

# Knowledge of epilepsy and attitudes towards the condition among schoolteachers in Bobo-Dioulasso (Burkina Faso)

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**ABSTRACT** – Epilepsy is one of the stigmatising afflictions still common in Africa. The attitudes toward people with epilepsy are influenced by the degree of knowledge of the condition. This study was conducted to assess 260 teachers' knowledge and attitude towards epilepsy. They answered a semi-structured questionnaire in order to quantify their knowledge of and attitude towards epilepsy in Bobo-Dioulasso. Teachers were chosen at random. Almost all the teachers had heard about epilepsy, with 43.2% of them linking epilepsy to a central nervous system disturbance. Some teachers still thought that epilepsy was contagious or hereditary, and 15.4% objected to having epileptic children in their classes. Their knowledge of the clinical characteristics and first aid for a person during a seizure was unsatisfactory, and 56.5% of teachers who believed that epilepsy could be cured, thought that this disease should be treated by both modern and traditional medicines. The majority of teachers were interested in training involving clinical manifestations, aetiology of epilepsy and first aid procedures. Schools should offer some kind of information and assistance in health matters, and physicians should ensure that teachers have sufficient knowledge of epilepsy. More knowledge among primary school teachers should avoid discrimination against pupils with epilepsy.

**KEY WORDS:** epilepsy, knowledge, attitude, primary schoolteachers, Burkina Faso

Epilepsy is one of the most common neurological diseases of childhood worldwide. Its prevalence is about 15 per 1,000 in the general population of Burkina Faso [1]. Epilepsy still remains a public health problem, with socio-cultural, economical and medical impacts in Africa [2, 3]. Except for one paper dealing with the socio-cultural aspects of epilepsy among

secondary school students [4], there is no epidemiological study related to the prevalence of epilepsy either in the general population or in schools in our area. In the Bobo-Dioulasso teaching hospital, epilepsy in childhood represents about 30% of children visiting the neurological department [4]. Sometimes the social discrimination against persons with

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epilepsy may be more devastating than the disease itself. In general, teachers do not receive any formal instruction on epilepsy during their training. However, they could play an important part in the management and surveillance of children with epilepsy.

This study was undertaken to examine teachers' perception of epilepsy, with regards to their knowledge, attitude and beliefs.

## Methods

The study was done in Bobo-Dioulasso, an urban area in the Western region of Burkina Faso. Bobo-Dioulasso is a city (population 500,000) located in an agricultural and trading region and whose economy is based on industry and commercial activities. The city is considered to be a regional educational pole as there are several public and private primary and secondary schools and one public university.

For the academic year 2002-2003, the regional primary teaching headquarters had 989 primary schoolteachers (534 males and 455 females), from 79 public and 35 private primary schools. Two hundred and sixty teachers, chosen at random from 38 public and 19 private schools, were invited to participate in the study, by answering a questionnaire which quantified the knowledge, attitude and practice toward epilepsy among selected populations. The questionnaire (see Appendix p. 25) was administered in French by medical students, in February 2003.

The questions were mainly of the yes/no/don't know type, but teachers were also allowed to express their opinions by means of free answers. For the question about the first aid required when attending a person during a seizure, we considered that initial procedures such as protecting the head and staying near the subject until the end of the seizure, avoiding any harmful situations, were correct. Inadequate first aid were all those procedures which may be harmful to the patient, such as pulling the tongue or putting objects in the mouth.

**Table 1. Demographic characteristics of the teachers.**

<b>Public schools</b>	217	83.5%
<b>Private schools</b>	43	16.5%
<b>Teachers' age (years)</b>		
< 30	34	13%
30-49	204	78.5%
≥ 50	22	8.4%
<b>Sex</b>		
Male	121	46.5%
Female	139	53.5%
<b>Religion</b>		
Christians	178	68.4%
Moslems	79	30.3%
Others	3	1.2%
<b>Experience (years)</b>		
≤ 6	40	15.5%
6-10	55	21.3%
≥ 10	163	63.2%

## Results

### Socio-demographic characteristics of the sample

The main data related to the schools, teachers' age, sex and religions are listed in *table 1*. The responses to the questions about familiarity and attitude toward epilepsy are summarised in *table 2*. The answers to the question "How would you attend a person during a seizure?" are provided in *table 3*.

### Teachers' body of knowledge

Almost all of the teachers had heard about epilepsy and had seen a seizure, while three quarters of them knew someone with epilepsy.

The most frequently mentioned manifestations of epilepsy were loss of consciousness, convulsions, foaming at the

**Table 2. Responses to questions about familiarity and attitude towards epilepsy.**

Question	Yes	No	I don't know
Have you ever read or heard something about epilepsy?	98.8%	1.2%	
Do you know someone who has epilepsy?	77.3%	22.7%	
Have you ever seen an epileptic seizure?	90.8%	9.2%	
Do you think epilepsy is a contagious disease?	11.9%	73.8%	14.2%
Do you think there is discrimination against people who have epilepsy?	73.1%	26.9%	
Do you object to having a pupil with epilepsy in your class?	15.4%	84.6%	
Do you think that a pupil with epilepsy may be as intelligent as others?	81.2%	18.8%	
Do you think all the seizures are characterised by convulsive tremors and loss of consciousness?	85.8%	14.2%	

**Table 3. How would you attend a person during a seizure?**

Question	Yes	No
Pull the tongue	5%	95%
Remove nearby objects	78.7%	21.3%
Protect the head	60.9%	39.1%
Take to a hospital	42.6%	57.4%
Wait for the end of the seizure	34.5%	65.5%
Put an object between the teeth	27.5%	72.5%
Lay the subject down until the end of the seizure	64%	36%
Take the shirt out	27.9%	72.1%

mouth, amnesia. Among the 260 teachers, 57% mentioned manifestations related to "absence". In 43.2%, teachers related epilepsy to central nervous system disturbances. Epilepsy was thought to be a contagious disease by 11.9% and hereditary by 7.7% of the interviewees. The disease was characterised only by convulsive tremors and loss of consciousness for 85.8% of the interviewees.

According to teachers, school drop-outs (80.6%), failing and being held back (83.9%), idiocy (57.2%), and madness (30.7%) were the most frequently mentioned consequences of epilepsy.

#### **Treatment of epilepsy**

Seventy five per cent of the interviewees thought that epilepsy could be treated, while 13.5% thought that it could not be treated. Among those who thought that epilepsy could be cured, 15% thought that epilepsy could be cured only by modern medicine, and 56.5% mentioned that epilepsy could be cured by combination of traditional and modern medicine.

#### *Teachers' attitudes*

At least 40% of the teachers had some knowledge of the initial first aid to administer during a seizure, such as removing nearby objects, protecting the head or taking to the hospital. However, some incorrect ones such as pulling the tongue or putting objects between the teeth were given.

Fifteen point four per cent objected to epileptic students in their classes because these students could disturb others. Despite the fact that most of the teachers believed that this disease is a natural disease, they also thought that there is discrimination against people with epilepsy, mainly because 55% thought there was a risk of contamination. However they did not object to have epileptic children in their classes.

#### **Teachers' suggestions**

As teachers they had not received any form of health education about epilepsy, the majority of teachers (85.7%)

wished to know more about first aid for epilepsy, and would be interested in training for this, and for clinical manifestations and the aetiology of epilepsy.

## **Discussion**

In our study, most of the teachers were familiar with epilepsy as in other reports (5, 6), although many of them complained about the extent of their knowledge concerning this disease. In another study [7], the majority had never been informed about epilepsy and this finding reflected the great number of equivocal answers obtained from them. The mythical idea of epilepsy as a contagious disease [6, 8, 9, 10] comes from the past. Our work and that of others showed that this idea was still prevalent among certain teachers [6, 11, 12]. This seems to be one of the most relevant problems observed.

In Africa, epilepsy is often believed to be contagious, mainly through saliva and physical contact. This opinion was also noticed in other studies, especially in Africa [4, 6, 9, 10]. This may be one of the explanations as to why there are objections to teaching children with epilepsy. In general, parents object to allowing their children to have social contact with a person with epilepsy at school [8, 13, 14]. Some of the teachers objected to having epileptic children in their classes, although most teachers did not. In another report, 15% of the respondents preferred to place all children with epilepsy in a special classroom [15]. This preference may result from fear of having to deal with a seizure. Unfortunately, a teacher's negative attitude towards epilepsy as seen in a previous study [12] could lead to dismissal of the student.

Most of the respondents did not report any kind of discrimination against children with epilepsy. In another survey conducted in Zimbabwe, the majority of teachers would teach an epileptic child [6]. But in our study, as in others [6, 9, 16, 17, 18], it was assumed that epilepsy would affect school performance because of learning problems.

Unfortunately, many people still believe that epilepsy is a disease always observed in mentally impaired persons. In

our study, some teachers had doubts about the cognitive potential of students with epilepsy. Nineteen thought that epileptic students could not be as intelligent as other students.

Several teachers were misinformed about the clinical characteristics of the seizures, reflecting the lack of specific training. In general, most people still believe that only the generalised tonic-clonic type is really a seizure [4]. This attitude had already been noticed in a previous study dealing with knowledge and attitude towards epilepsy among traditional healers in Bobo-Dioulasso.

We think this is one of the most misleading aspects of the attitude towards epilepsy, and it points to the necessity of training. Many of the teachers were not really familiar with the initial procedures to employ when attending a person during a seizure. The initial procedures adopted by some teachers who answered this question would often be inappropriate, although the answers in general were not entirely unsatisfactory. Some of the incorrect procedures were related to mythical concepts. In another study in Thailand, half of the respondents who had experience with first-aid management of seizures also used improper and potentially harmful measures [15], and misconceptions regarding first aid are common [17]. These difficulties were related to poor educational programs for epilepsy. General public education campaigns for epilepsy must also be encouraged in order to improve the quality of life of people with epilepsy [15].

As suggested by many of the teachers, there is the need for wider public education about epilepsy. With increased levels of specific education among teachers and the general population, a more tolerant attitude towards epilepsy can be expected in the hope of achieving the objectives of the "Out of the Shadow" World campaign.

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#### References

1. Debouverie M, Kaboré J, Weber M, *et al.* Epidémiologie de l'épilepsie au Burkina Faso: à propos d'une enquête en milieu rural. In: Dumas M, Giordano C, Gentilini M, Chieze F. *Neurologie Tropicale*. Aupelf-Uref Paris (Eds. John Libbey Eurotext). 1993; 57-61.
2. Amani N, Durand G, Delafosse RCJ. Incidence des données culturelles dans la prise en charge des épileptiques en Afrique Noire. *Psychopathologie Africaine* 1994; 26: 331-9.
3. Rwiza HAT, Kilonzo GP, Haule J, *et al.* Prevalence and incidence of epilepsy in Ulanga, a rural Tanzanian district: a community-based study. *Epilepsia* 1992; 33: 1051-6.
4. Millogo A, Traoré DE. Etude des connaissances et des attitudes en matière d'épilepsie en milieu scolaire à Bobo-Dioulasso. *Epilepsies* 2001; 13: 103-7.
5. Bannon MJ, Wildig C, Jones PW. Teachers' perceptions of epilepsy. *Seizure* 3 1994; 3: 287-93.
6. Mielke J, Adamolekun B, Ball D, *et al.* Knowledge and attitudes of teachers towards epilepsy in Zimbabwe. *Acta Neurol Scand* 1997; 96: 133-7.
7. Tosetti MFV, Campos MA, Bauer CR, *et al.* Knowledge about epilepsy among teachers and epileptic patients. *Arq Neuropsiquiat* 1991; 49: 55-9.
8. Gambhir SK, Kumar V, Singhi PD, *et al.* Public awareness, understanding and attitudes toward epilepsy. *Indian J Med Res* 1995; 102: 34-8.
9. Matuja WB, Rwiza HT. Knowledge, attitude and practice (KAP) towards epilepsy in secondary school students in Tanzania. *Centr Afr J Med* 1994; 40: 14-8.
10. Nyame PK, Biritwun RB. Epilepsy: knowledge, attitude and practice in literate urban population, Accra, Ghana. *West Afr J Med* 1997; 16: 139-45.
11. Hsieh LP, Chiou HH. Comparison of epilepsy and asthma perception among preschool teachers in Taiwan. *Epilepsia* 2001; 42: 647-50.
12. Ojinnaka NC. Teachers' perception of epilepsy in Nigeria: a community-based study. *Seizure* 2002; 11: 386-91.
13. Bener A, Al-Marzooqi FH, Sztriha L. Public awareness and attitudes towards epilepsy in the Unit Arab Emirates. *Seizure* 1998; 7: 219-22.
14. Jensen R, Dam M. Public attitudes toward epilepsy in Denmark. *Epilepsia* 1992; 33: 459-63.
15. Kankirawatana P. Epilepsy awareness among school teachers in Thailand. *Epilepsia* 1999; 40: 97-501.
16. Madsen LP. Danish primary school teachers' knowledge about epilepsy in children. *Ugeskr Laeger* 1996; 158: 1977-80.
17. Pala I, Vankar GK. Epilepsy and teachers: a survey. *Indian J Pediatr* 1997; 64: 211-4.
18. Younis YO. Epidemiology of epilepsy among school populations in Khartoum Province, Sudan. *J Trop Med Hyg* 1983; 86: 213-6.

## Appendix

### QUESTIONNAIRE [Please mark the right response(s)]

Form # .....

School Name: ..... Sector #: ..... Inspection #: .....

Age: 0-29 years: ☐ 30-49 years: ☐ > 50 years: ☐Sex: Male: ☐ Female: ☐Religion: Christian: ☐ Moslem: ☐ Other: ☐Professional Experience: 0-5 years: ☐ 6-10 years: ☐ 10 + years: ☐

Place of professional experience:

Public school yes: ☐ no: ☐Private school yes: ☐ no: ☐1. Have you ever heard about epilepsy? yes: ☐ no: ☐2. Have you ever read any documents about epilepsy? yes: ☐ no: ☐

If yes, which ones: .....

Books yes: ☐ no: ☐Journals yes: ☐ no: ☐Posters yes: ☐ no: ☐Other yes: ☐ no: ☐

If yes, which ones: .....

3. What is epilepsy?

A natural disease yes: ☐ no: ☐Supernatural disease yes: ☐ no: ☐

4. What provokes epilepsy?

5. Do you think that epilepsy is contagious?

yes: ☐ no: ☐ don't know: ☐

6. Can particular foods provoke epilepsy?

yes: ☐ no: ☐ don't know: ☐

7. What are the signs of epilepsy?

Sudden loss of consciousness after a short episode. yes: ☐ no: ☐Convulsions yes: ☐ no: ☐Urination yes: ☐ no: ☐Remembers nothing after an episode yes: ☐ no: ☐Biting of the tongue yes: ☐ no: ☐Abundant saliva and drooling yes: ☐ no: ☐Unconsciousness followed by consciousness yes: ☐ no: ☐Other: yes: ☐ no: ☐

If yes, please cite: .....

8. Is there discrimination against those with epilepsy? Yes: ☐ no: ☐

If yes, what?.....

9. Do you think that all episodes of epilepsy have convulsions and loss of consciousness?

yes: ☐ no: ☐

If not, what other signs do you know of?.....

10. Is there a treatment for epilepsy?

yes: ☐ no: ☐ don't know: ☐

If yes, which ones do you know?

Modern treatment

yes: ☐ no: ☐

Which medicines do you know?: .....

Traditional medicines

yes: ☐ no: ☐

Mixed (traditional and modern)

yes: ☐ no: ☐

Other (please list): .....

11. Can these treatments cure epilepsy?

yes: ☐ no: ☐ don't know: ☐

12. What can you do during an episode?

Pull the tongue

yes: ☐ no: ☐

Remove any dangerous objects

yes: ☐ no: ☐

Protect his/her head

yes: ☐ no: ☐

Ensure good ventilation

yes: ☐ no: ☐

Take him/her to the hospital

yes: ☐ no: ☐

Wait for the end of the episode before doing anything

yes: ☐ no: ☐

Put an object between the teeth

yes: ☐ no: ☐

Lie the patient down

yes: ☐ no: ☐

Take off his/her clothes

yes: ☐ no: ☐

13. What are the consequences of epilepsy?

Insanity

yes: ☐ no: ☐

Idiocy

yes: ☐ no: ☐

Poor school results

yes: ☐ no: ☐

Drop outs

yes: ☐ no: ☐

Other

yes: ☐ no: ☐

Please cite

14. Do you think that an epileptic child can be as intelligent as other students?

yes: ☐ no: ☐

If not, why not? .....

15. Do you know anyone who has episodes of epilepsy?

yes: ☐ no: ☐

16. Have you ever seen an episode of epilepsy?

yes: ☐ no: ☐

17. Would you object to having an epileptic child in your classroom?

yes: ☐ no: ☐

If yes, why? .....

18. Have you ever had an epileptic child in your classroom?

yes: ☐ no: ☐

If yes, what did you do to help them?

yes: ☐ no: ☐

Spoke to his/her parents

yes: ☐ no: ☐

Made him/her change classes

yes: ☐ no: ☐

Send him/her to the dispensary

yes: ☐ no: ☐

Asked his/her parents to treat him/her before returning to class

yes: ☐ no: ☐

19. What kind of information would you need in order to help an epileptic child?

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