Efficient communications will also allow the community-based physician or health worker to discuss operated cases with the surgeon. This will remove the need, as occurred twice in our experience, for the community health nurse to travel 170 km to discuss with the surgeon a patient he was concerned about.

In conclusion, we believe that surgeons in developing countries can, by means of an outreach service, make their skills more accessible to a large number of rural dwellers who have potentially fatal but easily correctable surgical conditions. This service can improve the surgical awareness of this population and offer sustainable, cheap and good quality surgical care to selected cases in a patient-friendly environment. This model provided an immediate, satisfactory surgical service. It should be replicated in other communities.

Acknowledgements

This work was made possible with the financial and moral support of Umar Isah Mungadi, the Maiyama Local Government Area Chairman. Lawali Koko, the Community Nurse, also contributed immensely towards the success of the visits. I am grateful to Dr Lasseini Ali of the Department of Surgery for making two visits when I was indisposed.

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Perception and attitude to epilepsy among teachers in primary, secondary and tertiary educational institutions in middle belt Nigeria

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TROPICAL DOCTOR 2005; 35: 153–156

SUMMARY Compared with the disability associated with repeated seizures or side-effects of antiepileptic medications, the social stigma associated with epilepsy is often a major handicap to people living with this condition. This study therefore looked at the knowledge, attitude and perception of teachers who see a lot of epileptics, relates on daily bases and have a high influence on students with epilepsy.

Self-administered questionnaires were used to obtain information from 460 randomly selected teachers in primary, secondary and tertiary educational institutions in Kwara State – middle belt of Nigeria. The response rate was 75%. Almost all of the teachers had heard about epilepsy, but their awareness does not equate with the acceptance and understanding of epilepsy. About 30.5% believed that it could be contracted through the saliva of an epileptic, 27.7% thought it was synonymous with possession with evil spirit, while 10% misunderstood epilepsy for insanity. Close to one-fifth of the teachers were of the opinion that epileptic students have a below average mental capacity compared with other students and so cannot attainment the highest possible education.

Negative attitude and bias towards epilepsy is still deeply ingrained among teachers in Nigeria. Apart from formal education, teachers need to have health education courses on common disease conditions such as epilepsy that are prevalent in school age. This might help to reduce prejudice and increase the acceptance of epileptic individuals into the classroom.

Introduction

Epilepsy is the most serious chronic brain disorder of a global dimension, affecting all races, ages, social classes, and countries. Epilepsy has been known to mankind for more than 4000 years and yet highly stigmatized. It is commonly associated with being possessed by evil spirit and imposes enormous physical, psychological, social and economic consequences for the afflicted, families and countries.[1] Although the problem is universal, it is greatest in the developing countries especially Africa where about 20% of the 50 million people living with

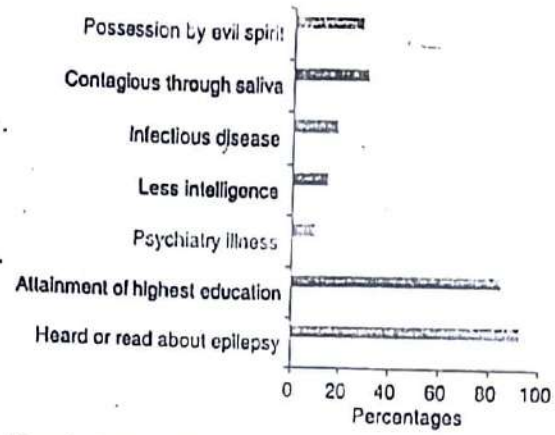

Figure 1 Respondents' knowledge of epilepsy

epilepsy resides.[2,3] There are also particular problems in managing epilepsy in people with learning difficulties.

The stigma attached to epilepsy in some instances has proved to be of greater hindrance than the disease or side-effect of the antiepileptic medication. Opportunities for marriage and employment are substantially worse for people living with epilepsy and its impact on the daily living has been shown to be destructive.[4] In Africa, the prejudice and beliefs in supernatural causes and the use of traditional treatment have been adduced to contribute to the underutilization of health facility, social isolation and discrimination towards epileptics.[5]

Some studies have looked at views of the public towards epileptic patients in developed and developing countries and recently in Nigeria.[6,7] However, very few studies have looked at people other than immediate families, who play important role in the lives of epileptics that relate on day-to-day bases with them such as schoolteachers and classmates. The Nigerian study was carried out in the eastern part of the country among primary school teachers.[7]

Since teachers see epileptics a lot, due to the fact that the impact of epilepsy is most severe in children and adolescents, the knowledge, attitude and perception of schoolteachers will have a great and direct influence, especially on these young individuals. Also teachers' knowledge of, and attitude towards students with epilepsy will have a huge influence on their concern. Measuring awareness and understanding of epilepsy is the first step in eradicating some of the biases: it is therefore appropriate to investigate the perception, knowledge and attitude of teachers in Kwara State (a state in the middle belt region of Nigeria, a confluent between north and south with an heterogeneous population). It is also important to determine the factors, which probably influence them.

Methods

Subjects

Four hundred and sixty teachers were randomly selected in Ilorin, Nigeria – primary (150), secondary (150) and tertiary institutions (160). Both public and private schools were selected and all participants were working in Ilorin township of Kwara State.

Materials

A standardized questionnaire[6] was modified and pre-tested. The survey questions were divided into categories of knowledge about epilepsy, familiarity with epilepsy and attitudes towards epilepsy. In addition, we also sought for belief in some traditional myths concerning epilepsy. The questionnaires were self-administered following informed consent. A total of 345 teachers responded, giving a response rate of 75%.

Data analysis

Frequency distributions of some variables were determined. Independent and dependent variables were cross-tabulated to examine the association and to test the statistical significance with such statistic as χ^2: For example, personal encounter with epilepsy by attitudes, level of education by attitudes and gender by attitudes.

Results

Demographic background

The age of the respondents ranged from 18 to 68 years (mean and SD of 38.4 ± 9.1). Our respondents were 54.7% men and 45.3% women (male:female ratio of 1.2:1). The occupational distribution of the teachers was 28.7%, 36.3% and 35% for those teaching in primary, secondary schools and tertiary institutions, respectively. About 69% were Christians, while 31% practice Islamic religion.

Knowledge

Majority of the teachers (92%) had heard or read about epilepsy, of whom 78% answered positively to having observed a person with one or more epileptic fits. Their knowledge, however, appears patchy since more than half of the respondents (61.8%) admitted not knowing the cause of epilepsy and several of them had wrong information on the aetiology. For instance, 30.5% were of the opinion that it can be contracted by contact with saliva of an epileptic (Figure 1), 5.7% thought it is a result of spells from witchcraft, while 15.5% believed that epilepsy is an inheritable condition (Table 1). In all, 90% of the respondents could differentiate epilepsy from mental illness, but 28% thought it was synonymous with being possessed with an evil spirit. This belief was held more by Christians (32.1%) than Moslems (19.2%).

It is of interest to note that 19.1% believed the mental capability of an epileptic student to be less than that of an average. Therefore, it is not surprising that 16% thought epileptics could not attain the highest education possible. Educational attainment of our respondents positively influences their belief that an epileptic individual can attain the highest educational level ($P<0.05$). – 86.7% of

Table 1 Respondent's reported causes of epilepsy

Causes	*No. (%)**
Natural	5(1.2)
Witchcraft	23(5.7)
Head injury	27(6.7)
Inconveniences (noise, stress, heat aggressiveness)	33(8.2)
Hereditary	62(15.5)
No idea	248(61.8)

*Multiple responses

Table 2 Factors that influenced attitude and perception of respondents to epilepsy

Factors	No. (%)	P value
Would accommodate epileptic student in class, by ever observing a fit		
Seen a fit	248 (86.4%)	$P<0.05$
Never seen a fit	63 (75.9%)	
Would accommodate epileptic in class, by the respondents' gender		
Male	160 (85.1%)	$P>0.05$
Female	136 (89%)	
Ever fitted, by concealment of epileptic child		
Would conceal	7(46.7%)	$P<0.05$
Would not conceal	8(53.3%)	
Belief that epileptics can attain the highest educational level, by the respondent's occupation, i.e. teacher in		
Primary school	88 (83.8%)	$P>0.05$
Secondary school	106 (83.5%)	
Tertiary school	107 (84.9%)	
Belief that epileptic can attain highest educational level, by the respondent's educational level		
Post-secondary	51 (76.1%)	$P<0.05$
University	24 (86.7)	

those with university education versus 76.1% of those with post-secondary education felt that epileptics could attain the highest possible educational level. Our respondents who had observed an epileptic fit were less prejudiced about the educational attainment of the epileptics ($P<0.05$) – 86.4% versus 75.9%. The grade of teaching of our respondents (primary, secondary or tertiary institution) does not influence their belief in the educational attainment of people living with epilepsy ($P>0.05$) (Table 2).

Attitude

As shown in Figure 2, 21.5% of respondents would be inclined to conceal the diagnosis of epilepsy of their family members. This is 'in order to prevent societal stigma' and their family from being discriminated against (48.6%) and to 'keep the family's secret' (25%). This attitude was not influenced by gender and those who had fitted in the past compared with others were less likely to conceal epilepsy in the family (53.3% versus 46.7%). Acceptance of a child with epilepsy into the class appears not to be a major problem among our respondents, as 86.3% of them would allow a known epileptic student into the class. Of these, 73% would allow the child to mix freely without restrain. However, teachers who had observed an epileptic fit, were more negatively influenced than those who had never seen a fit ($P<0.05$). Also, our respondents who believed that epilepsy is contagious were less inclined to have an epileptic in their class. In this series, gender does not influence the attitude of our teachers to accommodating epileptic students in the class (Table 2).

Regarding questions whether epileptic children should be sent to special schools, 33.2% believed that this is necessary. This attitude is influenced by observance of an epileptic fit in the past ($P<0.05$) and a belief that an epileptic has lower mental capacity compared with the general population. About 85.3% of the teachers would want to render help to people living with epilepsy. This is more among the male than the female respondents. Neither personal experience nor observation of a fit influenced this attitude. Of those who decline to offer their assistance, reasons given include being scared of epileptic seizure in 43.6%, while 56.4% did not know how to help. It is interesting to note that majority (95.1%) of our respondents were negatively inclined to their children marrying individuals with epilepsy. The educational level of the respondents and gender did not influence this attitude towards epileptics. Even personal experience of fits does not influence their attitude towards their children marrying epileptics.

Discussion

In this community-based study, we looked at the awareness of, attitude towards and understanding of epilepsy among a group of teachers teaching at different grades of schools in Ilorin, Kwara State, in the Middle Belt Region of Nigeria. Teachers were specifically studied because they constitute a highly educated group, come in contact more frequently with epileptics and wield a lot influence on students with epilepsy. Therefore, if they have incorrect beliefs, it is likely that others have even more so.

Almost all the teachers (99%) had a form of post-secondary education or the other, and 78% were educated up to university level. Observation from this study showed a deeply ingrained negative attitude against epilepsy more among Nigerians compared with other communities.[6,8,9] About 95% of the respondents objected to their children marrying persons with epilepsy, which is far more than 13–68% from other studies.[6,9] This bias was further reflected by over one-fifth of our respondents being reluctant to disclose the diagnosis if one of their family members had epilepsy. This might not be unconnected to the high societal prejudice and discrimination, isolation and exclusion shown not only to epileptic patients but also to their family members. This reason is possibly one of the several factors responsible for the large percentages of people living with epilepsy in developing countries like Nigeria not receiving diagnosis or treatment,[1] and why most epileptic seizures are poorly controlled.[3] This study also revealed that majority of the respondents were aware of these disorders, like those obtained from other series.[6,9,10] However, awareness does not equate with understanding and acceptance of epilepsy, as more than half of those who indicated awareness of the disease could not identify a cause, while some still thought that epilepsy was associated with insanity. Men as opposed to women were more favourably disposed to helping epileptic individuals. However, it is unclear whether this is due to cultural or biologic influence. Therefore, further studies might be required to address this issue.

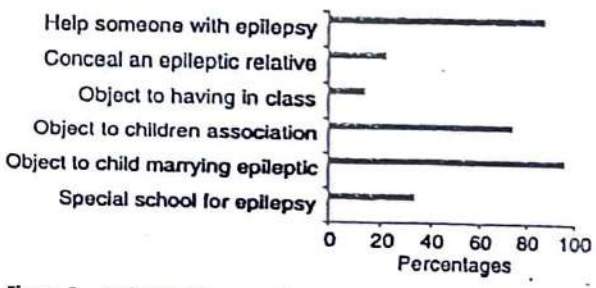

Figure 2 Attitude of respondents to epilepsy

On myths about epilepsy, about one-third of our respondents believed that epilepsy could be contracted by coming in contact with the saliva of an epileptic, similar to the findings from Brazil,[8] and 10% of our respondents misunderstood epilepsy for insanity.

The influence of religion was also assessed; Christianity rather than Islam influenced the belief that epilepsy is related to being possessed with evil spirit. Therefore, it will not be surprising if many of the people living with epilepsy would seek for spiritual intervention rather than orthodox medication in a community like ours where influence of religion is deeply ingrained.

Respondents who have had personal experience (ever fitted) were less likely to conceal the history of epilepsy in the family. This could be due to the fact that, from personal experience, they know that epilepsy is quite different from what the society likens it to be and so have a different view of the disease. The finding from this study corroborated an earlier one carried out within a rural community in the Southeastern Nigeria, which showed that education and urbanization have little or no influence on the bias against epilepsy among Nigerians.[7]

In conclusion, results from this study showed that majority of people knew very little about the aetiology of epilepsy; they had myths, misconceptions and prejudice against epilepsy. Opportunity for marriage is likely to be substantially worse for people with epilepsy. To remove the stigma that is attached to epilepsy, there is need to improve the knowledge and change teacher's attitudes. Modern diagnostic technology has made it possible to identify the cause of epilepsy in most patients, such as a small scar, cysts, tumours, infections, malformations and vascular irregularities, while in few patients this is due to an inherited defect in brain function, which are benign conditions, unassociated with neurological deficit, and have treatable seizures that often disappear with age.[11] Therefore, beliefs in some culture that people with epilepsy should not marry and have children are not justifiable. The acceptance of students with epilepsy into the class should be emphasized and equal educational opportunity be provided. The myths and misconception about epilepsy should be corrected through proper information and education targeted at teachers and epileptics themselves. Basic information on care of epilepsy should be included in first aid training in schools in Nigeria and other developing countries.

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