



## TO STUDY SOCIODEMOGRAPHIC AND CLINICAL ASPECTS IN PATIENTS WITH SEIZURE DISORDERS

<b>Savita patel*</b>	M.D. Resident, M.G.M. Medical College Indore. *Corresponding Author
<b>Abhay paliwal</b>	M.D. Associate Professor, M.G.M. Medical College Indore.
<b>Ram Ghulam Razdan</b>	M.D. Professor, M.G.M. Medical College Indore.

**ABSTRACT** **Aims:** To study socio-demographic and clinical profile in patients with seizure disorders who came in the epilepsy clinic of the mental hospital, banganga. **Methodology:** Our study is a descriptive cross-sectional study with 100 sample size. Patients with seizure came in Epilepsy Clinic of the mental hospital, Banganga, MGGMC, Indore was recruited. Patient aged between 18-60 years, either sex. Diagnosis of seizure was done clinically in accordance with the ILAE 2017 Classification of Seizure type. Informed consent form, socio-demographic and clinical data sheet were used as a tool for assessment of samples. **Results:** Among 100 patients, there were 57 males and 43 females. The mean age was 27.76±8.99 years. Mean age of onset of illness was 18.51±8.63 years while Mean total duration of illness was 9.08±7.55 years. Majority of cases had generalized tonic clonic seizure (GTCS) 87% while only 6% and 7% cases had complex partial seizure (CPS) and CPS with secondary generalization respectively. Seizure disorders were more in singles (49%), Hindu religion (83%), in urban community (72%) and middle school (40%). **Conclusion:** Seizure disorder causes considerable burden in morbidity and quality of life. So, proper recognition and treatment is essential in patient's management and for better quality of life of patients.

**KEYWORDS :** Epilepsy, Seizure, Sociodemographic profile

### INTRODUCTION:

A *seizure* (from the Latin *sacire*, "to take possession of") Is a paroxysmal event due to abnormal excessive or synchronous neuronal activity in the brain leads to a paroxysmal event which is called as seizure. Based on the distribution of discharges, seizure can have different presentations, ranges from convulsive activity to only experiential phenomena which is not readily visible to an observer. Although a lot of factors affect the incidence and prevalence of seizures, in life time 5–10 percent of the population will have at least one seizure, with the highest incidence of seizures is in early childhood and late adulthood. [1]

Seizures can either be generalized or focal. Generalized generates within the hemisphere and rapidly engages networks in both hemispheres, whereas the focal originates in networks is restricted to one hemisphere of the brain. [2]

The ILAE's clinical definition of epilepsy needs two unprovoked seizures separated by more than 24 h, one unprovoked seizure with a future 10-year risk of recurrence equal to that of someone with epilepsy (60%; the risk is determined by clinical history, physical examination, and diagnostic tests), or the diagnosis of an epilepsy syndrome. [3]

Epilepsy accounts for a significant proportion of the world's disease burden, affecting about 50 million people worldwide. The approximate proportion of the general population with active epilepsy (i.e. continuing seizures or with the need for treatment) at a given point of time is between 4 and 10 per 1000 people. (WHO world record)

Recent studies data on general population of India show the overall prevalence and incidence is 3.0-11.9 per 1,000 populations and 0.2-0.6 per 1,000 populations per year respectively.

The study also estimated that a median prevalence of 1.54% (0.48-4.96%) for rural and 1.03% (0.28-3.8%) for urban studies in developing countries. With a conservative estimate of 1% as prevalence of epilepsy, there are more than 12 million persons with epilepsy (PWE) in India, which contributes to nearly one-sixth of the global burden. [4]

### Methodology & Procedure

Patients aged between 18- 60 years either sex or diagnosed as having epilepsy as per ILAE Classification were included in the study. Patients with mental retardation, head injury, substance dependent, past history of mental illness prior to onset of seizure disorder were excluded. Patients having any medical comorbidity pregnancy were excluded. Written informed consent was obtained from all participants

after complete description of the study to the subjects.

This is a hospital based cross-sectional study, which was conducted in outpatient department of psychiatry, MGM Medical College and Epilepsy clinic (Every Thursday) mental hospital, Banganga, Indore. Patients were included after the meeting inclusion criteria and those patients who do not meet inclusion criteria are excluded from the study. Socio-demographic and clinical data was collected. After obtaining the written consent from subject, subjects were included in study.

A detailed history of the patient's complaint was done and diagnosis was formulated clinically in accordance with the ILAE 2017 Classification of Seizure type and then all the collected information was stored and later digitalized for interpretation.

### RESULTS:

**Table 1: Socio- demographic Characteristics of the study sample N=100(%)**

<b>Age(mean)</b>	27.76 years
<b>Age group (%)</b>	
18-30 years	71
31-40 years	19
41-50 years	9
51-60 years	1
<b>Gender (%)</b>	
Male	57
Female	43
<b>Marital status (%)</b>	
Single	49
Married	48
Divorced	2
Separated	1
<b>Religion (%)</b>	
Hindu	83
Muslim	17
<b>Education (%)</b>	
Primary school	11
Middle school	40
High school	28
Higher secondary school	13
Graduate/Postgraduate	8
<b>Occupation (%)</b>	
Unemployed	26
unskilled	28
skilled	11

semiskilled	34
Clerk/shopkeeper/farmer	1
<b>Locality (%)</b>	
Urban	72
Rural	28

**Table 2: Clinical Characteristics of the study sample N=100(%).**

<b>Age of onset(mean)</b>	18.5years
<b>Total duration of illness(mean)</b>	9.08years
<b>Type of seizure (%)</b>	
CPS	6
CPS with secondary generalization	7
GTCS	87
<b>Seizure frequency (%)</b>	
<10 episodes /years	53
>10 episodes /years	47
<b>Duration of AEDs (%)</b>	
Drug Naïve	38
0-2 years	22
2-5 years	15
>5 years	25
<b>Medication Status (%)</b>	
Drug Naïve	38
Monotherapy	33
Polytherapy	29

**DISCUSSION:**

In our study the mean age of cases was 27.76±8.99years. Similar mean age were obtained by Rehman et al study. We found in our study most of the cases (71%) were in age group between 18-30 years, which is backed by the previous studies which reported prevalence of epilepsy is more common in younger age groups Rehman et al[5].

In our study 57% were male patients and 43% were female patients similar distribution was seen by Rehman et al [5]. We found that the prevalence of epilepsy is more in the younger age group and among males. Similar finding related to age group has been found in studies done in India and other developing countries [6]. A young male is being more economically responsible is frequently referred for treatment or else there will be loss of productivity which may be a reason for such a trend.

We found that prevalence of married and unmarried was similar. Same distribution was seen in Rehman et al[5] study, that is almost equal distribution of married versus unmarried participants can be due to hospital based sample and disease related effect on eligibility to get married.

Among the 100 studied cases, maximum was Hindu 83% and rest 17% were Muslim by religion this finding is in the concordance of the usual ethnic distribution as per geographical distribution. K Radhakrishnan et al [6] study favored this finding of our study in which similar religion by prevalence was seen.

Most of the participants were in middle school and high school i.e. 40% & 28% respectively. Similar distribution was seen in Desai et al [7] study. The educational level and marital status attained by persons with epilepsy is also getting hampered due to the disease process which is limiting them to attain an optimum level of functioning in the society.

Majority of cases (62%) were semiskilled and below while skilled and above were 35% similar findings were also found in some other studies [8]. This type of socio economic distribution can be explained by social drift phenomenon.

We found that most of the cases belonged to urban community i.e. 72%, while about 28% cases were belonged to rural community. The urban majority can be explained by the fact that our study Centre is a tertiary healthcare institute which is based in an urban setting and most patients who visited the hospital were urban dwellers.

Mean age of onset of illness was 18.51±8.63 years. Age group of PWE in study subjects was 2 to 47 years. Mean total duration of illness was 9.08±7.55 years and duration of seizure was 1 to 35 years while in Desai et al [7] study 50 patients (21 females, 29 males) with age ranging between 16 and 50 years (mean: 26.1 ± 8.7) and seizure duration ranging between 3 and 30 years (mean: 9.94 ± 5.73

years). This effect of results on age of onset and total duration is secondary to randomization schedule and hospital-based sample.

We found majority of cases had generalized tonic clonic seizure (GTCS) 87% while only 6% and 7% cases had complex partial seizure (CPS) and CPS with secondary generalization, respectively. Majority of cases included in study were suffering from GTCS (87%) which is slightly higher than the epidemiological average. Slightly, higher number of GTCS subjects are due to hospital based randomized sampling. Among 100 cases 53% belonged to less than 10 episodes per year seizure frequency while 47% had > 10 episodes per years seizure frequency while in Rehman et al [5] study shows 68% subjects had a generalized seizure or complex partial seizure with secondary generalization and in one-fourth of the subjects (25%), the seizures were poorly controlled as they were having >10 episodes of seizure a year. While in our study this number is double approx. 47% PWE shows poorly controlled seizure.

Most of cases were belonged to drug naïve 38% while 25% of cases were belonged to >5 years of duration on AEDs, 22% and 15% of cases were belonged to 0-2 years and 2-5 years of duration on AEDs, respectively. Majority of cases were on monotherapy 33% while 29% were belonged to polytherapy and rest 38% of cases were drug naïve. In against to our study finding Rehman et al [5] study shows 85% percent of the subjects were on single anticonvulsant and it is seen that 58% of the subjects were on treatment for last 2 years while only 4% on treatment for >5 years.

**CONCLUSION:**

Our study analyses the clinical and socio-demographic characteristics of a sample of patients with seizure. Most patients were of working age and had long progression times, with seizure onset usually occurring during childhood and adolescent. We also identified some other features as low level of schooling, with seizure frequency <10/year and multiple comorbidities; further research should address the influence of these factors on patients quality of life and social life. The limitations of the present study are cross sectional design, Small sample size, and inclusion of out patients only, which had lack of healthy control group. Further research with large sample size, longitudinal study and follow ups on regular interval is advised, so that results will be more sensitive and generalized

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**Conflicts of interest**

There are no conflicts of interest.

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