

# Prevalence of Epilepsy among Qena School Children

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# معدل انتشار مرض الصرع بين أطفال المدارس في محافظة قنا

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## **Summary**

Epilepsy remains the most common chronic neurological disease seen in paediatric neurology units in developing countries (*Izuora and Iloeje, 1989*). It is one of the most common diseases encountered among school children, with an overall prevalence of 5–10 per 1000 in developing countries (*Scott et al., 2001*).

Epilepsy, like other chronic disorders such as sickle cell anaemia, has been found to negatively affect school attendance and academic performance (*Ogunfowora et al., 2005*).

Our work was a cross sectional study conducted in two phases :

### **Phase I:**

Conducted in sex schools chosen randomly from Naga Hamady district at Quena and included 4826 child of age range between 6-15 years with mean age  $11.8 \pm 4.8$  years, they were given a questionnaire, the frequency of epilepsy defined as a disorder of the brain characterized by an enduring predisposition to generate epileptic seizures with at least one epileptic seizure (Fisher et al., 2005). Among them 3.2/1000 were epileptics.

### **Phase II:**

Epileptic children recruited from phase I were enrolled in phase II of the study they were 11 patient, all of them were males of age ranging from 6-15 years with mean age  $11.5 \pm 2.9$ .

Well informed verbal and written consent were obtained from the parents or care givers.



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## **List of Abbreviations**

|       |   |                                                             |
|-------|---|-------------------------------------------------------------|
| AAN   | : | American Academy of Neurology.                              |
| ACTH  | : | Adrenocorticotrophic hormones.                              |
| AEDs  | : | Antiepileptic drugs.                                        |
| AIDs  | : | Acquired immunodeficiency syndrome.                         |
| BECTS | : | Benign epilepsy of childhood with centrote-temporal spikes. |
| GABA  | : | Gamma amino butyric acid.                                   |
| JME   | : | Juvenile myoclonic epilepsy.                                |
| NMDA  | : | N-methyl-D-aspartate subtype of glutamate receptor          |
| SUDEP | : | Sudden unexpected death in epilepsy.                        |
| WHO   | : | World health organization.                                  |

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## INTRODUCTION

Epilepsy is defined as a disorder of the brain characterized by an enduring predisposition to generate epileptic seizures and the neurobiologic, cognitive, psychological, and social consequences of this condition with at least one epileptic seizure (**Fisher et al., 2005**).

Epilepsy is the most common treatable serious neurological disorder in children and young adults, it is the third most common of the serious neurological disorder of childhood, mental retardation and cerebral palsy being the most common (**D'Amelio and Haurse, 2002**).

Epilepsy affects up to 1% of youngsters up to the age of 16 years (**Wang et al., 2007**). It remains the most common chronic neurological disease seen in pediatric neurology units in developing countries (**Izuora et al., 1989**) and it is one of the most common disease encountered among school children with an over all prevalence of 5-10 per 1000 in developing countries (**Scott et al., 2001**).

A study done in a Swedish country to determine epilepsy prevalence rate in children aged one month to 16 years showed that the prevalence rate was 3,4 per 1000 with the peak prevalence in the age group 8-11 years (**Larson and Olsson, 2006**).

A similar study was done in Turkey among children and adolescents demonstrated that the prevalence rate was 0,8% (**Gucuyener et al., 2004**).

Several prevalence studies and recent meta-analysis from the Indian subcontinent suggests that the prevalence rate is 5,59 per 1000 of population with no gender or geographical differences (**Sirdharan and Murthy, 1999**).

Similar study was done in Egypt to determine the prevalence of epilepsy among Egyptian school children and demonstrated that the prevalence rate was 3,5 per 1000 (**Mohamed, 1993**).

## **Aim of The Work**

This study aims to determine the prevalence of epilepsy among Qena school children and to study the different epidemiological parameters (the influence of age and sex, etiology and response to treatment) among epileptic patient recruited from the survey.

## **Epilepsy**

**EPILEPSY** : It is recurrent seizures unrelated to fever or to an acute cerebral insult

**SEIZURE** : It is paroxysmal involuntary disturbance of brain function, that may be manifested as an impairment or loss of consciousness, abnormal motor activity, behavioral abnormalities sensory disturbances, or autonomic dysfunction according to site involved some seizures are characterized by abnormal movements without loss or impairment of consciousness (*Haslam, 1992*).

## **Epidemiology and Morbidity Indices**

### **Age:**

Epilepsy is the second most common chronic neurological disorder after stroke affecting approximately 0.5–2% of the population (**Boon et al., 2001**). It is estimated that 0.5-1% of all children have epilepsy, with the majority presenting during infancy or early childhood (**Ottman, 2001**).

**Johnston (2008)**, reported that the cumulative lifetime incidence of epilepsy is 3% and more than half of cases begin in childhood. The annual prevalence of epilepsy is about 0.5–0.8% because many children outgrow epilepsy.

The overall incidence of childhood epilepsy from birth to 16 years is approximately 40 in 100.000 children per year (**Camfield et al., 1996**).

The incidence in the first year of life is about 120 in 100.000. Between one and ten years of age, the incidence is about 40-50 in 100.000 and then drops in the older ages to about 1% (**Hauser and Hesdorfer, 1990**).

### **Sex :**

Some studies found that males are more affected than females, and suggested that females might find it easier to conceal their fits (**Freitag et al., 2001**).

**El-Khayat et al. (1994)**, reported incidence in primary epileptic male: female of about 1.4: 1 and this was nearly similar to that reported by **Levadose et al. (1992)**, which was 1.25: 1. Other studies found almost an equal sex incidence (**Freitag et al., 2001**).