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## Evaluation of cases of epilepsy: A clinical study

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### Abstract

**Background:** Epilepsy is a serious neurologic condition associated with stigma, psychiatric comorbidity and high economic costs. The present study was conducted to evaluate the cases of epilepsy.

**Materials and methods:** The present study was conducted on 87 patients of epilepsy of both genders. In all patients, causes, symptoms and radiographic findings were recorded. All cases were confirmed by clinical symptoms, CT scan skull, magnetic resonance imaging (MRI) and electroencephalography.

**Results:** Out of 87 patients, males were 38 and females were 49. Common etiology was vascular in 48, post traumatic & degenerative in 32 and non-identified in 7 cases. The difference was significant ( $P < 0.05$ ). Common findings were impaired consciousness in 56, focal seizures in 35, generalized tonic clonic seizures in 14 and multiple seizures in 17. The difference was significant ( $P < 0.05$ ).

**Conclusion:** Authors found that the etiology of epilepsy was vascular, post traumatic & degenerative and non-identified.

**Keywords:** Co-morbidity, epilepsy, neurological

### Introduction

Epilepsy is a serious neurologic condition associated with stigma, psychiatric comorbidity and high economic costs. The WHO's 2010 Global Burden of Disease study ranks epilepsy as the second most burdensome neurologic disorder worldwide in terms of disability-adjusted life years<sup>[1]</sup>. Epilepsy is a group of neurological condition characterized by seizures that are episodes that can vary from brief and nearly undetectable periods to long periods of vigorous shaking. These episodes can result in physical injuries. About 39 million people have epilepsy. 80% of cases occur in the males. It resulted in 125,000 deaths up from 112,000 deaths in 1990. Epilepsy is more common in older people<sup>[2]</sup>.

Studies investigating the prevalence and incidence of epilepsy are increasingly common, particularly in low-and middle-income countries. Estimates of the prevalence and incidence of epilepsy worldwide vary considerably, likely reflecting differences in measurement and reporting, along with clinical characteristics such as etiology and seizure type. Previous systematic reviews of the prevalence of epilepsy focused on specific regions<sup>[3]</sup>.

The pathogenesis of epilepsy, the disease is caused by an imbalance in the excitatory and inhibitory expression of ion channels in the brain and the electrophysiological instability on the cortex could be expressed as the spikes with hypersynchronization during an epileptic seizure. In people experiencing migraine, the hyperexcitability with cortical spreading depression is opposed to the hypersynchronization expressed during epileptic seizures. However, migraine and epilepsy have appeared to be comorbid disorders for decades by an epidemiologic co-occurrence<sup>[4]</sup>. The present study was conducted to evaluate the cases of epilepsy.

### Materials and Methods

The present study was conducted in the department of General Medicine. It comprised of 87 patients of epilepsy of both genders. All were informed regarding the study and written consent was obtained Ethical clearance was taken prior to the study.

General information such as name, age, gender etc. was recorded. In all patients, causes, symptoms and radiographic findings were recorded. All cases were confirmed by clinical symptoms, CT scan skull, magnetic resonance imaging (MRI) and electroencephalography. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

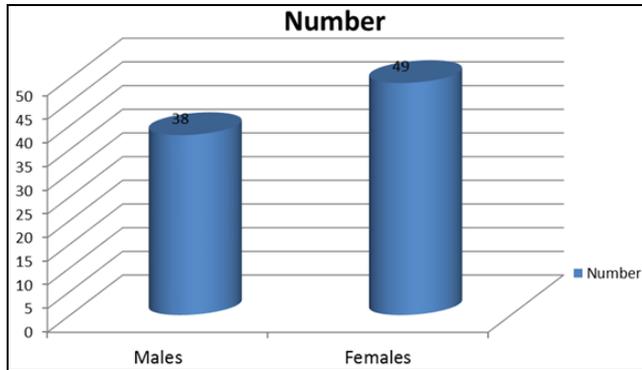
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**Results**

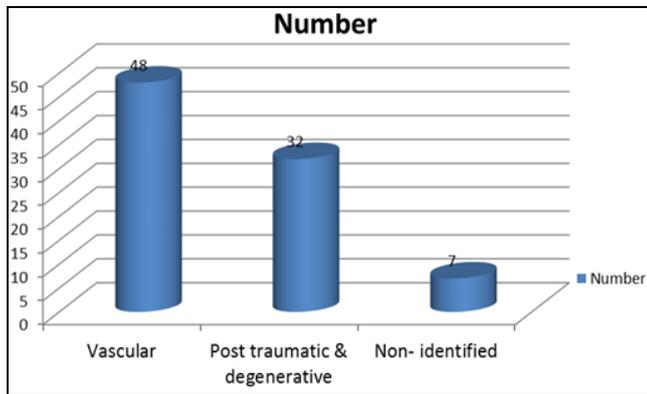
**Table 1:** Distribution of patients

Total- 87		
Gender	Males	Females
Number	38	49

Table 1, graph 1 shows that out of 87 patients, males were 38 and females were 49.

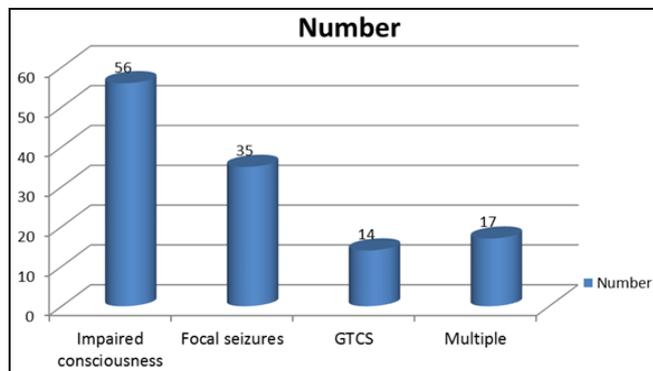


**Graph 1:** Distribution of patients



**Graph 2:** Etiology in patients

Graph 2 shows that common etiology was vascular in 48, post traumatic & degenerative in 32 and non-identified in 7 cases. The difference was significant ( $P < 0.05$ ).



**Graph 3:** Clinical features in patients

Graph 3 shows that common findings were impaired consciousness in 56, focal seizures in 35, generalized tonic clonic seizures in 14 and multiple seizures in 17. The difference was significant ( $P < 0.05$ ).

**Discussion**

Migraine and epilepsy are linked by their symptom profiles,

co-morbidity and treatment. The presence of one disorder increases the likelihood that the other is also present. Usually, researchers focused on the studies that epilepsy patients might have higher incidences to develop other comorbid pain disorders, such as migraine and chronic pain, due to epilepsy would affect patients' life span in addition to affect their life quality [5]. Convulsive seizures are the most common type of seizures. Of these, one-third begins as generalized seizures affecting both hemispheres of the brain. Two-thirds begin as focal seizures which may then progress to generalized seizures [6]. The present study was conducted to evaluate the cases of epilepsy.

In present study, out of 87 patients, males were 38 and females were 49. Harnod *et al.* [7] found that cumulative incidence of epilepsy was significantly high in the migraine cohort. The aHR for developing epilepsy in the migraine cohort was 1.85 (95% CI = 1.22-2.81). The aHR for developing epilepsy in the female migraineurs was significantly different compared with that of the non-migraine cohort (aHR = 2.04, 95% CI = 1.20-3.48) and male migraineurs (aHR = 1.53, 95% CI = 0.78-3.00). The incidence of developing epilepsy was increased in patients aged 20-44 years, yielding an aHR of 2.14 (95% CI = 1.24-3.68). The comorbidity-specific aHR for developing epilepsy associated with migraine was 2.33 (95% CI = 1.25-4.34) in patients without any comorbidities, and 1.73 (95% CI = 1.02-2.93) in those with comorbidities.

We found that common etiology was vascular in 48, post traumatic & degenerative in 32 and non-identified in 7 cases. According to Souza *et al.* [8], the diagnosis of epilepsy as a neurological condition, brings a series of burdens to the patient and his family, affecting their behavior and well-being. Being diagnosed with epilepsy activates a whole system of beliefs in personal and social levels that could potentially modify behavior towards oneself and society. Furthermore, it involves individual perceptions and expectations related to the life history of each affected person in different ways.

We observed that common findings were impaired consciousness in 56, focal seizures in 35, generalized tonic clonic seizures in 14 and multiple seizures in 17. Fernandez *et al.* [9] found that two hundred and twenty-five education professionals were interviewed in three different cities. Approximately 65% of subjects would attempt to open the mouth of a student during a seizure and the stigma measured by Stigma Scale of Epilepsy before the course was  $45.4 \pm 16.61$ . The data indicate that education professionals have partial knowledge about epilepsy and a short duration course would be able to improve it and reduce its stigma in this population.

Hauser *et al.* [10] in their study, a total of 222 studies were included (197 on prevalence, 48 on incidence). The point prevalence of active epilepsy was 6.38 per 1,000 persons (95% confidence interval [95% CI] 5.57-7.30), while the lifetime prevalence was 7.60 per 1,000 persons (95% CI 6.17-9.38). The annual cumulative incidence of epilepsy was 67.77 per 100,000 persons (95% CI 56.69-81.03) while the incidence rate was 61.44 per 100,000 person-years (95% CI 50.75-74.38). The prevalence of epilepsy did not differ by age group, sex, or study quality. The active annual period prevalence, lifetime prevalence, and incidence rate of epilepsy were higher in low to middle income countries. Epilepsies of unknown etiology and those with generalized seizures had the highest prevalence.

## Conclusion

Authors found that the etiology of epilepsy was vascular, post traumatic & degenerative and non-identified.

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