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Clinical Presentation of the Epileptic Patients at People Medical College Hospital, Nawabshah, Pakistan

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Authors' contributions

This work was carried out in collaboration among all authors. Author JKD designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors HKM, MRB, WRM, AAJ, SAPT and AA managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Objective: study will determine clinical presentation, risk, and type of seizures in epileptic patients. **Methodology:** This observational study was conducted in Medicine department People Medical College Hospital (PMCH) Nawabshah from January 2020 to December 2020. 110 patients were included for study after informed permission of the patient or their relative. Male and female were

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selected. Known epileptic patients were included in the study, patients with false seizures were excluded from the study. Statically analysis was done by software SSPS 22 version.
Results: Age ranged 18 to 60 years. All the patients included in the study epilepsy was noted. The mean age of patients was 37.40 SD 8.71 years. The minimum age was 28 years while maximum 60 years. Pearson Chi-Square Value 105.000[a] Asymp. Sig. (2-sided) .000, Likelihood Ratio Value 135.012 Asymp. Sig. (2-sided) .000, Linear-by-Linear Association Value 16.297 Asymp. Sig. (2-sided) .000 which were statistically significant.
Conclusion: Epilepsy is treatable common neurological disease in Pakistan. quality of life can be improved by Education of the patients and their relatives, without socioeconomically burden.

Keywords: Seizure; epilepsy; clinical; medicine.

1. INTRODUCTION

In developed countries and developing countries epilepsy is most common neurological disorder. Recurrence of seizure is termed as epilepsy, not all convulsions are due to epilepsy [1]. Excessive discharge of neurons in brain alter neurological function termed as a seizure. Seizure occur when there is imbalance between excitation and inhibition in brain [2]. Numerous causes are included in Epilepsy and brain dysfunction [3]. various causes of epilepsy include genetic predisposition, head injury, brain tumors, stroke and drug or alcohol withdrawal. Seizure can be due to hypoglycemia, fever, meningitis and psychogenic. Seizures due to alcohol withdrawal is not epilepsy, epilepsy is generation of seizures by cognitive, neurobiological, social and psychological consequences of this condition [4]. Epilepsy most common CNS disorder 50 per 100000 new cases per year of the population. Incidence of epilepsy about 1%, refractory epilepsy in 1/3 and epilepsy from childhood 75% [5]. Worldwide 50 million people are affected by this non communicable disease epilepsy. Epilepsy is leading neurological disease in the world. Every year 61.4 per 100000 incidence of epilepsy is reported in population [6]. 5% prevalence rate of epilepsy reported in Iran [7]. All age groups are affected by epilepsy but common in young children and older age group [8]. Frontal lobe epilepsy is second following temporal lobe epilepsy, this type of epilepsy originate from frontal lobe, occur during wake or sleep [9]. 20-30% patients of focal epilepsy are associated with frontal lobe epilepsy [10]. Epilepsy can be misdiagnosed as sleep disorder, non epileptic seizures and psychiatric disorder [11]. Seizures classified as generalized, partial(now focal) and epileptic spasm. Limited part of cerebral hemisphere is involved in focal or partial epilepsy. Bilateral distributed neuronal network is involved in generalized seizure. Initially seizure can be focal later become generalized [12]. Seizure event is common in 10% population [13]. Seizure control is important for Doctors, nursing staff and patients or their relatives with learning disabilities [14]. Communication is important for patient with Doctors, regarding drugs side effects and seizures [15]. Patients with learning disabilities are at risk of uncontrolled seizures and increased mortality rate [16]. More than twenty drugs are in use for the successful treatment of epilepsy. These drugs act by preventing neuronal depolarization, blocking calcium or sodium channels, decrease electrical activity of the brain, enhance potassium channel function, neurotransmitter excitation of glutamate is inhibited [17].

2. METHODOLOGY

This study was conducted in Medicine department PMCH Nawabshah from January 2020 to December 2020. 105 patients were included for study after informed permission of the patient or their relative. Male and female were selected. Detailed proforma was used for the study, detailed history, clinical examination of the patient, compulsory investigations of the patient, RBS, Urea, creatinine, LFT, Blood CP, Serum Electrolyte, serum Calcium Level, Urine DR, X-ray Chest, EEG, CT Scan Brain and MRI Brain. All patients with true seizures were included for this study, patients with pseudo seizures and seizures due to metabolic disorders were excluded from the study. Statically analysis was done by software SSPS 22 version.

3. RESULTS

The mean age of patients was 37.40 SD 8.71 years. The minimum age was 28 years while maximum 60 years. As shown in Table 1.

Table 1. Descriptive statistics

	N	Range	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
Age in years	105	32.00	28.00	60.00	37.4000	.85030	8.71294
Valid N	105						

The details of different demographic variables like age group, gender, marital status, address, occupation, education, Address, addiction SE Class and Family History are shown in Table 2.

Table 2. The details of different demographical data

Demographic variables		Frequency	Percent (%)
Age Group	20-40 Years Young Age	78	74.3
	41-60 Years Middle Age	27	25.7
Gender	Male	69	65.7
	Female	36	34.3
Marital Status	Married	90	85.7
	Un-Married	15	14.3
Occupation	No Occupation	24	22.9
	House Wife	27	25.7
	Manual Worker	44	41.9
	Office Worker	10	9.5
Education	Educated	65	61.9
	Un-Educated	40	38.1
Address	Rural	73	69.5
	Urban	32	30.5
Addiction	No	80	76.2
	Yes	25	23.8
SE Class	Poor Class	82	78.1
	Middle Class	16	15.2
	Upper Class	7	6.7
Family History	No	86	81.9
	Yes	19	18.1
Total		105	100.0

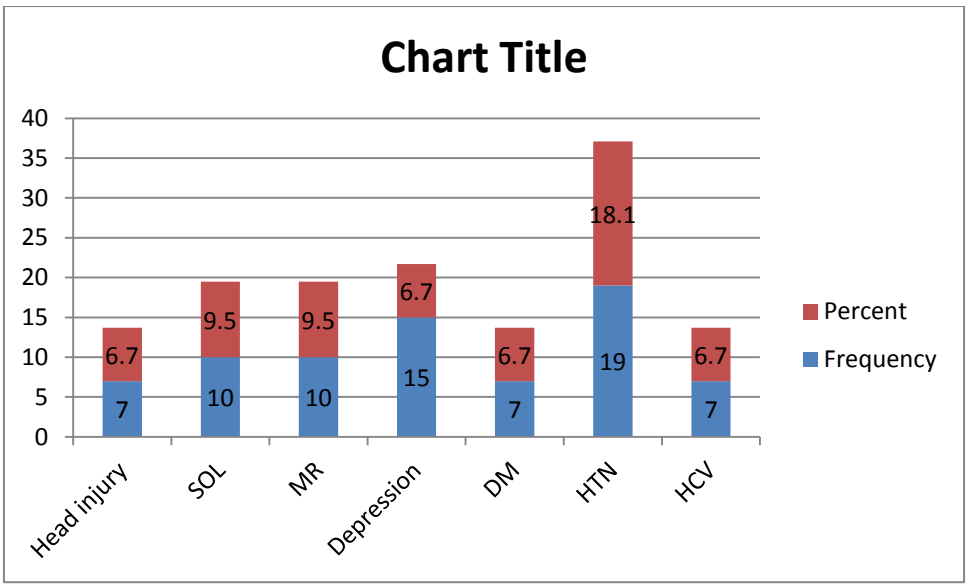

Fig. 1. The comorbidities in epileptic patients like head injury, SOL, MR, depression, DM, HTN and HCV

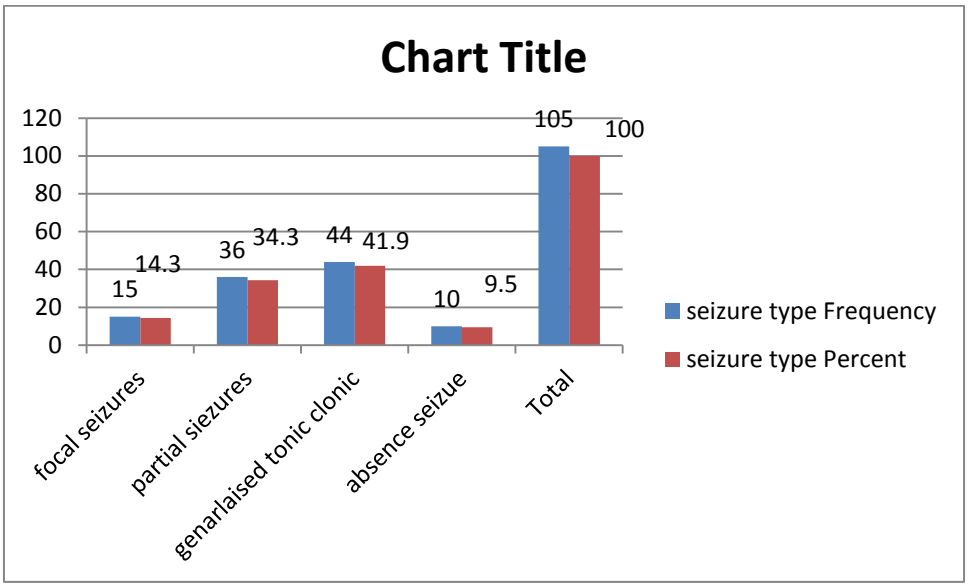

Fig. 2. The different types of seizures noted in epileptic patients

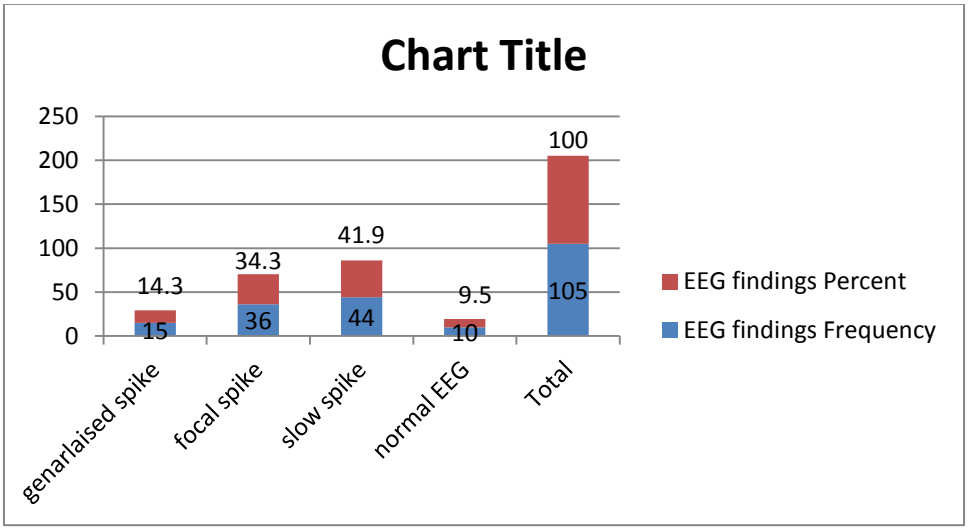

Fig. 3. Different types of EEG findings noted in epileptic patients

Table 3 shows the gender * seizure type Cross tabulation Pearson Chi-Square Value 105.000[a] Asymp. Sig. (2-sided) .000, Likelihood Ratio Value 135.012 Asymp. Sig. (2-sided) .000, Linear-by-Linear Association Value 16.297 Asymp. Sig. (2-sided) .000 which were statistically significant.

Table 3. Statistical results

Cross tabulation							
Variable			**Seizure type**				**Total**
			Focal seizures	**Partial seizures**	**Generalized tonic clonic**	**Absence seizure**	
Gender	Male	Count	15	0	44	10	69
		% of Total	14.3%	0.0%	41.9%	9.5%	65.7%
	Female	Count	0	36	0	0	36
		% of Total	0.0%	34.3%	0.0%	0.0%	34.3%
Total		Count	15	36	44	10	105
		% of Total	14.3%	34.3%	41.9%	9.5%	100.0%

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	105.000[a]	3	.000
Likelihood Ratio	135.012	3	.000
Linear-by-Linear Association	16.297	1	.000
N of Valid Cases	105		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.43.

4. DISCUSSION

Following factors stigmatization, poverty, attitude, lack of adequate knowledge and coping skills are important in epilepsy care. Majority of the patients and relatives lack the knowledge about precipitating factors and the cause of epilepsy mentioned in earlier studies [18]. Knowledge about epilepsy treatment is important, role of supportive care, information about the disease, precipitants of seizures, role of treatment and adverse effects of drugs [19]. Neuroimaging CT Scan and MRI are helpful for detection of demyelinating disorders, atrophic lesion of brain and structural lesions of brain. Neuroimaging is helpful in patients with partial epilepsy abnormal findings were reported, structural lesion were localized by radiological support in symptomatic epilepsy [20]. Role of Doctors, nurses and health assistant is important in the treatment of epilepsy, communication between patient and health care professional is encouraged [21]. Epilepsy not considered as major public health issue because treatment is readily available and cheap [22]. Epilepsy associated with depression, due to biological and sociological factors. Abnormalities in neurotransmitter 5HT and Glutamate leads to depression in epilepsy [23]. Better outcome is associated with surgery in epilepsy, when single region of brain responsible for epilepsy [24]. Mesial temporal sclerosis a structural lesion with intractable seizure, surgery is option [25]. Seizures associated with behavior, memory change, altered responsiveness and posturing in the medial temporal region. Seizures are intractable with co morbidities. Surgical option is considered when two drugs fail. For the pathophysiology of temporal lobe epilepsy investigations are performed, genetic factors are important in temporal lobe epilepsy [26]. Stimulation of nerve where surgical resection is contraindicated, Vagus nerve is safe for stimulation with low complications, like vocal cord paralysis, hematoma and infection [27]. Epilepsy associated with other comorbid conditions, these are psychiatric disorders anxiety, depression, learning disabilities, autism, intellectual disability and attention deficit hyperactivity disorder. These comorbid conditions considered to be integral part of the disease, previously these comorbid conditions considered to be due to side effects of antiepileptic drugs or uncontrolled seizures [28]. Epileptic circuits limbic and hippocampal dysfunction associated with common psychiatric comorbidity depression. Depression is more common in patients with history of epilepsy and epileptic patients develop depression. About 30% patients of epilepsy have depression and 10% patients have bipolar disorder [29].

5. CONCLUSION

Epilepsy common neurological disease in Pakistan, is treatable with cost effective drugs and minimal side effects. Epilepsy is major health problem in our country, long term treatment is needed in majority of the patients. Awareness about seizure, precautionary measures are compulsory. Precautions from fire, water and sudden fall during seizure. Improvement in dietary habits, sleep and early treatment of any infection. Education of the patients and their relatives' quality of life can be improved without socioeconomically burden. Early treatment and education about disease, stress can be reduced with improved quality of life.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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