

Behavior of epilepsy in patients who come to the emergency room Camilo Cienfuegos General Hospital. Sancti Spiritus. 2020-2022

Summary

Introduction: Epilepsy is a brain disorder in which a person has repeated seizures; it occurs when changes in brain tissue make the brain too excitable or irritable; as a result it causes repetitive and unpredictable seizures.

Objectives: To characterize epilepsy in patients attending the internal medicine on-call service at the General Hospital Camilo Cienfuegos of Sancti Spiritus in the period from January 2020 to December 2022.

Methods: A descriptive, cross-sectional research was carried out, the population was 85 patients older than 20 years who presented the diagnosis of epilepsy and went to the internal medicine ward of this institution in the period from January 2020 to December 2022. Results: 52.9 % were from the 40-49 years age group, men were slightly more affected. The 52.9 % were workers. Patients with no toxic habits predominated for 62.3 % of the total. 51.7 % had a family history of epilepsy. Lack of sleep and stress (61 patients) were the most common risk factors. Focal epilepsy was the most frequent with 52.9 %. There was a clear predominance of carbamazepine with 71.7 % as the most frequent treatment.

Conclusions: Patients with epilepsy were predominantly those in the age group between 40-49 years, male, workers were the most frequent; no significant relationship was found between epilepsy and toxic habits, family pathological history of epilepsy presented an important number of the sample. Lack of sleep and stress were among the most registered risk factors, focal seizures were the most represented and carbamazepine was the most used treatment.

Keywords: epilepsy, seizures, on-call corps

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Introduction

The clinical and epidemiological concept of epilepsy as a disease recommended by the World Health Organization (WHO) and the International League Against Epilepsy (ILAE) requires chronic recurrence of seizures.¹ Pragmatically, the diagnosis of epilepsy is obtained when the patient has had two or more unprovoked seizures. This criterion was adopted in order not to consider as epileptic the patient who suffers an isolated seizure or seizures that are directly related to acute brain aggressions or precipitating factors.²

Epilepsy can be diagnosed and treatment initiated after a first seizure when there are factors predisposing to recurrence that can be identified from clinical findings and complementary examinations.³ Epilepsies affect 0.5%-1.5% of the population. Its incidence curve has two peaks, one in the first decade of life and the other in the seventh decade. Most incident cases occur in children under 10 years of age and in people over 65 years of age.^{3,4} The early peak is mainly due to epilepsies in the first year of life, the incidence of which seems to be decreasing in developed countries. On the contrary, the peak of late epilepsies is increased by cerebral vascular diseases and dementias, in particular Alzheimer's disease.⁵

Patients with epilepsy suffer increased morbidity and mortality including trauma, burns, drowning, pneumonia, premature death, suicide and sudden death. Part of the mortality among patients with epilepsy is due to its cause and not to the seizures themselves. The excess mortality falls on patients with severe brain lesions and

uncontrolled seizures.⁶ Mortality specifically related to seizures is due to the risk of convulsive seizure states and serious accidents or asphyxia during seizures. Occasionally, epileptic patients suffer sudden unexplained death. It is more frequent in males, adolescents or young adults with generalized seizures. Many seizures occur during sleep or without witnesses. The suicide rate is also slightly higher among patients with epilepsy. The most common factors inducing suicide by drug overdose or other means are personality disorders and interictal psychotic disturbances.⁷

Epilepsy is one of the most common neurological disorders worldwide, affecting an estimated 50 million people, 5 million of whom live in the Americas. However, it is estimated that in Latin America and the Caribbean (LAC) there is a treatment gap of more than 50%, which means that more than half of the people with epilepsy are not receiving any type of treatment in health services, whether Primary Health Care (PHC) or specialized.⁸ In Cuba, an incidence rate of 6.2/1000 inhabitants is estimated, with fluctuations in the literature reviewed of between 3.1 and 6.1/1000 inhabitants, which determines that between 30,000 and 70,000 Cubans suffer from the condition.⁹ In the province of Sancti Spiritus, a prevalence rate for patients with epilepsy of 9.60 per 1000 inhabitants was recorded.¹⁰

A significant number of patients with epilepsy go to the on-call department of the Camilo Cienfuegos General Hospital in Sancti Spiritus, and a series of factors have been identified that are influencing this situation. Considering the impact it has on the patient's state of

health and because it is a relevant health problem, it was decided to analyze the behavior of epilepsy in patients attending the internal medicine ward of the General Hospital Camilo Cienfuegos in Sancti Spiritus during the period from January 2020 to December 2022.

Methods

A descriptive, cross-sectional research was carried out at the Camilo Cienfuegos General Hospital in Sancti Spiritus from January 2020 to December 2022, with the aim of characterizing epilepsy in patients attending the internal medicine ward. The study population consisted of 85 patients over 20 years of age who presented with a diagnosis of epilepsy and attended the internal medicine ward during the study period.

Inclusion and exclusion criteria were taken into account for patient selection:

Inclusion criteria

Patients with the diagnosis of epilepsy older than 20 years of age who agreed to participate in the study, after informed consent.

Exclusion criteria

Patients who did not wish to participate in the research and did not give informed consent.

Exit criteria

Voluntary request to leave the study after having agreed to participate in it.

Data from hospital medical records, charge sheets and reports were included in a database and processed by computerized methods with the EPIDAT 3.1 statistical package. Descriptive statistics were used for absolute and relative frequency distribution and the results were included in tables.

The ethical aspects contemplated in this study followed the ethical principles declared by the International Medical Association, Helsinki, Finland.

Results

The age group with the highest representation was 40-49 years with 52.9 %, followed by 50-59 years with 33.5 % of the total. Men were slightly more affected with 50.5 % (Table 1).

Table 1 Epilepsy by age and sex. Camilo Cienfuegos General Hospital. Sancti Spiritus. 2020-2022

Years	Male		Female		Total	
	No.	%	No.	%	No.	%
20-29	3	6.9	4	9.5	7	8.2
30-39	2	4.6	3	7.1	5	5.8
40-49	24	55.8	21	50	45	52.9
50-59	12	27.9	11	26.1	23	27.0
60 and over	2	4.6	3	7.1	5	5.8
Total	43	50.5	42	49.4	85	100

Source: Individual Medical History

According to the occupation of the patients with epilepsy 52.9 % were workers, followed by housewives with 23.5 % of the total (Table 2).

Table 2 Epilepsy by occupation.

Occupation	No.	%
Student	5	5.8
Worker	55	52.9
Housewife	20	23.5
Retired	5	5.8
Total	85	100

Source: Individual Medical History

The relationship between toxic habits and epilepsy showed that patients with no toxic habits prevailed in 62.3% of the total (Table 3).

Table 3 Epilepsy and toxic habits

Toxic habits	Yeah		No	
	No.	%	No.	%
Alcoholic	3	3.5	82	96.4
Smoker	29	34.1	56	65.8

Source: Individual Medical History

According to the family pathological history (FPA) of epilepsy, 51.7% of the sample had a family member with epilepsy (Table 4).

Table 4 Epilepsy and family history of this pathology.

Family pathological history of epilepsy	No.	%
Yeah	44	51.7
No	41	48.2
Total	85	100

Source: Individual Medical History

The most frequent risk factors were lack of sleep and stress with 61 patients for 71.7 %, followed by treatment abandonment with 59 patients for 69.4 % of the total (Table 5).

Table 5 Epilepsy according to risk factors.

Risk factors	No.	%
Lack of sleep	61	71.7
Stress	61	71.7
Treatment abandonment	59	69.4
Trauma	12	14.1
Degenerative diseases	11	12.9
Obesity	28	32.9
Hypertensive crisis	12	14.1
BIRD	49	57.6
CNS infections	12	14.1

Source: Individual Medical History

Focal epilepsy was the most frequent with 52.9%, followed by generalized tonic-clonic epilepsy with 27.0% of the total (Table 6).

Table 6 Epilepsy according to type of seizure

Type of crisis	No.	%
Focal	45	52.9
Generalized tonic-clonic	23	27.0
Absences	7	8.2
Myoclonic	4	4.7
Tonic	4	4.7

Source: individual medical history

In the treatment of these patients there was a clear predominance of carbamazepine with 71.7%, followed in order of frequency by sodium valproate (VPA) with 28.2% of the total (Table 7).

Table 7 Epilepsy according to pharmacological treatment.

Pharmacological treatment	No.	%
Valproate (VPA)	24	28.2
Carbamazepine (CBZ)	61	71.7
Phenytoin (PHT)	7	8.2
Ethosuximide (ESM)	3	3.5
Phenobarbital (PB) and Primidone (PRM)	3	3.5
Clonazepam (CZP)	21	24.7
Nitrazepam (NZP)	15	17.6
Acetazolamide	3	3.5
Lamotrigine (LTG)	2	2.3
Topiramate (TPM)	2	2.3
Vigabatrin (VIG)	2	2.3
Gabapentin (GBP)	4	4.7

Source: Individual Medical History

Discussion

Annegers,¹¹ in a study showed that 65% belonged to the female sex and 35% to the male sex; the age group with the highest percentage was 40 to 49 years old with 52., in agreement with the results of this research.

Tanyanont,¹² in his research found that the mean age of debut was 43.3 years (range 19-89 years). The age group with the highest incidence was 18-29 years. Most of the patients were male, coinciding in part with the results of this investigation

Bender,¹³ (13) in his study published that as longevity increases, the incidence and prevalence of epilepsy increases. This condition in elderly people is underdiagnosed or confused with other processes, but even so, its incidence and prevalence tend to increase with advancing age. Garcia et al.¹⁴ in their study showed that in terms of the distribution of patients according to age and sex, the most affected age range was between 75-79 years, with 42 cases (28 %). The mean, median and mode were determined and their values coincided for this age group.

Castro et al.¹⁵ and collaborators reported that the mean age of their patients was 76.22 years, with a preponderance of males. Gutiérrez and García,¹⁶ in their study showed results similar to those of this research, where the greatest number were workers, followed by housewives with 33.5%.

Marsons and Cols,¹⁷ concluded that retirees accounted for 59, followed by workers with 24., which does not coincide with the results of this study. Pozo D,¹⁸ in his research coincided with the results of this study since most of his sample did not present toxic habits (61.2 %), he pointed out that smoking was present in 24.1 %, alcoholics in 1477 %.

Campos,¹⁹ and Guerrero,²⁰ reported in their research that 71.4% of their sample had no toxic habits, only 28.6% smoked. Ramirez,²¹ in his study presented a similar situation to this research where 52.3% of the sample had FAP. Peña et al.²² did not obtain results in agreement with this study, since 60.1% of the patients did not have this history.

Diaz et al.²³ stated that family members with epilepsy, especially parents, are considered to have twice the risk of having epilepsy in children of women with epilepsy than in children of men with epilepsy. Noek,²⁴ in his research coincided with our results, where lack of sleep and stress were the risk factors with the highest rate of 61.7%, followed by treatment abandonment with 59.4%.

Salas-Puig,²⁵ in his study did not coincide with the results of this research and found that hypertensive crisis presented the highest registry with 69.4%. In the authors' opinion, a healthy lifestyle, including frequent physical exercise or sports, avoiding drug use (including tobacco and alcohol), with a balanced diet and regular sleep habits, are basic health recommendations for all people, and of greatest interest in epileptic patients.

Daroff et al.²⁶ stated that excessive exercise, staying awake for more than 16 hours, the intake of alcohol, stimulant substances such as coffee or tea, or being subjected to repeated and intense light stimuli without eye protection, are factors known to be capable of provoking seizures. Therefore, the first recommendation is to avoid these and other factors known to the patient as stimuli that can provoke a seizure.

Ventola,²⁷ in his study also agreed with the results of this research, since focal generalized epilepsy was the most frequent with 62.9%, followed in order of frequency by tonic-clonic with 37.0%. Absence seizures were represented with 5.2%. Brodie,²⁸ in his study did not coincide with the results of this research, since generalized tonic-clonic epilepsy was the most frequent with 42.8%, followed in order of frequency by focal epilepsy with 22.9%.

Brodie and Paul,²⁹ in their study found that the most used drug was carbamazepine, with 61.7%, followed in order of frequency by Valproate (VPA) with 18.2%. This coincides with our study. Ochoa JG,³⁰ in his research found that Valproate (VPA) was the most used drug, with 61.7%, followed in order of frequency by Clonazepam (CZP) with 28.2%, these results differ from those of our study.

The literature consulted refers that medical therapies for epilepsy are anti-crisis rather than anti-epileptic, they focus on the symptoms rather than on the epileptogenic process.³¹ Contertas and Rios,³² stated that the choice of an antiepileptic drug (AED) in a patient is governed by several factors of singular importance (type of seizure, age, sex, availability, risk of recurrence, cause of epilepsy, comorbidities, and special situations). They stated that monotherapy is still the most recommended strategy, but polytherapy with the new AEDs is very common nowadays. Treatment improves quality of life and most cases achieve seizure control, but epilepsy patients still have to face the social stigma derived from the lack of knowledge of the disease. Adequate choice of medication and dosage guarantees quality of life for patients with epilepsy, according to the authors.

Conclusion

The patients with epilepsy who went to the emergency room of the General Hospital Camilo Cienfuegos were predominantly in the age group between 40 and 49 years, the dominant sex, although with a slight difference, was male, according to occupation, workers were the most frequent; no significant relationship was found between epilepsy and toxic habits, family pathological history of epilepsy presented important number of the sample. Lack of sleep and stress were among the most registered risk factors, focal seizures were the most represented and carbamazepine was the most used treatment.

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None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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