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CLINICAL FEATURES OF EPILEPTIC PATIENTS VISITING THE TERTIARY CARE HOSPITAL OF PESHAWAR

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ABSTRACT

Background: Epilepsy is a neurological disorder characterized by recurrent, unprovoked seizures. Epilepsy is characterized by clinical manifestations such as muscle stiffness, involuntary jerking movements in the limbs, loss of consciousness, momentary confusion, and episodes of staring spells. Additionally, individuals with epilepsy commonly exhibit a higher severity level when experiencing depression compared to those without depression. Aim: The aim of this study is to ascertain the Clinical characteristics of individuals with epilepsy in Khyber Pakhtunkhwa, the research seeks to analyse the clinical aspects of epilepsy in this population, encompassing seizure types, frequency, and the presence of comorbidities. Material and Methods: The current study was a cross-sectional, descriptive study performed over a duration of 2 months. Using World Health Organization sample size calculator, and assuming the level of significance as 95% with margin of error as 5% and population proportion with seizure disorder as 50% the resultant sample size was 364. Result: In our study data of 364 epileptic patients according to type of seizures. Out of 14 different types of seizures the two being the most prominent are Generalized seizure 28.4% n=104 and generalized tonic clonic being close with 26.4% n=96. Focal and myoclonic seizures were also recorded with 18.4% and 12.6% respectively. Conclusion: Epilepsy is a neurological disorder characterized by recurrent, unprovoked seizures. In our study according to the data the two seizures being more prominent are generalized and generalized tonic clonic seizures.

Introduction

Epilepsy is one of the most well-known problems of the brain. During a typical lifetime, one in ten persons will experience at least one epileptic episode, and third of these will develop epilepsy.(Hallene K, Oby E et al 2005) Epileptic conditions can be broadly categorized into three types. First, seizures can occur in an otherwise normal brain when specific factors trigger them, such as hypoxia or hypoglycemia. These seizures can affect anyone under the right circumstances. Second, seizures can occur in a structurally normal brain with a known predisposition to seizures, whether due to genetic or biochemical factors. Finally, seizures can occur in a brain with definite structural abnormalities, either in specific regions or diffusely throughout the brain.(Thijs RD, Surges R et al 2019)the clinical features can vary widely among individuals. The most clearly benign form is benign rolandic epilepsy, which often does not require medication for treatment. On the other hand, benign occipital epilepsy's definition remains unclear.(Masia SL, Devinsky O 2000) generalized epilepsy with febrile seizures plus (GEFS+) is inherited dominantly and linked to a specific defect in cerebral sodium channels, but its severity can vary significantly even among affected family members. The catastrophic epilepsies in childhood have inconsistent responses to treatment and include conditions such as continuous spike-wave in slow sleep (with varying severity), LandauKleffner syndrome (which can be confusingly similar to autistic regression), Lennox-Gastaut syndrome (with broad defining features), and myoclonic-astatic epilepsy (which shares important similarities with Lennox-Gastaut). A study was conducted on 75 patients with generalized epilepsy, including those with primary, mixed, and secondary forms. Most of these patients (52 out of 75) exhibited generalized seizures with a complex pattern of motor disturbances, involving both generalized and partial movements throughout the seizure episode. A study was conducted on 75 patients with generalized epilepsy, including those with primary, mixed, and secondary forms. Many of these patients (52 out of 75) exhibited generalized seizures with a complex pattern of motor disturbances, involving both generalized and partial movements throughout the seizure episode. These disturbances were categorized into three different variants. The first variant referred to convulsive manifestations seen in grand mal epilepsy when, during bilateral convulsions, the facial muscles on one side or the muscles on the front or back of the body were predominantly affected. In the second variant, if generalized seizures were more prominent on one side, the motor disorders were attributed to that side. The third variant of generalized epileptic seizures was characterized by asymmetric convulsions, indicating differences in movement patterns between the two sides of the body (F. Angelatou et al 1993).Focal epilepsy, also known as partial epilepsy, is a type of epilepsy characterized by seizures that originate in a specific region of the brain. Unlike generalized epilepsy, which involves the entire brain, focal epilepsy is more localized. The seizures in focal epilepsy can be classified into two main types: simple focal seizures and complex focal seizures. In simple focal seizures, the individual remains conscious but experiences abnormal sensations or movements that are limited to one part of the body or a specific sensory experience. These sensations can include tingling, flashing lights, or unusual smells.(Iatsuk SL et al 1985)

Epilepsy is characterized by a range of physical, behavioral, and cognitive manifestations. The signs and symptoms of epilepsy can vary widely from person to person, these signs and symptoms are widespread, can significantly impair daily functioning, and often have lasting effects even after the seizure episode has passed.(Avoli M, Louvel J 2005)

Epilepsy is primarily characterized by the recurrence of seizures. Seizures can vary in their presentation, and the type of seizure experienced depends on the specific area of the brain affected by the abnormal electrical activity. Several typical types of seizures can be identified. The most widely recognized type of seizure is the generalized tonic-clonic seizure, which is distinguished by a loss of consciousness, stiffening of the body during the tonic phase, and subsequent rhythmic

jerking movements of the limbs during the clonic phase.(Scaramelli A, Braga P, et al 2009) This type of seizure may also involve tongue biting, loss of bladder or bowel control (incontinence), and confusion after the seizure has occurred. These seizures often appear as brief episodes of staring or a vacant expression. The person may appear to be momentarily "absent" and might not remember the episode afterward. Focal (partial) seizures originate from a particular and localized area of the brain, leading to diverse manifestations based on which brain region is affected. Symptoms of focal seizures can include sudden jerking of a limb, changes in consciousness, unusual sensations, or repetitive movements.(Ettinger AB, Weisbrot DM et al 1999)The specific signs observed will vary depending on the part of the brain involved in the seizure activity. Atonic seizures, also known as drop attacks, are characterized by a sudden and brief loss of muscle tone. During these seizures, there is a sudden loss of postural control, leading to falls or drops. This means that affected individuals may experience a sudden collapse or drop to the ground due to the temporary loss of muscle strength and tone. Certain individuals with epilepsy may encounter warning signs or auras before the onset of a seizure. Auras are subjective sensations that precede a seizure and can involve various experiences such as visual disturbances, unusual smells or tastes, feelings of fear or déjà vu, or other atypical sensations. these warning signs serve as early indicators for some people, signaling the imminent occurrence of a seizure. Seizures can have a range of effects on individuals with epilepsy. They may experien a seizure, confusion, memory gaps, or difficulty recalling events may be encountered. Some seizur ce temporary loss of consciousness during seizures, which can be brief or last for several minutes. After es lead to uncontrolled movements of the body or limbs, while others may exhibit repetitive actions like lip-smacking or hand rubbing. Mood alterations, anxiety, or intense emotions might occur before or after a seizure. Additionally, falls or injuries can happen, especially in generalized tonic-clonic seizures. It's essential for individuals with epilepsy to receive proper management and support to cope with these potential challenges.(Scaramelli A, Braga P et al 2009).

MATERIAL AND METHODS

Setting: The study was accomplished in Hayatabad medical complex and Lady Reading Hospital Peshawar. HMC and LRH are the tertiary care hospitals in Khyber Pakhtunkhwa.

Method and Duration: The current study was a cross-sectional, descriptive study performed over a duration of 2 months (1st June to 1st August).

A questionnaire was developed in a data collecting tool to take data from epileptic patients of KP. All the data variables were analyzed with the help of SPSS.

Sample size and Technique: After using World Health Organization sample size calculator, the calculated sample size is 364, assuming 95% confidence level and 5% margin of error and assuming the prevalence of epilepsy in Peshawar city as 38.4% in population of 35.25 million in KP.Convenience sampling technique was used to collect samples from target population of KP through questionnaire basis.The target population was epileptic patients in LRH and HMC coming from different districts of Khyber Pakhtunkhwa.

Ethical approval: Ethical committees of Hayatabad medical complex Peshawar and Lady Reading Hospital Peshawar had approved the study.

Result: A total of 364 epileptic patients were recruited in this study. 47.8% of them, which corresponds to 174 individuals, exhibit symptoms of confusion during their epileptic episodes. The remaining 52.2%, or 190 patients, do not experience confusion in association with their seizures. The data reveals that 71.4% of the epilepsy patients, accounting for 260 individuals, report experiencing tongue bite incidents during their seizures, while the remaining 28.6%, or 104 patients, do not report any instances of tongue bite in connection with their seizures.

TABLE 1: DISTRIBUTION OF EPILEPTIC PATIENTS ACCORDING TO DURATION OF TIME

Time	Frequency	Percent
10 seconds to 1 minutes	67	18.4
>1 minute to 5 minutes	101	27.7
>5 minutes to 10 minutes	66	18.1
>10 minutes to 20 minutes	18	4.9
>20 minutes to 30 minutes	100	27.5
>30 minutes	12	3.3
Total	364	100.0

Record in the table:1 elaborates that out of 364 patients, most patients had seizure duration of 1 to 5 minutes with 27.7% n=101 and with a mild difference 27.5% n=100 patients had seizure duration between 20 to 30 minutes while seizure duration more than 30minutes in seen rarely with 3.3% n=12.

Table 2: Distribution of Epileptic patients according to frequency of seizures.

Month	Frequency	Percent
1 to 5 per month	210	57.7
6 to 10 per month	46	12.6
11 to 20 per month	5	1.4
21 to 30 per month	28	7.7
31 to 40 per month	62	17.0
>40 per month	13	3.6
Total	364	100.0

The above mentioned table:2 shows that mostly epileptic patients have 1 to 5 seizures per month i.e 57.7% n=210 and some have around 1 seizure per day which is the 2nd most with 17% n=62.

Table 3: Distribution of Epileptic patients according to types.

Types	Frequency	Percent
Generalized	104	28.6
Generalized tonic clonic	96	26.4
Loss of consciousness	4	1.1
Myoclonic	46	12.6
Neurodegenerative	2	.5
Nocturnal	7	1.9
Focal	67	18.4
Absence	4	1.1
Atonic	8	2.2
BHS	1	.3
BRE	2	.5
Encephalitis	2	.5
Febrile	20	5.5
Infantile	1	.3
Total	364	100.0

The table:3 shows the data of 364 epileptic patients according to type of seizures. Out of 14 different types of seizures the two being the most prominent are Generalized seizure 28.4% n=104 and Generalized tonic clonic being close with 26.4% n=96. Focal and myoclonic seizures were also recorded with 18.4% and 12.6% respectively. While other types of seizures had low frequency with infantile having only 0.3% n=1.

Table 4: Distribution of Epileptic patients according to other symptoms

OTHER		
Symptoms	**Frequency**	**Percent**
Anxiety	1	.3
Confusion	2	.5
Crying	53	14.6
Fainting	59	16.2
Headache	1	.3
Nil	75	20.6
Shouting	96	26.4
Unconsciousness	60	16.5
Vision loss	17	4.7
Total	364	100.0

Other symptoms as showed in table:4 were recorded. The record showed that shouting was most prominent among the other symptoms with 26.4% n=96, the patients which had no other symptoms were 20.6% n=75. Fainting, crying and unconsciousness showed almost similar ratio (16.2%, 14.6%, 16.5%). While the lowest ones were anxiety and headache with only 0.3% n=1.

DISCUSSION

The criteria for inclusion of cases in our study were very stringent. We included only those patients who were identified with true epilepsy as diagnosed by a team of neurologists, which led to the exclusion of all the cases with non-epileptic disorders, which are very often confused with epilepsy in population-based studies(Alshamrani FJ, et al 2020)

Epileptic patients may experience various type of seizures includes generalized seizure ,tonic comic seizure absence seizure ,focal ,myoclonic and many more seizure About 104(28.6) patients were found to had generalized seizure which was the most common type of seizure in the study while 96(26.4%)patients had the generalized tonic colonic seizure similarly reported by Singh v et all 2020 from Mathura (UP)India that generalized tonic conic seizure showed highest frequency 59% while simple partial seizure showed 21%frequency(V singh, Shrivastva S. 2020)

In our study 83 patients (22.8%)of patients had the positive family history are to known to be a greater risk of developing the epilepsy so therefore it suggested that genetic cause maybe be the main reason its also reported that's children with family history of febrile seizure especially complex febrile seizure are at increased risk of IGE but in our study the correlation among IGF and family history was not convincing but mostly find on gender basis males were found to be a higher risk of family history of febrile seizures is positive similarly reported by Habbal et al that one case control study in Suriya regarding the risk factors associated with epilepsy in children according to them there was a positive connection between family history of epilepsy and febrile seizure and also reported by chentouft et al (2015) showed that increased in the incidence of the disease in those patients with a positive family history(Habbal et al 2020)

Seizures can manifest in various forms and may involve different symptoms, such as eye movements, tongue biting, and jerky movements but in our study the jerky movements was more as compared to other

symptoms but distribution of these symptoms between the epileptic patients would depends on many factors including types of epilepsy and its underlying causes.

CONCLUSION

We have collected data from 364 epileptic patient belongs to different areas of Khyber Pakhtunkhwa. The prominent features among individuals with epilepsy included a favorable family history of the condition and the prevalence of consanguineous marriages. After doing cross sectional study we concluded that epilepsy is mostly found in male as compared to female. After study we determined that patient with epileptic seizures are mostly concerned with symptoms like generalized tonic clonic, tongue bite and eye up rolling .in our study it was revealed that a significant majority of individuals with confirmed epilepsy hail from economically disadvantaged backgrounds about 51%, specifically from the lower socioeconomic status.

RECOMMENDATIONS

We should take good Initiatives aimed at raising public awareness to distribute precise information about epilepsy. Develop and implement community-based educational initiatives to inform local populations about the early signs and symptoms of epilepsy, encouraging prompt medical attention and reducing delays in diagnosis. Encourage further research on epilepsy within the context of especially clinical features and demography of epileptic patient. Improve health care facility to avoid complications related to epilepsy.

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