

Knowledge, practice and attitude toward epilepsy among primary and secondary school teachers in south Gezira locality, Gezira State, Sudan

Haydar E. Babikar, Islam M. Abbas¹

Departments of Medical Postgraduate Studies, and ¹Internal Medicine, Faculty of Medicine, University of Gezira, Gezira State, Sudan

Address for correspondence: Dr. Haydar E. Babikar, Department of Medical Postgraduate Studies, Faculty of Medicine, University of Gezira, Gezira State, Sudan. E-mail: haydarbabikir@yahoo.com

ABSTRACT

Objective: The attitudes toward school pupils with epilepsy are influenced by the degree of school teachers' knowledge of the disorder. Teachers usually do not receive any formal instructions on epilepsy during their training. This study aims to assess school teachers' knowledge, attitude and practice when dealing with epilepsy in school children. **Materials and Methods:** This study was part of a series mandated by the Gezira Epilepsy Care Programme (GECPC), to obtain baseline data for a community-adapted epilepsy education program. A pretested, semi-structured, 35-items questionnaire was the investigational tool. It was used to evaluate the knowledge of the basic facts about epilepsy among school teachers in this cross-sectional study. The questionnaire allowed teachers to express their opinions by means of free answers. The schools were chosen at random but not in a systematic equiprobability design. Two hundred teachers from public primary (100) and secondary (100) schools in the rural area of south Gezira Locality, Gezira State, Central Sudan, were recruited. **Results:** In this study, the majority of respondents had never been informed about epilepsy and therefore gave evasive answers to many questions. Few of the respondents considered epilepsy as contagious. None of participants objected to having epileptic children in their classes. Only 47 teachers (47%) in the primary schools had any knowledge of the initial procedures to help a child in seizure, presenting reasonable answers, compared to 64 (64%) teachers in the secondary schools. **Recommendations:** All school teachers should be given some kind of training in health services. The GECPC should involve teachers in its current training programs for caregivers and lay association to help epileptic patients.

Key words: Attitude, beliefs, epilepsy, knowledge, primary, secondary school, Sudan, teachers

INTRODUCTION

Epilepsy, one of the most common neurological disorders worldwide, with a prevalence rate of 2.8-19.5 per 1,000 of the general population, is more prevalent in early years of life.^[1,2] It accounts for 1% of the global burden of disease and about 80% of this burden is in the developing world such as Sudan, where in some areas 80-90% of affected people receive no treatment at all. Epilepsy is currently

recognized by many countries and concerned associations as a public health problem.

Persons with epilepsy are at the risk of developing a variety of psychological problems including depression, anxiety and psychosis.^[3,4] Sociocultural attitudes continue to have a negative impact on the management of epilepsy in many African countries.^[5] The disorder is associated with superstition, discrimination and stigma in many of the countries.^[6] Still deeply rooted in these communities the idea that the cause of these frightening attacks is possession by evil spirits.

Widespread ignorance, fear and misunderstanding has contributed negatively to the management of epilepsy. Thus, many children who have seizures of any kind are first seen and treated by religious or traditional healers.^[7,8] Epileptic children suffer untold social deprivations and

Access this article online

Quick Response Code:



Website:

www.jfcmonline.com

DOI:

10.4103/1319-1683.78633

discrimination in education, which may be more devastating than the disease itself.^[9]

Children with epilepsy have the same range of intelligence and abilities as the rest of the population.^[10] Most children with epilepsy can and should attend normal schools, their activities there limited only by certain factors. However, the attitudes toward school pupils with epilepsy are influenced by the degree of school teachers' knowledge of the disorder.^[2] Teachers usually do not have any formal instructions on epilepsy during their training, so they should be correctly informed about the disorder and encouraged to have a positive and optimistic attitude toward the condition. Other children may be quite helpful if they are aware that the seizure is benign. They should be motivated to offer help and pass on information on epileptic care to their family and friends.^[11]

To date, there is little research on public attitudes toward epileptics in the Sudan. In order to ensure the proper management of epilepsy, it is important to have a clear understanding of community attitudes toward the disease. The aim of this study is to ascertain the perceptions, attitudes and beliefs of school teachers both at primary and secondary levels, in central Sudan regarding the causes, manifestations and treatment options of epilepsy in school children.

MATERIALS AND METHODS

A pretested, semi-structured, 35-items questionnaire was the investigational tool. It involved questions mainly of the yes/no/do not know variety; however, it also allowed teachers to express their opinions by means of free answers. It was used to evaluate the knowledge of the basic facts about epilepsy among school teachers in this cross-sectional

study. Two hundred teachers from 11 public primary (n=100) and 11 secondary (n=100) schools, in the rural area of south Gezira Locality, Gezira State, in central Sudan, were invited to participate in the study by answering the questionnaire. The 22 schools were chosen at random, but not in a systematic equiprobability design.

The following criteria: Stay beside the seizing child to protect and turn the head to one side to permit the saliva flow; keep breathing normal, were considered correct first-aid procedures for attending the seizing child. Removal of the child's shirt and nearby objects or taking him to hospital, were considered less important. Pulling the tongue out or putting a spoon into the mouth were considered harmful and useless procedures.

To verify the statistical significance of the two groups of staff or between genders, Pearson χ^2 test was used.

RESULTS

This study was part of a series mandated by the Gezira Epilepsy Care Programme (GECPP), to obtain baseline data for a community-adapted epilepsy education program. It was designed to assess primary and secondary public school teachers, knowledge, practice on epilepsy and their attitudes toward epileptic pupils in the school. Two hundred school teachers who were recruited, responded to the questionnaire. The data relating to teachers' characteristics are presented in Table 1. Their mean age was 38.5 years, ranging between 18 and 58 years. A majority of both genders and type of school lay in the age range of 40-59 years. Male to female ratio was (1:1.1). Seventy-eight (39%) staffs of both primary and secondary schools had experience of 11-20 years (Pearson $\chi^2=7.396$, $P = 0.025$).

Table 1: School teachers' characteristics

| Variables | Primary school teachers (N. %) | Secondary school teachers (N. %) | Total 200 (%) | P-value |
|-----------------------|--------------------------------|----------------------------------|---------------|---------|
| Teachers' age (years) | | | | |
| 20-29 | 12 (12) | 08 (08) | 20 (10.0) | |
| 30-39 | 28 (28) | 33 (33) | 61 (30.5) | |
| 40-59 | 55 (55) | 46 (46) | 101 (50.5) | |
| >50 | 05 (05) | 13 (13) | 18 (09.0) | |
| Gender | | | | |
| Male | 44 (44) | 50 (50) | 94 (28.7) | 0.00 |
| Female | 56 (50) | 50 (50) | 106 (53.0) | |
| Graduation level | | | | |
| High school | 30 (30) | 00 (00) | 30 (15.0) | 0.26 |
| University | 64 (64) | 87 (87) | 151 (75.5) | |
| Postgraduate | 06 (06) | 13 (13) | 19 (9.5) | |
| Experience (years) | | | | |
| < 10 | 53 (53) | 34 (34) | 87 (43.5) | |
| 10-20 | 33 (33) | 45 (45) | 78 (39.0) | |
| > 20 | 14 (14) | 21 (21) | 35 (17.5) | |

Almost all recruited teachers had no previous training on epilepsy, yet all of them had heard about epilepsy. About 3.5% of all respondents had a relative or a pupil in their school with epilepsy [Table 2]. More than 11% of secondary school staff had witnessed a seizure. Some of them still thought that epilepsy was either contagious or an attack from a demon. Tables 3 and 4 shows that 58.5% of respondents did not know the cause of epilepsy and 33.3% mentioned various causes including brain malformation, head injury, heredity, evil assault and infection. More than 65% believed that epilepsy could not be cured and 33.1% believed that it could not be controlled even by medical treatment, and about 15% believed that epilepsy could be treated by religious healers or "Zaar" rites. The previous concepts were studied and analyzed by school types and gender without statistically significant correlations.

Table 5 shows that some of the respondents gave the epileptic child undue care and believed that his/her peers did the same. 80.7% of the respondents believed that parents would not allow an epileptic child to go to school for various reasons, including mental sub-normality (42.9%), fear of the child falling while alone (75.7%) and associated stigma (46.7%). More than 90% of the primary staff and 78% of secondary staff would not allow an epileptic child to play football (Pearson $\chi^2=33.918$; P .

0.000); almost similar responses were stated about riding a bicycle or swimming. All the primary school staff compared to 72% of the secondary schools staff responded that they would not allow the epileptic child to participate in gymnastics (Pearson $\chi^2=33.918$; P 0.000).

Table 6 shows that only 47 (47%) teachers in the primary schools had any knowledge of the initial procedures to help a child in seizure, presenting reasonable answers, compared to 64 (64%) teachers in secondary schools. A considerable number answered positively to hazardous procedures. Seventy-four percent of the respondents would keep away and not touch the child; 61.5% would take some potentially harmful measures such as pulling out the tongue, 76.5% would force a spoon into the mouth, but there was no statistical significance between the 2 staffs, Pearson χ^2 (2.453) with P -value 0.295. About 25.5% would take such unnecessary measures as removal of the child's clothes and more than 90% would rush the pupil to a hospital. Few of the respondents indicated that they would perform at least some of the correct first-aid measures.

DISCUSSION

This study aimed at getting some ideas about the knowledge,

Table 2: Teachers' familiarity with epilepsy by school types

| Variables | Primary school teachers (n = 100) | | | Secondary school teachers (n = 100) | | | P-value |
|-------------------------------|--------------------------------------|----|------------|--|----|------------|---------|
| | Yes | No | Don't know | Yes | No | Don't know | |
| Have a relative with epilepsy | 04 | 75 | 15 | 03 | 82 | 21 | 0.920 |
| Have a pupil with epilepsy | 18 | 61 | 15 | 21 | 62 | 18 | 0.057 |
| Never witnessed a seizure | 08 | 39 | 43 | 15 | 42 | 47 | 0.503 |
| Trained in epilepsy care | 04 | 86 | 04 | 01 | 99 | 05 | 0.392 |
| Knows helpful first aid | 03 | 96 | 01 | 08 | 86 | 06 | 0.036 |

Table 3: Teachers' knowledge of epilepsy by school types

| Variables | Primary school teachers (n = 100) | | | Secondary school teachers (n = 100) | | | P-value |
|----------------------------------|--------------------------------------|----|------------|--|----|------------|---------|
| | Yes | No | Don't know | Yes | No | Don't know | |
| Think epilepsy is contagious | 09 | 44 | 47 | 03 | 88 | 09 | 0.000 |
| Think epilepsy is a demon attack | 06 | 75 | 17 | 03 | 85 | 07 | 0.311 |
| Ascribed Szs to "Zaar" | 03 | 65 | 32 | 05 | 88 | 07 | 0.000 |
| Epilepsy is untreatable | 23 | 68 | 09 | 31 | 67 | 02 | 0.057 |
| Treatable by Zaar or healers | 16 | 47 | 37 | 15 | 76 | 09 | 0.000 |

Table 4: Teachers' knowledge of epilepsy by gender

| Variables | Male (n = 94) | | | Female (n = 106) | | | P-value |
|----------------------------------|---------------|----|------------|------------------|----|------------|---------|
| | Yes | No | Don't know | Yes | No | Don't know | |
| Think epilepsy is contagious | 05 | 60 | 29 | 07 | 72 | 27 | 0.723 |
| Think epilepsy is a demon attack | 03 | 75 | 16 | 06 | 85 | 13 | 0.485 |
| Ascribed Szs to "Zaar" | 04 | 72 | 18 | 04 | 81 | 21 | 1.00 |
| Epilepsy is untreatable | 33 | 56 | 05 | 21 | 79 | 06 | 0.050 |
| Treatable by Zaar or healers | 09 | 64 | 22 | 22 | 60 | 24 | 0.088 |

Table 5: Staff attitude and concepts of the child's daily activities

| Variables | Primary teachers | | Secondary teachers | | P-value |
|------------------------------------|------------------|----|--------------------|----|---------|
| | Yes | No | Yes | No | |
| A child given undue care by: | | | | | |
| The staff | 32 | 68 | 19 | 81 | 0.25 |
| His peers | 27 | 71 | 20 | 80 | 0.14 |
| A child treated with prejudice by | | | | | |
| Staff | 01 | 99 | 13 | 87 | 0.001 |
| Peers | 04 | 96 | 08 | 92 | 0.187 |
| Parents keep a child out of school | 89 | 11 | 71 | 29 | 0.001 |
| Prohibit a child from | | | | | |
| Football | 91 | 09 | 78 | 22 | 0.001 |
| Cycling | 93 | 06 | 88 | 12 | 0.32 |
| Gymnasium | 100 | 00 | 72 | 11 | 0.00 |
| Swimming | 78 | 22 | 79 | 21 | 0.30 |

Table 6: Gender behavior toward a child having a seizure

| Variables | Male (n = 90) | | | Female (n = 109) | | | P-value |
|---------------------------------|---------------|----|------------|------------------|----|------------|---------|
| | Yes | No | Don't know | Yes | No | Don't know | |
| Move away from child | 83 | 14 | 03 | 65 | 13 | 21 | 0.00 |
| Pull the child's tongue out | 74 | 13 | 21 | 49 | 42 | 09 | 0.00 |
| Put a spoon between teeth | 75 | 08 | 17 | 78 | 17 | 16 | 0.01 |
| Remove nearby objects | 58 | 26 | 16 | 69 | 25 | 06 | 0.63 |
| Position the child safely | 56 | 25 | 19 | 62 | 28 | 08 | 0.67 |
| Protect the child head | 58 | 08 | 34 | 60 | 21 | 18 | 0.00 |
| Ensure normal breathing | 35 | 22 | 43 | 38 | 20 | 41 | 0.60 |
| Remove the clothes | 32 | 47 | 21 | 19 | 07 | 13 | 0.13 |
| Take child to hospital | 90 | 04 | 06 | 96 | 01 | 00 | 0.61 |
| Wait for the end of the seizure | 11 | 78 | 11 | 14 | 47 | 39 | 0.00 |
| Ask for help | 87 | 12 | 01 | 92 | 01 | 07 | 0.00 |

attitude and practice of school teachers who form an important section of the community that deal with children, some of whom may have epilepsy. Although the methodology may be contentious, it fulfills the GECP strategies to raise the awareness of the population about epilepsy. Despite the limitations of the theoretical questions and the anticipation of the correct answers, the approach has been used in other studies.^[12,13] The study showed relatively low incidence of epilepsy among school children. This may be ascribed to the fact that most of the children of school age with epilepsy are not allowed by relatives to attend school.

A significant proportion of primary school teachers from Medan, Indonesia had negative attitudes and considerable misunderstanding of epilepsy.^[14] In comparison, this study showed that a few teachers were familiar with epilepsy, and a few had witnessed a patient in seizure. Only 5 (2.5%) of all respondents had had some training. This is different from studies performed elsewhere.^[15]

Behavioral intervention and behavioral management can positively influence the condition to enable the epileptic to live with his/her seizures and overcome the psychosocial impact of the disease.^[13] Prejudice, especially in schooling often limits and isolates pupils with epilepsy.^[16] This study indicted the lack of training of teachers. Thus, it is

necessary to set up a better educative program to lessen the myths and fears associated with epilepsy and help school pupils during seizure attacks at school.

Both primary and secondary schools had more middle-aged and female teachers on their staff. Since all these teachers had at least graduated from secondary school and most had university qualifications, there was an excellent base for their training.

The attitudes and epilepsy-related knowledge of teachers are an important component of the educational experiences of children with epilepsy, but unfortunately this has been neglected even in the developed world. A survey-based research study by Bishop and Boag of the attitudes and epilepsy-related knowledge of elementary and middle school teachers in the United States, showed that the exploration of teacher attitudes and knowledge was extremely limited in the United States. Their results suggested that although teachers' attitudes to epilepsy were generally positive, there were significant deficiencies in terms of general knowledge about epilepsy, its impact in educational settings and the appropriate management of epilepsy and seizures in the classroom.^[17]

In this study, similar to another study, the answers to many

questions showed that the majority of respondents had never been informed about epilepsy.^[14] The concept of epilepsy as a contagious disease comes from outmoded ideas and makes the life of epileptics quite miserable. People with epilepsy were viewed with fear, suspicion and misunderstanding and were subjected to enormous social stigma. They were treated as outcasts and punished. A few respondents considered epilepsy contagious. Other studies reported this among teachers.^[18]

None of the participants objected to having epileptic children in their class. In another report, 15% of the respondents preferred to put all children with epilepsy in a special classroom.^[16,19]

Belief in supernatural beings or forces is widely accepted by Sudanese people, not only among illiterates but also among well educated people, influencing all aspect of lives.^[8] Fifty-four (27%) teachers thought that epilepsy was an incurable disorder and that some patients could be managed with alternative medicine. In the Sudan, and probably its neighboring countries, 'Zaar' possession cults, have been practiced extensively for 50 years or more among Muslims and probably non-Muslims in central Sudan. Researchers have described 'Zaar' as propitiatory ceremonies held in essence to pacify the possessing evil spirits by means of generous feasting, ecstatic rhythmic music, gifts and sacrifices.^[8] In this study, nine (4.5%) respondents believed that epilepsy had something to do with evil souls (Zaar) and demons and a considerable number of both staffs believed that epileptic patients might benefit from 'Zaar' ritual ceremonies.

CONCLUSIONS

The school teachers in central Sudan had, at the time of the investigations, a relatively low level of awareness, and understanding of certain aspects of epilepsy, and a minority of the study population demonstrated unfair discriminatory behavior toward children with epilepsy. Schools should offer information on epilepsy and assistance by the health services and physicians must ensure that teachers have sufficient knowledge of the condition. Also education campaigns of the general public on epilepsy should be encouraged.

REFERENCES

1. Kobau R, Price P. Knowledge of epilepsy and familiarity with this disorder in the U.S population: Results from the 2002 health styles survey. *Epilepsia* 2003;44:1449-54.
2. Ozer JJ. Images of epilepsy in literature. *Epilepsia* 1991;32:798-809.
3. Dalrymple J, Appleby J. Cross sectional study of reporting of epileptic seizures to general practitioners. *BMJ* 2000;320:94-7.
4. World Health Organization. Bringing Epilepsy "Out of the Shadows." Press Release. Available from: http://www.who.int/mental_health/resources/epilepsy/en/global. [Last accessed on 2000 May].
5. Nubukpo P, Preux PM, Clement JP, Houinato D, Tuillas M, Aubretton C, *et al*. Comparison of sociocultural attitudes towards epilepsy in Limousin (France), in Togo and in Benin (Africa). *Med Trop (Mars)* 2003;63:143-50.
6. Awaritefe A, Longe AC, Awarife M. Epilepsy and psychosis; A comparison of societal attitudes. *Epilepsia* 1985;26:1-9.
7. Ahmed Al Safi. Traditional Sudanese Medicine; A primer for health care providers, researchers and students. 1st ed. El Sudan: Dar Azza; 2006.
8. Jilek-Aall L. Morbus sacer in Africa: Some religious aspects of epilepsy in traditional cultures. *Epilepsia* 1999;40:382-6.
9. Mezue WC, Mezue AA. Early detection of attitude towards epilepsy: A rational basis for positive attitudinal change. *Orient J Med (Nigeria)* 1989;1:30-3.
10. May TW, Pfafflin M. The efficacy of an Education treatment program for patients with epilepsy (MOSES): Results of controlled, randomized study. *Modular Service Package Epilepsy. Epilepsia* 2002;43:539-49.
11. Bribeck GL, Chomba E, Tadzhanon M, Bewe E, Haworth A. Zambian teachers: What do they know about epilepsy and how can we work with them to decrease stigma? *Epilepsy Behav* 2006;9:275-80.
12. Santos IC, Guerreiro MM, Mata A, Guimarães R, Fernandes L, Moreira Filho DC, *et al*. Public awareness and attitudes toward epilepsy in different social segments in Brazil. *Arq Neuropsiquiatr* 1998;56:32-8.
13. Tosetti MF, Campos MA, Bauer CR, Araujo MM, Pedrazolli S, Silva YB, *et al*. Knowledge about epilepsy among teachers and epileptic patients. *Arq Neuropsiquiatr* 1991;49:255-9.
14. Rambe AS, Sjahrir H. Awareness, attitudes and understanding towards epilepsy among school teachers in Medan, Indonesia. *Neurol J Southeast Asia* 2002;7:77-80.
15. Dantas FG, Cariri GA, Cariri GA, Ribeiro Filho AR. Knowledge and Attitudes toward Epilepsy among Primary, Secondary and Tertiary Level Teachers. *Arq Neuropsiquiatr* 2001;59:712-6.
16. Kim MK, Kim IK, Kim BC, Cho KH, Kim SJ, Moon JD. Positive trends of public attitudes towards epilepsy after public education campaign among rural Korean residents. *J Korean Med Sci* 2003;18:248-54.
17. Bishop M, Boag EM. Teachers' knowledge about epilepsy and attitudes toward students with epilepsy: Results of a national survey. *Epilepsy Behav* 2006;8:397-405.
18. Mielke J, Adamolekun B, Ball D, Mundanda T. Knowledge and attitudes of teachers towards epilepsy in Zimbabwe. *Acta Neurol Scand* 1997;96:133-7.
19. Dekker PA. Epilepsy: A manual for medical and clinical officers in Africa (revised ed). World Health Organisation; 2002.

Source of Support: Nil, Conflict of Interest: Nil

Dispatch and return notification by E-mail

The journal now sends email notification to its members on dispatch of a print issue. The notification is sent to those members who have provided their email address to the association/journal office. The email alerts you about an outdated address and return of issue due to incomplete/incorrect address.

If you wish to receive such email notification, please send your email along with the membership number and full mailing address to the editorial office by email.