Original Research Article

Epilepsy Knowledge among Medical Students of University of Calabar, Nigeria

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Abstract

Background: Adequate knowledge empowers healthcare providers to succeed in their roles as promoters of public health. However, it has been reported that even healthcare workers are not exempted from having poor knowledge of epilepsy. Identification of such gaps in knowledge, albeit at an early stage, is beneficial. *Objectives:* To assess epilepsy knowledge among final year medical students in Calabar, Nigeria, in order to identify existing knowledge gap and generate data to guide design of training modules, on epilepsy, for healthcare professionals. *Methods:* With the use of convenience sampling method, we conducted a survey on epilepsy knowledge, among final year medical students of the University of Calabar, using a structured questionnaire incorporating the epilepsy knowledge scale. Data analysis was done with version 20 of the SPSS statistical package. *Results:* Seventy nine medical students, with 4 to 8 years duration of medical training, participated in the study. 2.5%, 19.0%, 51.9%, 25.3% and 1.3% of them had very poor, poor, borderline, good and very good levels of epilepsy knowledge, respectively. *Conclusion:* The respondents had poor knowledge of epilepsy, which could impact the quality of epilepsy care in the region. The identified gaps should be considered while designing training modules for healthcare professionals.
Keywords: Epilepsy, epilepsy knowledge, epilepsy knowledge scale.

INTRODUCTION

Epilepsy is a prevalent neurological disorder which affects all age groups. Up to 80% of the estimated 50 million persons suffering from epilepsy live in the low and middle income countries [1, 2].The prevalence of epilepsy is estimated to be between 5 to 74 per 1000 in developing countries, and 4 to 7 per 1000 in developed nations [3]. In Nigeria, values from 5.3 to 37 per 1000 population have been reported, with rural communities having the higher figures [4].

A majority of persons living with epilepsy in resource poor countries do not access optimal treatment [2]. Furthermore, they encounter stigma and discrimination, fostered by ignorance, within their communities [5, 6]. Erroneous beliefs and practices regarding epilepsy hinder access to optimal epilepsy care in developing countries already grappling with resource constraints [7].

Physicians and other healthcare workers are expected to play health advocacy roles and champion the cause of educating the populace on health related matters [8]. These roles are needed in sub-Sahara Africa and other developing regions which bear a disproportionately high share of the global burden of epilepsy and other diseases [1, 5]. To succeed in their roles as advocates and drivers of public health education, healthcare professionals should possess good knowledge of health issues of interest. Unfortunately, it has been demonstrated that even healthcare professionals are not exempted from inadequacies in the knowledge of epilepsy related issues [9-11].

It is beneficial to identify existing gaps in knowledge among healthcare professionals, albeit at an early stage as possible, in order to equip these professional drivers of public health interventions for their important roles in the society. One could infer that in addition to some other factors, the depth and quality of medical training received influence the capabilities and effectiveness of a physician. We reckon that exploring the knowledge base of undergraduate students at the terminal phase of their medical training to become physicians could give insights into their level of preparedness, inculcated by their training, to handle the health needs of their environment post-graduation. Feedbacks from such assessments may periodically expose certain aspects of training modules requiring reinforcement, modification or update, to align with the

constantly evolving nature of medical knowledge and practice.

In this study, we conducted a survey among final year medical students of the University of Calabar, in southern Nigeria, to evaluate their knowledge of epilepsy, with the ultimate purpose of identifying existing gaps in knowledge regarding epilepsy. Furthermore, we intend that this study serve to generate data to guide the design of training curricular towards equipping healthcare professionals for their roles as health advocates and effective public health educators.

METHODS

This survey was conducted at the University of Calabar, the sole Federal tertiary educational institution located in Calabar, which university graduates about 60 to 100 new doctors annually. Calabar, the capital city of Cross River state in southern Nigeria, is a major tourist destination in the country with a recorded population of 371,122 during the last national population census [12]. A study at the government owned tertiary health facility in the city, reported seizure disorders to be one of the most common neurological outpatient presentations; accounting for about 17.2% of cases seen at the neurology clinic [13].

The study was conducted after obtaining requisite approval, and the process was in agreement with the Helsinki declaration of 1975, as revised in 1983.

The respondents were restricted to final year medical students of the University of Calabar, and incorporated all members of the graduating class of 2018, recruited using a convenience sampling technique. Using a structured self-administered questionnaire, we collected information from consenting class members, within the hour before a scheduled classroom lecture. A few who were absent from the lecture hall at the time of the survey, were excluded.

The survey instrument comprised of sections on demographic characteristics of participants, their personal experience with epilepsy, and components of the epilepsy knowledge scale; a nineteen item instrument that has been used to assess epilepsy knowledge among populations [14]. An epilepsy knowledge score was derived for each respondent by computing the percentage of their total correct responses to the nineteen items. In this study, percentage scores between 0 to 19, 20 to 39, 40 to 59, 60 to 79 and 80 and beyond were interpreted as very poor, poor, borderline, good and very good levels of knowledge, respectively.

Data analysis was done with version 20 of the SPSS statistical package. Simple proportions were used for categorized data whereas means and standard deviation (SD) were used for continuous variables. Student's t test was used to compare numerical variables. Regression analysis was used to determine predictors of good epilepsy knowledge. The level of significance was set at $p < 0.05$.

RESULTS

Out of the 99 final year medical students of the University, 79 fully participated in the study, comprising of 41 (51.9%) male and 38 (48.1%) female final year medical students. The mean ages of the respondents were 27.8 years ±5.65 and 25.6 years ± 3.77 for the male and female respondents, respectively, with an overall mean age of 26.7 years ± 4.94 (p= 0.044). Their duration of medical training ranged from 4 years to 8 years, with mean duration of 6.1 years ± 0.82, mode and median values of 6 years, respectively.

None of the students reported having a prior diagnosis of seizure disorder. A family history of seizure disorder was reported by 6.3% of them. 15.2% reported a diagnosis of seizure disorder in a person close to them. Among the respondents; 2.5%, 19.0%, 51.9%, 25.3% and 1.3% had very poor, poor, borderline, good and very good levels of epilepsy knowledge, respectively.

96.2% and 93.7% of them were unaware of the recommendations of policies protecting persons with seizure disorders, regarding disclosure of epilepsy status to driving authorities and during job searches, respectively. Duration of years spent in undergraduate medical training (p = 0.814), having a family member or friend suffering from epilepsy (p= 0.946), age of the respondents (p=0.182) and respondent`s gender (p= 0.169) were not found to be predictors of good performance on the epilepsy knowledge scale.

The performance of the respondents on the component items of the epilepsy knowledge scale is as shown in table-1.

DISCUSSION

Our study exposed a poor knowledge of epilepsy among the respondents. It may seem that our observation merely corroborated the widely reported inadequate knowledge of epilepsy among diverse populations [9, 10, 15]. A worrisome aspect of our observation is that these respondents were medical doctors in training who had few weeks to their graduation, and release into the society as doctors, to assume expected active roles as drivers of public health education and health advocacy. Deficiency in information transfer to patients fostered by situations in which the healthcare professionals, who are usually relied upon to promote public awareness of health related issues, are themselves ignorant of the very knowledge they are to propagate, could reinforce and be a plausible explanation for the perpetuity of erroneous

beliefs and practices regarding epilepsy in the communities; especially in resource poor regions which

bear the brunt of epilepsy disease burden.

Table-1: Respondents' performance on the Epilepsy Knowledge Scale

Epilepsy knowledge scale item	% of correct responses
Everyone can have a seizure, given the appropriate circumstances	44.3
Epilepsy is a symptom of mental illness	63.3
People with epilepsy are as capable as other people	73.4
All people with epilepsy have similar symptoms	89.9
An epileptic seizure always results in loss of consciousness	88.6
Every seizure destroys a number of nerve cells in the brain	21.5
An EEG can always prove the diagnosis of epilepsy	43.0
People with epilepsy can take an active part in sports	51.9
People with epilepsy should avoid strenuous work because this can provoke seizures.	31.6
All people with epilepsy should avoid flashing or strobing lights (eg. disco lights, TV or computer screens	35.4
People with seizures should not swim without an accompanying person	93.7
All people with seizures should avoid working with open machinery	17.7
People who seize only during sleep may hold a driver's license	32.9
If persons with epilepsy drive, they must inform the driving authorities about their condition	3.8
On job applications, a patient should always disclose his/her epilepsy condition	6.3
In most cases, doctors can control epileptic seizures with medication	92.4
If a patient expects a seizure, he/she should take an additional dose of anti-epileptic medication	41.8
Blood samples can be used to measure the concentration of antiepileptic medication in the body	74.7
If your seizures are controlled for some months, you can reduce the dose of anti-epileptic medication	38.0

Details of their performance on the epilepsy knowledge scale show that most of the respondents were aware of the diverse nature of the manifestations of epilepsy symptoms, the safety concerns regarding swimming by persons with epilepsy and affirmed that epilepsy seizures are eminently treatable with medications. We expect that these will subsequently translate to better recognition and prompt diagnoses of epilepsies, in addition to valuable inputs in improving societal health seeking behaviour, in the course of their medical practice. On the other hand, their worst performance was on the aspects of knowledge regarding the appropriateness of mandatory disclosure of epilepsy status to driving authorities and in the course of job search.

It has been widely established that EEG studies may return as normal even in people with epilepsy. Their performance assessed by our study instrument show that the participants were oblivious of this trend, as more than half of them did not know that EEG studies could fail to show evidence of epilepsy in people with epilepsy. The sensitivity of first interictal EEG has been reported to range between 25 – 56%, with varying specificity values of 78 – 98% [16, 17]. Failure to appreciate such limitations of EEG studies in the evaluation of suspected epilepsy cases and a rigid belief that EEG studies always prove the diagnosis of epilepsy would promote under diagnosis of epilepsy.

The inadvertent misdiagnoses lead to wrong treatment choices and mismanagement of affected persons.

Despite the affirmation by a majority of the respondents, that epilepsy seizures can be controlled with medication in most cases, more than a half of them showed lack of grasp of the principles guiding the dosing and administration of anti-epilepsy medication.

Overall, only about 27% of the respondents showed at least, a good level of epilepsy knowledge as defined in our study. A similar study in Brazil observed that senior medical students had very good knowledge of epilepsy, although their excellent knowledge of epilepsy did not erase their bias against marriage to a person with epilepsy [15]. Healthcare professionals are presumed to be well-educated in the communities and knowledgeable in health related matters such as epilepsy. The observed deficiency in our respondents might be a consequence of the quality and scope of exposure received in the course of their training. The pattern of performance on the epilepsy knowledge scale among these final year medical students provides insights which could be exploited in the design of training modules for health professionals on epilepsy. Some have expressed the idea that medical schools should be held responsible if they fail to adapt their research and training towards building the capacity of future Physicians to meet the priority health needs of their communities and regions [18].

CONCLUSION

We conclude that these soon to graduate medical students, possess inadequate knowledge of epilepsy. These deficiencies could negatively impact their contributions, as future health care professionals, to optimal management of epilepsy. Our results are in keeping with reports of poor knowledge of epilepsy in various segments of the society, inclusive of healthcare related populations. Such inadequacies on the part of the supposedly enlightened healthcare professionals hinder efforts at mitigating prevalent misconceptions about epilepsy.

In order to optimize epilepsy care, we recommend that the identified knowledge gaps in our work and similar studies be taken into consideration while designing training modules for health care professionals in epilepsy and related issues.

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Conflict of interests

We, the authors have no conflict of interests to declare, and affirm that the study was wholly funded by us.

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