Jones,<sup>[16]</sup> reported that higher rates of unemployment, lower income, lower education and being single were seen in patients with epilepsy.

The co-morbidity between mood and anxiety disorders could be a potential example of peculiarity in epilepsy. The current study observed co-morbidity of anxiety and depression in 36% of epileptic patients. The recognition of co-morbid anxiety symptom is very important clinically, since they may worsen quality of life of depressed patients and significantly increase the risk of suicide.<sup>[17]</sup>

The effects of anxiety and quality of life are substantial and separate from the effects of depression.<sup>[18]</sup> Cognitive and behavioral therapy may be useful.

## CONCLUSION

Anxiety symptoms were found to be positively correlated to the duration of seizures and frequency of seizures per month. Anxiety symptoms were found to be significantly commoner in females. Education was found to have a protective effect as far as anxiety in epileptics was concerned. Anxiety was also found less frequently amongst the students.

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