Clinical Pattern of Seizures in the Out Patient Pediatric Neurology Clinic of Al- Hussein University Hospital

By

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ABSTRACT

Background: *Seizures are the most common pediatric neurological disorder. Up to10% of children suffer from at least one episode of seizure in the first 16 years of life. The incidence is highest in children less than 3 years of age, with a decreasing frequency in older children (Friedman and Sharieff, 2006). Febrile seizure is the most common form of seizures in childhood, affects 2-5% of all children across the world (Sampaio et al., 2010). Incidence of first non-febrile seizure in children is 25,000 to 40,000 per year in the United States (Martindale et al., 2011).*

Objectives: *We aimed to clarify the clinical pattern of seizures including their type, frequency, possible etiology, family history, level of controlling seizure, parents awareness about seizure precaution and home management and antiepileptic drug used 'in pediatric neurology clinic of Al- Hussein University Hospital.*

Patients and Methods: *This descriptive study was carried out on 200 patients with seizures disorder, from outpatient clinic of pediatric neurology at Al-Hussein University Hospital, during the period from April 2019 to October 2019. All patients were aged from 1 month up to 18 years and of both genders, newly and old diagnosed cases. Patients less than 1 month and more than 18, and mentally retarded children were excluded. History-taking, complete clinical examination and laboratory investigations were registered. Electroencephalography was done. Adequate rationale AED was given.*

Results: *At the time of interview, of the 200 patient with seizure disorder had age ranges from 1 month -18 years, male more than female (124 (62%) vs. 76 (.38%)) with a male/female ratio 2:1, the most common age for onset of seizures was within the first year of life (56.50%) of all patients, Parental consanguinity was reported in 4.5%. Family history of epilepsy was reported in 9.5%, that most seizures in our patients without triggers (59.0%) followed by fever (30.0%), the most common percentage of our Seizure was Controlled in (65.00%). About 46% reported genetic etiology for epilepsy, 29.5% reported structural etiology with the most common cause Hypoxic ischemic encephalopathy (16%). CNS infection (23%), perinatal complications (birth asphyxia) (2%) and head trauma (1.5%) were identified in the symptomatic group. Febrile seizures were reported in 20.5%. Main seizure types were generalized in 70%*

and focal with or without focal to bilateral in 17.5%. The generalized motor tonic clonic seizures were frequent in generalized epilepsy (67.5%). Rolandic epilepsy was the most frequent type of age specific epileptic syndrome (4.5 %). Most of our patients (90.00%) were not awareness about seizures precaution and home management. MRI brain findings were normal in 17 .00 %, and Abnormal in 37 % with predominant abnormality was brain atrophy in 46 %.

Conclusion: *seizures are a common neurological disorder in children and can have a major impact on child's development. The appropriate management of seizures, outcome and prognosis are dependent on the type of seizure, the epileptic syndrome and the possible underlying cause, our study is considered a preliminary review for population-based epidemiological studies in childhood seizures in Egypt. Epidemiological studies of seizures in children in developing countries are insufficient.*

Keywords: *Clinical pattern ,Outpatient ,Pediatric , Neurology clinic , Epilepsy, Seizures.*

INTRODUCTION

The history of seizures is intervened with the history of humanity. One of the first descriptions of epileptic seizures can be traced back to 2,000 before Christ (B.C.) in ancient Akkadian texts, a language used in the region of Mesopotamia, The author described a patient with symptoms resembling epilepsy: (His neck turns left, his hands and feet are tense and his eyes wide open, and from his mouth the froth is flowing without having any consciousness) **(Labat, 1951)**.

Later reports on epilepsy can also be found in Ancient Egyptian medical texts. The Edwin Smith papyrus (1700 B.C.) refers to epileptic convulsions in at least five cases **(Longrigg, 2000)**.

The first formal description of epilepsy as a disease should be attributed to the father of medicine, Hippocrates, in his paper on the sacred disease. Hippocrates disputes the divine origin of epilepsy by saying: “This disease is in my opinion no more divine than any other; it has the same nature as other diseases, and the cause that gives rise to individual diseases. It is also curable, no less than other illnesses, unless by long lapse of time it becomes so ingrained as to be more powerful than the remedies that are applied” **(Adams, 1849)**.

A seizure is defined as: atransient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neuronal activity in the brain **(Fisher, et al. 2005)**.

Seizures are classified into focal onset, generalized onset, and

unknown onset **(Fisher et al., 2017)**.

Seizures are the most common pediatric neurological disorder. Up to10% of children suffer from at least one episode of seizure in the first 16 years of life. The incidence is highest in children less than 3 years of age, with a decreasing frequency in older children **(Friedman and Sharieff, 2006)**.

Epilepsy constitutes the most common neurological problem in children and the majority of epilepsy has its onset in childhood. Appropriate diagnosis and management of childhood epilepsy is essential to improve the quality of life in these children **(Shimizu et al., 2003)**.

The prevalence of epilepsy in developed countries ranges between 4 and 10 per 1, 000 individuals per year with much greater prevalence rates in developing and resource-poor countries and some estimates at greater than 130 per 1000 individuals per year **(Laxera et al., 2014)**.

Epilepsy in Egypt: Annual mortality rate 1.1 (per 100, 000 people) Institute for Health Metrics and Evaluation, 2016).

Mortality is greater for those with epilepsy than for those without for many reasons, including sudden unexpected death in epilepsy (SUDEP), accidents, suicide, vascular disease, pneumonia, and factors directly related to the underlying causes **(Patel et al., 2017)**.

Risk of sudden, unexplained death in those with epilepsy is approximately 16-times that of the general population **(Devinsky et al., 2016)**.

Aim of the Study

The aim of this study was to evaluate(clarify) the clinical pattern of seizures including their type, frequency, possible etiology, family history, level of controlling seizure, parents awareness about seizure precaution and home management and antiepileptic drug used 'in pediatric neurology clinic of Al- Hussein University Hospital.

PATIENTS AND MATERIALS

This descriptive study was carried out on 200 patients with seizures disorder , from outpatient clinic , of pediatric neurology at Al-Hussein University Hospital, during the period from April 2019 to October 2019.

Inclusion Criteria:

- Age, from 1 month up to 18 years, and both genders were included.

- Both newly diagnosed and old cases.

Exclusion Criteria:

• Age less than 1 month.

• Mentally retarded children.

Plan of the Study:

All patients were subjected to the following:

A. Thorough history-taking.

B. Thorough clinical examination.

C. Laboratory investigations:

1. Complete blood counts.
2. Liver function tests.
3. Renal function tests (urea, creatinine.).
4. Cerebrospinal fluid (CSF) examination. When indicated.

D. Electroencephalography (EEG):

(EEG) was done, on admission and post-control therapy, by the pediatric neurologist using (E-Series-EEG 64 Control module, S/N 5840, Compumedics, Australia).

E. Adequate rational of AED.

F. Magnetic resonance imaging (MRI).

Ethical Considerations:

1. Approval of ethical committee, Faculty of Medicine, Al-Azhar University.
2. Written consents from the parents of the patients.
3. The patients have the right to withdraw from the study at any time.
4. All the obtained data are confidential and the patients have the right to keep them.
5. The authors declare that there is no any financial conflict regarding the research and publication.
6. No conflict of interest regarding the study and publication.

Statistical Analysis:

The data were collected, tabulated, and analyzed by SPSS (Statistical Package for Social Science) computer software program version 19.

Two types of statistics were done:

• Descriptive statistics {e.g. percentage (%), mean (x) and standard deviation (SD)},

• Analytical statistics: which include the following tests:

- Student (t) test: was used to study statistical significance

between two quantitative variables.

- Chi-square test (x2): was used to study statistical significance between two qualitative variables.
- P-value of < 0.05 was considered statistically significant.

RESULTS

Our results will be demonstrated in the following tables:

Table (1): Age of Onset of Seizures among the Studied Patients

Age of onset of seizures	The Studied Patients (n=200)	%
Birth to 1 months (neonate)	11	5.50%
1-12 months (Infant)	102	51.00%
1-3 years (Todler)	56	28.00%
3-5 years (preschool)	19	9.50%
5-12 years (School age)	11	5.50%
More than 12 years (Adlosent)	1	0.50%

This table shows that the most common age for onset of seizures were in the 1st 3 year of life (84.50%).

Table (2): Demographic Characteristics of the Studied Patients

Age groups		(n=200)	%
1-12 months (Infant)		35	17.50%
1-3 years (Toddler)		48	24.00%
3-5 years (preschool)		56	28.00%
5-12 years (School age)		55	27.50%
More than 12 years (Adlosent)		6	3.00%
Sex	Male	124	62%
	Female	76	38%

This table shows that the most of our patients are below 12 years old (94.00%) and male more than (124(62%) vs 76 (.38%))witha male/female ratio 1.63:1. Mean patient age was 15.30 months.

Table (3): Perinatal History and Family History of the Studied Patients

Variables		(n=200).	%
Mode of delivery	VD	162	81.00%
	LCS	38	19.00%
NICU admission	Yes	29	14.50%
	No	171	85.50%
Term or preterm	Term	191	95.50%
	Preterm	9	4.50%
Cause of NICU admission	Jaundice	6	3.00%
	Neonatal sepsis	5	2.50%
	Respiratory distress	10	5.00%
	Seizures	4	2.00%
	Infant of Diabetic Mother	2	1.00%
	Unknown	3	1.50%
Maternal disease	Positive	65	32.50%
	Negative	135	67.50%
	Maternal hemorrhage	2	1.00%
	Breast cancer	1	0.50%
	Hypertension	2	1.00%
	Diabetes mellitus	2	1.00%
	Anemia	58	29.00%
	Fever	5	2.50%
Folic acid supplement	Yes	197	98.50%
Perinatal asphyxia	Yes	4	2.00%
Family history of epilepsy	Yes	19	9.5%
Positive Consanguinity	Yes	9	4.50%

This table shows that there was history of NICU admission 29 case (14.50%) ,the most common cause for NICU admission was respiratory distress 10cases (5.00%) followed by neonatal jaundice 6 cases(3.00%) followed by neonatal sepsis 5 cases (2.50%).

191 case have VD (81.00%) of cases, CS were 19 case only (81.00%) inspit of this percentage, prenatal asphyxia reported in 4 cases (2.00%), most of mothers were received folic acid supplementation (98.50%), the most common maternal disease was anemia 58 case (29.00%) followed by fever 5 cases (2.50%), 19 patient (9.5%) have history of epilepsy while 9 patients (4.5%) have history of positive consanguinity.

Table (4): The Frequency of Triggers for Seizures among Studied Patients

Variables	(n=200)	Percentage %
Fever	60	30.0%
Nocturnal seizures(sleep)	11	5.5%
Missing dose	8	4.0%
Head trauma	3	1.5%
No trigger	118	59.0%

This table shows that fever was the most common trigger factor for seizures in (30.0%) of cases, while (59.0%) of cases have no trigger.

Table (5): Seizures Control among Studied Patients

Variables	(n=200)	Percentage
Fully Controlled	**130**	65.00%
Partial controlled	50	25.00%
Uncontrolled and its causes	20	10.00%

This table shows that the most common percentage of our Seizure was fully Controlled in (65.00%), Partial controlled in (25.00%) and uncontrolled in (10.00%).

Table (6): Seizure-Types among the Studied Patients

Variables	**No** (=200).		
Generalized	**Generalized motor**		135 (67.50%)
	Tonic clonic	110	
	Tonic	9	
	clonic	2	
	atonic	7	
	myoclonic	7	
	Generalized non motor		5
	Typical Absence	4	
	ATypical Absence	1	
Focal	**Focal motor with awareness**		8 (4%)
	Tonic clonic	2	
	Tonic	1	
	Clonic	2	
	Atonic	2	
	Myoclonic	1	
	Focal motor with impaired awareness 5	5	5 (2.50%)
	Focal non motor		1 (00.50%)
	Autonomic seizures 1		
Focal to bilateral tonic clonic	21		21 (10.50%)
Multiple seizure types	16	16	16 (8.00%)
Epileptic spasm	8	8	8 (4.00%)
Un classified	2	2	2 (1.00%)

This table shows the different types of seizures among our study patients with the generalized motor seizures are the most common type (67.50%) followed by Focal to bilateral tonic clonic (10.50%) and multiple seizures type (8.00%).

Table (7): Etiology of Seizures among the Studied Patients

Etiology	No	Variables	(n=200)	(%)
Genetic etiology	(92)	**Idiopathic**	20	(46.00%)
		Epilepsy syndromes		
		Infancy		
		Infantile spasm	3	
		west syndrome	2	
		Child hood		
		Rolandic epilepsy (BECTS)	8	
		Idiopathic occipital epilepsy	3	
		Febril seizures	41	
		wiliam syndrome	1	
		Lennox gastut syndrome	1	
		Landau klenffner syndrome	1	
		Childhood abcsence epilepsy	3	
		Juvenile onset		
		Juvenile absence epilepsy	1	
		Juvenile myoclonic epilepsy	1	
		Variable age onset		
		Mesial temporal lobe epilepsy	2	
		Neuro cutaneous syndromes	**5**	
Structural etiology	**(59)**		59	(29.50%)
Metabolic	**(12)**		12	(6.00%)
Infection	**(23)**		23	(11.50%)
Immune mediated	**(2)**		2	(1.00%)
Unknown etyology	**(14)**		14	(7.00%)

This table shows that our patients had different etiologies of their seizures, with 3 main etiologies were recorded among the study cases genetic 92 patient (46.00%), structural 59 patient (29.50%), and infectious 23 patient (11.50%).

Table (8): Parent Awareness about Seizures Precaution and Home Management among Studied Patients

Parent Awareness	(n=200)	No. (%)
Aware	20	**(10.00%)**
Un aware	**180**	**(90.00%)**

This table shows that most of our patients were Un aware (90.00%) about seizures precaution and home management.

Table (9): MRI Findings among the Studied Patients

Variables	No (%)		no	%
Abnormal			74	37.00%
White matter disease	18	(9.00%)		
Periventricular leucomalecia	3	(1.50%)		
Extensive Enchephalomalecia	2	(1.00%)		
Arrested hydrocephalus	1	(0.50%)		
Arachnoid cyst	1	(0.50%)		
Brain atrophy	29	(14.0%)		
Agnesiss of corpus collosum	3	(1.50%)		
Cerebellar degeneration	1	(0.50%)		
Hydrocephalus	2	(1.00%)		
Brain abscess	1	(0.50%)		
Mesial temporal sclerosis	2	(1.00%)		
Tuberous sclerosis	2	(1.00%)		
Neurofibromatosis	2	(1.00%)		
post encephalitic ischemic changes	6	(3.00%)		
Lisssencephhaly	1	(0.50%)		
Normal			34	17.00%
Not done			92	46.00%

This table shows that normal MRI findings detected in 34 case(17.00%), not done for 92 patient (46.00%) and Abnormal MRI findings were detected in 74 patient (37.00 %) where pathognomonic findings was helpful in the diagnosis of some cases are illustrated in table (19) with the most common cause was brain atrophy in 29 patient (46.00%).

DISCUSSION

This descriptive study was carried out on 200 patients with seizures disorder, from outpatient clinic of pediatric neurology at Al-Hussein University Hospital, during the period from April 2019 to October 2019.

The aim of this study was to clarify the clinical pattern of seizures including their type, frequency, possible etiology, family history, level of controlling seizure, parents awareness about seizure precaution and home management and antiepileptic drug used 'in pediatric neurology clinic of Al- Hussein University Hospital. The clinical patterns including history, examination electroencephalographic (EEG), magnetic resonance imaging (MRI) and computed tomography (CT) findings

All patients were aged from 1 month up to 18 years and of both genders, newly and old diagnosed cases, patients less than 1 month and more than 18, and mentally retarded children were excluded. History-taking, complete clinical examination and laboratory investigations were registered. Electroencephalography was done. Adequate rational AED were given.

Our study was consisted of 124 (62%) males and 76 (38%) females, with a male/female ratio 2:1 (table 2).

In agreement with our study, **Nitin Joseph, et al. (2013)** report that in his retrospective study in india of the 196 seizure cases 119 (60.7%) were males and 77 (39.3%) were females (P = 0.042) India showed that the sex ratio (Male:Female) was 2:1.

Regarding our study the age of onset of seizures, we found that, the most common age was in the first 3 years of life (83.50%) and the 1st year (65.5 7%)(table 1).

In agreement with our study, **Cowan et al. (1989)** reported that seizures began before age of one year in 32% of cases, **Al-Sulaiman and Ismail (1999)** in their comparative prospective study carried on 263 children Saudia Arabia, recorded age of onset was within the first year of life in 48.7% of the patients.

In our study According to perinatal history there was history of NICU admission 29 case 14.50%, the most common cause for NICU admission was respiratory distress 10 cases (5.00%) (Table 3).

In our study 191 patient have delivered by V D 81.00% and 19 (81.00%) by C S, inspite of this precentage, prenatal asphaxia reported only in 4 cases (2.00%).

Hypoxic ischemic encephalopathy was reported in (16%) of patients, most of mothers were received folic acid supplementation (98.50%) ,the most common maternal disease was anemia 58 case (29.00%) followed by fever in 5cases (2.50%) ,Hypoxic ischemic encephalopathy was reported in (16 %) (Table 3), (table 7).

In aggrement with us, **Al-Sulaiman and Ismail (1993)** reported that Hypoxic ischemic encephalopathy was reported in (14.8%).

In our study according to parental consanguinity was reported in (4.5 %) of patients and its lower percentage in comparision with other studies (table 3).

KANDIL **Mahmoud et al. (2007)** was reported consanguinity in 41% of patients.

Similarly **Khedr et al. (1986)** reported 41.7% of consanguinity among parents of epileptic patients.

In Saudi Arabia, **Al Rajeh et al. (2001)** reported consanguineous marriage in 53% in parents of epileptic children. In this study, low percentage of positive consanguinity was found.

Al-Sulaiman and Ismail (1993) reported parental consanguinity in 29.7% of epileptic Saudian children in which 80 % of them were idiopathic/cryptogenic cases, while only 20 % of cases were symptomatic.

Regarding to family history 19 cases only (9.5 %) of our studied patient has family history of epilepsy (table 3).

In agreement with our study, **Nitin Joseph, et al. (2013)** reported that family history of seizures was present in 16 (8.4%) out of 191 cases.

El-Afify et al., (1981) reported that family history of epilepsy in 13.8% of patients with primary epilepsy and 5.9% in those with symptomatic epilepsy. Also **Beilmann et al. (1999)** reported family history of epilepsy in 13.9% of their patients.

In our study about 46% reported genetic etiology for epilepsy, 29.5% reported structural etiology with the most common cause Hypoxic ischemic encephalopathy (16%). CNS infection (23%), perinatal complications (birth asphyxia) (2%) and head trauma (1.5%) were identified in the symptomatic group. Metabolic etiology (6%), (1% hypoglycemia) and (5% hypocalcemia) (table 7).

In comparision with our study, **Nitin Joseph, et al. (2013)** report Causes of seizures were idiopathic in 130 (66.3%) cases and secondary in 66 (33.7%) cases. The most common causes of secondary seizures were head trauma 16 (24.2%), central nervous system infection 11case (16.7%). The other causes were fever 8 (12.1%), birth asphyxia 6 (9.1%), metabolic diseases 5 (7.6%), developmental diseases 4 (6.1%), drug withdrawal 2 (3%), drug abuse and tumor in one case each. Among the 5 cases with metabolic cause as the precipitating factor, hypoglycemia was the reason in two cases and alkalosis among the rest.

KANDIL Mahmoud et al. (2007) report that no etiology (idiopathic/cryptogenic group) was identified for epilepsy in the majority patients (80.3%). This is consistent with many studies.

Different studies reported that primary epilepsy represented from 44-76% of all patients with epilepsy **cowan et al (1989)**.

Muhammad et al. (1993) reported that primary epilepsy was more common than secondary epilepsy among Egyptian school children in the age period from 4-12 years, and all cases below 2 years were categorized as secondary epilepsy.

Shawki et al. (1995), no etiology for epilepsy was identified in 58.2% of patients.

Endziniene et al. (1997), in their hospital-based study carried in the Neurology Clinic of Kaunas Medical Academy Lithuania, no etiology was identified in 60.3% of patients.

KANDIL Mahmoud et al. (2007) etiology was identified in 19.7% of patients (symptomatic or secondary epilepsy), among which non-specific CNS infection represented 68% of them, followed by perinatal complications (20%) while head trauma was reported in only 12% of children.

El-Afify et al. (1981) reported that head trauma, CNS infections and birth traumatic events were the most common causes among children while vascular, neoplastic and traumatic convulsions were frequent among adult and elderly onset epilepsy.

Shawki et al. (1995) reported that 29.7% of their patients developed epilepsy as a result of non-specific CNS infection, followed by prenatal and perinatal causes (23.7%) particularly in patients with epilepsy onset before 12 years age while head trauma represented 8.5% of their cases.

Al Rajeh et al. (1990) reported that perinatal encephalopathy accounted for 40% of cases of children less than 5 years with lower percentage in their later studies (23.4 %). In the latter study, CNS infection accounted for only 4% of symptomatic group and acute symptomatic convulsions were uncommon (3%).

Bielmann et al. (1999) in a trial to estimate the prevalence of childhood epilepsy in Estonia, symptomatic epilepsy was recorded among 40.7 % of patients out of which perinatal events were the most frequent etiology. In the temperate region of South Africa, Cape Town, the prevalence of secondary epilepsy was higher than that found in developed countries. Even higher percentage of symptomatic epilepsy was found in some studies due to availability of neuroimaging techniques of investigations.

Cowan et al. (2002) identified a cause for seizures in 25-45% of their patients.

Kwong et al. (2001), reported symptomatic epilepsy in 61% of epileptic patients and Perinatal factors were the most frequently found cause of epilepsy, and Perinatal asphyxia represented 46.4% of cases.

According to The Frequency of triggers for seizures among studied patient Fever was the most common trigger in 60 case (30.0%), followed by the sleep in (nocturnal seizures) in 11case (5.50%)While most of cases have no triggers in 118 case (59.0%) (table 4).

Similar finding reported by **Khedr et al. (1986)** who reported that fever is the most frequent precipitating cause of seizure in 48.6% of their studied epileptic patients.

According to percentage of seizures control among the studied patients, after Treatment Seizure was controlled in 130 case (65.00%), partial controlled in 50 cases (25.00%) an uncontrolled in 20 cases (10.00%) (Table 5).

Regarding seizure types among our study 3 main types were recorded generalized in 70%, focal wih or without focal to bilateral in 17.5%, and multiple seizure types 8%. Epileptic spasm 4 %, Unclassified 1% ,The generalized motor tonic clonic seizures were frequent in generalized epilepsy (67.5%), multiple-seizures type 16 cases (8%), rolandic epilepsy was the most frequent type of age specific epileptic syndrome (4.5%) (table 6).

This finding was comparable to **Nitin Joseph, et al. (2013)** who reported that Proportion of generalized tonic clonic seizure (GTCS) cases was 153 (78.1%).

Also **KANDIL Mahmoud et al. (2007)** reported that generalized tonic-clonic seizures were the most common type of generalized epilepsies (72.1%).

AMAL BASSILI, et al (2002) reported that the generalized tonic-clonic type constituted 63.6% of diagnosed cases, the frequency of other types was as follows: absence seizures (6.7%), myoclonic seizures (8.9%), simple partial type (8%) , partial seizures secondarily generalized (2.2%) , multiple seizure types (2.2%) , and unclassified epilepsy (8.4%).

Also **Al Rajeh et al. (1990)** demonstrated that generalized epilepsies were the commonest type of epilepsy between ages of 1-5 years (74%) followed by febrile convulsions (20%) while isolated seizures were reported in 3% of studied patients.

In contrast to **Al Rajeh et al. (2001)**, the authors reported partial seizures in 28%, generalized seizures in 21% and they were unable to determine whether generalized or focal in 51% of their studied patients.

Also **Abdulsalam A. Al-Sulaiman (1999)** reported that the main seizures types were generalized in 60.4% and partial in 32.7%.

In our study we found that Atonic seizers (4.5 %), Tonic seizers (5.5 %) Myoclonic (4%) and Absence (2.50%) (Table 6).

In aggrement with our study, **Granieri et al. (1983)** reported tonic, clonic and tonic-clonic seizures in 74.9% and childhood absence in 6.6% of epileptics.

Haerer et al. (1986) reported tonic-clonic attacks in 75% and absence seizures in 0.4%.

Shawki et al. (1995) demonstrated that generalized tonic-clonic seizures were the most frequent type of seizures (49.5%), followed by atonic seizures (25.3%) then tonic seizures (21.6%), while myoclonic seizures (2.6%) and absence (1.0%) were the least frequent types.

Approximately (20 .5%) of our patients presented with febrile seizures (table 7) higher than **KANDIL Mahmoud et al. (2007)** who reported 10.2% of his patients presented with febrile seizures .. In comparison with our study percentages (8.9-23%) were reported by **Rocca et al. (1987)**.

Also **Abdulsalam A. Al-Sulaiman (1999)** reported that febrile seizures were (9.1%)

The most of our patients were not awareness (90.00%) about seizures precaution and home management (Table 8).

Normal MRI findings detected in 34 case (17%), in our studied patients ,abnormal MRI findings were detected in 74 cases (37%) where findings was helpful in the diagnosis of some cases are illustrated in table (19) and not done for 92 case (46%) (Table 9).

CONCLUSION

From our study we concluded that:

1. Seizures are not rare. We have to maintain a high level of suspicion for their diagnosis, and we have to be aware of any suspicious history. Seizures were more prevalent among males (62%), more than females (38%) ,the most common age of onset of seizure was 1st 3 years of life (84.50%) ,there is family history of epilepsy in (9.50%), consanguinity in (4.50%).
2. The most common trigger for seizures was fever, and most of our seizures occurs without trigger.
3. The most common type of seizure was generalized tonic clonic (G T C), and the most common etiology of seizures was genetic (46.00%), followed by structural etiology (29.50%).
4. The most common percentage of our Seizure was fuly controlled in (65.00%) ,Partial controlled in (25.00%), most of our patients were not awareness (90.00%) about seizures precaution and home management.
5. Most common finding in M R I brain was brain atrophy in (14.00%), followed by white matter disease (9.00%).

RECOMMENDATION

From our study we recommend that:

- Establishment of national guidelines for diagnosis and management of seizures either in hospital, in outpatient or home management.
- Health education for parents about seizure precautions and home management of seizures through clear and applicable guidelines.
- Further studies should be done on more patient number, to detect the prevalence of

seizures and its risk factors on development.

- Clinical pattern of seizures and condition that mimics epilepsy with video education must be involved in the curriculum of under and post graduate course because of its high frequency and its impaction on development
- National mass media survey to detect early cases and prevent risk factors using T.V, Radio, Newspaper …etc.

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الأنماط الإكلينيكية للتشنجات بعيادة أعصاب الأطفال الخارجية بمستشفى الحسين الجامعي

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الخلفيـــة: التشـــنجات هـــي اضـــطراب الأطفـــال العصـــبي الأكثـــر شـــيوعًا. مـــا يصـــل إلـــى 10 ٪ مـــن الأطفـــال يعـــانون مـــن نوبـــة واحـــدة علـــى الأقـــل خـــلال 16 عامًـــا مـــن العمـــر . معـــدل الإصـــابة هـــو أعلـــى فـــي الأطفـــال أقـــل مـــن 3 ســـنوات مـــن العمـــر ، مـــع انخفـــاض التـــردد فـــي الأطفـــال الأكبـــر ســـنا .ا لتشـــنجات الحراريـــة هـــي الشـــكل الأكثـــر شـــيوعًا للتشـــنجات فـــي مرحلـــة الطفولـــة ، وتـــؤثر علـــى 2-5 ٪ مـــن جميـــع الأطفـــال فـــي جميـــع أنحـــاء العـــالم . للإصـــابة بـــأ ول نوبـــة تشـــنجات غيـــر حراريـــة عنـــد الأطفـــال تتـــراوح مـــا بـــين 25000 إلـــى 40.000 فـــي الســـنة فـــي الولايـــات المتحدة.

الهـــدف: نهـــدف إلـــى توضـــيح الأنمـــاط الســـريرية الإكلينيكيـــة للتشـــنجات بمـــا فـــي ذلـــك نوعهـــا وترددهـــا ومســـبباتها المحتملـــة و تـــاريخ العائلـــة الـــوراثي المرضـــي ومســـتوى الســـيطرة علـــى

النوبات التشنجية ووعي أولياء الأمور حول الاحتياطات بشأن احتياطات النوبات وإالتحكم فيها بالمنزل والعقاقير المضادة للصرع المستخدمة في عيادة الأمراض العصبية للاطفال في مستشفي الحسين الجامعي.

المنهجية: أجريت هذه الدراسة الوصفية على 200 مريض يعانون من نوبات الصرع ، من العيادة الخارجية لأمراض أعصاب الأطفال في مستشفى الحسين الجامعي ، خلال الفترة من أبريل 2019 إلى أكتوبر 2019. كان جميع المرضى تتراوح أعمارهم بين شهر واحد و 18 عامًا وكل من الجنسين ، والحالات التي تم تشخيصها حديثا وقديما . و تم استبعاد المرضى الذين تقل أعمارهم عن شهر واحد وأكثر من 18عاما ، والأطفال المتخلفين عقليا. وقد تم أخذ التاريخ المرضي وإجراء الفحص السريري الكامل وتم إجراء الاختبارات المعملية في المستشفي السابقة. تم إجراء رسم المخ الكهربائى وتسجيل التاريخ العائلي الوراثي المرضي والفحص السريري الكامل والتحقيقات المخبرية و تم عمل رسم المخ. واشعة الرنين المغناطيسي علي المخ واعطاء ادوية كافية مضادة للصرع لهم.

النتائج: اظهرت النتايج انه كان لدينا 200 مريض مصاب باضطراب التشنجات تراوحت أعمارهم بين شهر واحد و 18 عامًا ، كانت نسب الذكور أكثر من الإناث (124 (62٪) مقابل 76 (.38٪)) و نسبة الذكور الي الإناث 2: 1 و كان العمر الأكثر شيوعًا لحدوث النوبات خلال السنة الأولى من الحياة بنسبة(56.5٪) من جميع المرضى ، وقد ابلغت

قرابة الوالدين بنسبة (4.5٪). تم الإبلاغ عن تاريخ مرضي عائلي للصرع في (9.5 ٪). معظم النوبات في مرضانا دون محفزات (59.0 ٪) تليها الحمى (30.0 ٪), النسبة المئوية الأكثر شيوعًا لنوبتنا كانت تحت السيطرة بنسبة (65.00٪),حوالي 46 ٪ ذكرت مسببات وراثية للصرع ، وحوالي 29.5 ٪ ذكرت مسببات الهيكلية مع السبب الأكثر شيوعا اعتلال الدماغ الإقفاري بنقص التأكسج (16 ٪). تم تحديد عدوى الجهاز العصبي المركزي (23 ٪) ، مضاعفات ما حول الولادة (اختناق الولادة) (2 ٪) وكدمات الرأس (1.5 ٪) في مجموعة الأعراض . تم الإبلاغ عن نوبات التشنجات الحرارية بنسبة 20.5 ٪. وجدت ثلاث انواع رئيسية للنوبات عامه بنسبة 70٪ وبؤرية أوبؤريه علي الناحيتين في 17.5٪ وكانت نوبات التشنج المقطعي العصبي الحركي شايعه في الصرع المعمم (67.5٪). كان الصرع الرولاني هو النوع الأكثر شيوعًا لمتلازمات الصرع المحددة حسب العمر (4.5٪) ، معظم أباء مرضانا (90.00 ٪) لم يكن لديهم الوعي حول نوبات الاحتياطات والتحكم بها في المنزل , اما نتائج تصوير المخ بالرنين المغناطيسي طبيعية في 17،00 ٪ ، وغير طبيعية في 37 ٪ مع خلل سائد كان ضمور الدماغ في 46٪.

الاستنتاجات: التشنجات هي اضطراب عصبي شائع عند الأطفال ويمكن أن يكون لها تأثير كبير على نمو الطفل. التحكم المناسب في التشنجات ونتائجها وتطورها يعتمد على نوع التشنجات ، ومتلازمات الصرع والسبب الكامن وراء ذلك ، و

تعتبر دراستنا مراجعة أولية للدراسات الوبائية القائمة على السكان في نوبات التشنجات للطفولة في مصر.ان ا لدراسات الوبائية عن التشنجات في الأطفال في البلدان النامية غير كافية على الرغم من أن التشنجات اضطراب عصبي شائع لدى الأطفال ويمكن أن يكون لها تأثير كبير على نمو الطفل.

التوصيات: وضع مبادئ توجيهية وطنية لتشخيص النوبات والتحكم بها بالمستشفيات ، والعيادات الخارجية أو في المنزل.

التثقيف الصحي للآباء والأمهات حول احتياطات النوبات والتحكم بها في المنزل من خلال مبادئ توجيهية واضحة وقابلة للتطبيق.

يجب إجراء مزيد من الدراسات حول عدد المرضى ، للكشف عن مدى انتشار التشنجات وعوامل خطورتها المرتبطة بالتطور.

الأنماط السريرية للتشنجات والاشياء التي تشبهها مع تعليمها بالفيديو يجب ان توضع في المناهج الدراسية لمن هم دون التخرج و للدراسات العليا بسبب تواترها العالي وتأثيرها على النمو.

مسح وطني لوسائل الإعلام للكشف عن الحالات مبكرا ومنع عوامل الخطورة باستخدام التليفزيون والراديو والصحف ..... الخ .