

KNOWLEDGE, ATTITUDE AND BELIEFS ABOUT EPILEPSY AMONG ADULTS IN A NORTHERN NIGERIAN URBAN COMMUNITY

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Key words: Knowledge, attitude, beliefs, Epilepsy

Abstract

Background: This study was designed to examine the knowledge, attitude and beliefs about causes, manifestations and treatment of epilepsy among adults in a northern Nigerian urban community.

Methods: A cross sectional study design was used. A pre-tested, semi-structured questionnaire was administered to 200 adults residing in Gyadi Gyadi quarters of Kano metropolis, northern Nigeria.

Results: Majority of the respondents (39.0%) mentioned that epilepsy is manifested by convulsions. Other manifestations of the disorder proffered by the respondents included falling down (36.0%), rolling of eyes (11.3%) and foaming of mouth (10.3%). Up to 25.2% of respondents did not know the cause of epilepsy. Heredity was identified as a cause of the disorder by (19.9%), followed by brain injury (19.2%), possession by evil spirits (16.3%) and brain infection (11.7%). Overall (n=52, 26%) of the respondents had good knowledge of epilepsy whereas (n=62, 31%) and (n=86, 43%) had fair and poor knowledge of the disease respectively. Majority of respondents (47.0%) opted for spiritual healing. This was followed by orthodox medical care (34.0%) and the use of traditional herbal medicines (19.0%). Majority of respondents harboured positive attitudes such as tolerance, kindness and sympathy towards epileptics. Literate respondents were more likely to exhibit positive feelings towards epileptics when compared to non-literate subjects ($\chi^2 = 31.5$ df = 1 $P < 0.001$).

Conclusions: The low level of knowledge and misconceptions demonstrates the need for community educational programmes aimed at demystifying epilepsy with a view to allaying fears and mistrust about the disease as well as lessen stigmatization toward epileptics.

Mots clés : La connaissance, attitude, croyance, épilepsie

Résumé

Fond : Cette étude a été conçue pour examiner la connaissance, l'attitude et la croyance au sujet des causes, des manifestations et du traitement de l'épilepsie parmi des adultes dans une communauté urbaine au nord du Nigéria.

Méthode : Une conception d'étude transversale a été employée. Un questionnaire pré-testé et semi-structuré a été administré à 200 adultes résidant dans le quartier de Gyadi Gyadi de métropole de Kano, au nord du Nigéria.

Résultats : La majorité des répondants (39,0%) a mentionné que l'épilepsie est manifestée par des convulsions. D'autres manifestations du désordre offert par les répondants ont inclus tomber par terre (36,0%), le roulement des yeux (11,3%) et écumer de la bouche (10,3%). Jusqu'à 25,2% de répondants n'ont pas su la cause de l'épilepsie. L'hérédité a été identifiée comme cause du désordre (19,9 %), suivie par dommages de cerveau (19,2%), possession par les esprits méchants (16,3%) et l'infection de cerveau (11,7%). Générale (n=52, 26%) des répondants a eu la bonne

connaissance de l'épilepsie tandis que (n=62, 31%) et (n=86, 43%) a eu une connaissance juste et faible de la maladie respectivement. La majorité de répondants (47,0%) a opté pour le curatif spirituel. Ceci a été suivi du soin médical orthodoxe (34,0%) et de l'utilisation des médecines de fines herbes traditionnelles (19,0%). La majorité de répondants a eu des attitudes positives telles que la tolérance, la bonté et la sympathie vers les épileptiques. Les répondants instruits avaient la tendance d'exhiber des sentiments positifs vers l'épileptique une fois comparés aux sujets non-instruits (* $\chi^2 = 31.5$ df = 1 $P < 0,001$).

Conclusions : Le niveau bas de la connaissance et des idées fausses démontre le besoin de programmes éducatifs communautaires visés à démystifier l'épilepsie en vue d'apaiser des craintes et la méfiance au sujet de la maladie aussi bien qu'à diminuer la stigmatisation vers l'épileptiques.

Introduction

Epilepsy is basically a chronic brain disorder characterized by recurrent derangement of the nervous system due to sudden excessive disorderly discharge of the cerebral neurons. The discharge results in almost instantaneous disturbance of sensation, loss of consciousness or psychic function, convulsive movements or some combination of these.¹ Epilepsy is one of the most common neurological disorders worldwide.² Persons with epilepsy are at a risk of developing a variety of psychological problems including depression, anxiety and psychosis.³ The reported prevalence of active epilepsy in developing countries range from 5 to 10 per 1,000 people.⁴ However, worldwide prevalence rate of epilepsy varies from 2.8 to 19.5 per 1,000 of the general population and is more prevalent among children.⁵ In Nigeria, the estimated prevalence of epilepsy is 8 to 13 per thousand people.⁶ In developing countries the disorder is to a significant degree associated with a host of parasitic and bacterial infectious diseases that are largely absent in industrialized countries.⁷

Sociocultural attitudes continue to have a negative impact on management of epilepsy in many African countries.⁸ The disorder is enrobed in superstition, discrimination and stigma in many of these countries.⁹ Religious and socio-cultural beliefs influence the nature of treatment and care received by people with epilepsy. Many communities in Africa and other developing countries believe that epilepsy results from witchcraft or possession by evil spirits and therefore treatment should be through the use of herbs from traditional doctors, fetish priests and religious leaders. This contributes to deterioration of the patients' condition and development of complications. Persons with epilepsy are shunned and discriminated against in education, employment and marriage in Africa because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public. These observations came from many studies carried out in Africa, including Nigeria and Liberia.⁷ Pioneer investigators in Nigeria have also presented a gloomy picture of epilepsy as a highly infectious and disastrous disease in the eyes of the public. As a result, epileptic persons suffer untold social deprivations and discrimination in education, employment, marital life and so on.¹⁰

Although knowledge and perception of epilepsy has been reported from southern Nigeria,¹⁰⁻¹² to date there is little research on public attitudes towards epileptics from northern Nigeria, a culturally distinct part of the country. In order to ensure proper management of epilepsy it is important to have a clear understanding of community attitudes towards the disease. The aim of this study is to ascertain the perceptions, attitudes and beliefs of adults regarding the causes, manifestations and treatment options of epilepsy in a traditional Hausa community in Kano, Nigeria.

Materials and Method

The study population included 200 adults residing in Gyadi Gyadi quarters which is situated in Tarauni Local Government area of Kano metropolis. This typical Hausa community has 101,100 inhabitants¹³ and is divided into ten wards. Majority of the populace are Muslims with most of the adult males being traders and civil servants and the women being full time housewives. The area has one government health clinic, two private clinics and several traditional healers. The Aminu Kano Teaching hospital is within a walking distance from the area. Most of the inhabitants of the area utilize the government health facilities with the rich ones preferring private hospitals and the teaching hospital. A small proportion of them utilize traditional healers or buy drugs directly from hawkers and chemists. The teaching hospital offers health education programmes at the hospital's clinics and over the FM radio on topical health issues. Consent of the Chairman of Tarauni Local Government and that of the ward head of the area were obtained for this study and informed consent was obtained from respondents prior to commencement of the interviews.

Study design

The study was cross-sectional and descriptive in design.

Sample size and sampling technique

The sample size for this study was determined using an appropriate statistical formula for minimum sample size [$N = Z^2 pq/d^2$]¹⁴ and findings from a previous

study in Tanzania¹⁵. Multistage sampling was adopted. Four wards of the ten into which Gyadi Gyadi quarters is divided were selected randomly. After numbering, 50 houses each were selected from the four wards using a table of random numbers. Where more than one household was found in a house, one household was selected by balloting. One adult was selected at random from each household for interview. A final sample size of 200 was obtained.

Data collection

A semi-structured questionnaire was designed to evaluate the knowledge, attitude and beliefs of adults in Gyadi Gyadi quarters regarding epilepsy. The questionnaire was in three parts; the first section enquired about personal data including age, sex, ethnicity, religion, marital status, educational level and occupation; the second part elicited awareness of existence of epilepsy in the community, knowledge of its causal factors, knowledge of whether the disease is transmissible or not, methods of prevention, what is to be done when a seizure or fit occurs and awareness and preference of treatment option; while the third part explored the attitudes, perception and beliefs of the respondents towards epilepsy and epileptics. Attitudes such as fear, avoidance, anger, suspicion, mistrust, hostility were considered negative, whereas sympathetic attitude, willingness to care for epileptics and tolerance were considered positive attitudes.

The study instrument was validated using a pilot study of 10 randomly selected households in nearby Hausawa quarters which has similar demographic characteristics. Results of the pilot study were used to modify the questionnaire. Ten medical undergraduates fluent in Hausa language were trained for 5 days, and administered the questionnaires.

Data analysis

The data obtained was analyzed using the Epi-Info 6.0 statistical software package (CDC Atlanta, Georgia, USA). Descriptive statistics were depicted using absolute numbers, simple percentages, range, and measures of central tendency (mean, median) as appropriate. The Chi-square test was used to test the significance of associations between categorical groups. All tests of hypothesis were two-tailed with type 1 error rate fixed at 5%. In the second part of the questionnaire, correct responses to questions on knowledge were given a score of one point if answered correctly. No point was given for wrong answers. Based on this grading, a total of 10 points were allocated to the section on knowledge about epilepsy, such that those who scored 7-10 points were considered as having good knowledge, 4-6 points had fair knowledge, while a score of 0-3 points was considered as representing poor knowledge.

Results

A total of 200 respondents were interviewed with 112 males and 88 females. Their ages ranged from 18 to 71 years. Majority (60.5%) of the respondents were

aged between 18 to 54 years. The Hausa-Fulani ethnic group constituted 81.5% of respondents and the rest were Yoruba 9.5%, Igbo 5.0% and other minority Nigerian tribes 4.0%. About 25% of respondents had primary education, 28.5% had secondary education, and 16.5% had tertiary (post secondary school) education. Approximately 30.5% of the population sampled had no formal education. Nevertheless, 87.0% of all respondents had Qur'anic education. Majority of respondents (89%) were Muslims and the remaining 11.0% were Christians. Twenty percent were single, 70.5% were married and 5.5% were widowed. Thirty percent of the male respondents were civil servants, 33.9% were traders while 14.3% were students. The rest were Qur'anic teachers (8.9%). Commercial motorcyclists (6.2%), mechanics (3.6%) and welders (2.7%). Forty two percent of the female respondents were full time housewives, 19.3% were civil servants, 13.6% were students, 10.2% were petty traders, 4.6% were food sellers, 8.0% were tailors and 2.3% were typists. All the 200 respondents have heard or read about epilepsy and 26.5% of them have witnessed an epileptic attack. Seventeen persons interviewed had a relative with epilepsy but because of the small sample size we did not separately analyze findings from this group of participants.

The most common symptoms proffered by the respondents as manifestations of epilepsy (Table 1) included convulsion (39.0%), falling down (36.0%), rolling of eyes (11.3%), foaming of mouth (10.3%), urination (2.2%) and biting of tongue (1.4%). Up to 25.2% of respondents did not know the cause of epilepsy (Table 2). Heredity was identified as a cause of the disorder by (19.9 %), followed by brain injury (19.2%), possession by evil spirits (16.3%) and brain infection (11.7%). Birth trauma and witchcraft were uncommon responses. After assigning scores to the responses, (n=52, 26%) of the respondents had good knowledge of epilepsy whereas (n=62, 31%) and (n=86, 43%) had fair and poor knowledge of the disease respectively. When considered by sex, (n=32, 28.6%), (n=49, 43.8%) and (n=31, 27.7%) of male respondents had good, fair and poor knowledge compared to (n=20, 22.7%), (n=13, 14.8%) and (n=55, 62.5%) of females. This difference was statistically significant ($\chi^2=27.9$ df=2 $P<0.01$).

The majority of respondents (47.0%) opted for spiritual healing when questioned about preferred source of treatment for the epileptic. This was followed by orthodox medical care (34.0%) and the use of traditional herbal medicines (19.0%) as shown in Table 3.

Table 4 shows that majority of the respondents harboured positive feelings toward epileptics, chiefly in the form of tolerance (n = 131) and kindness (n = 113). A total of 98 respondents (49.0%) were sympathetic towards the plight of the epileptic with females showing more inclination for sympathy compared to their male counterparts. The female respondents, however, tend to be more fearful and suspicious and avoid the epileptic more than their male counterparts.

Literacy status was significantly associated

with the type of feeling exhibited towards epileptics by the participants. Literate respondents were more likely to exhibit positive feelings toward the epileptic when compared to non-literate subjects ($\chi^2 = 31.5$, $df = 1$, $P < 0.001$) (Table 5).

Table 1: Respondents perceived manifestations of epilepsy

Manifestation	No. * (%)	Rank order
Convulsion	162 (39.0)	1
Falling down	149 (36.0)	2
Rolling of eyes	47 (11.3)	3
Foaming of mouth	43 (10.3)	4
Urination	9 (2.2)	5
Biting of tongue	6 (1.4)	6

*Multiple responses recorded. Percentages represent proportions of responses obtained

Table 2: Perceived causes of epilepsy

Perceived cause	No. * (%)	Rank order
Do not know	71 (25.2)	1
Heredity	56 (19.9)	2
Brain injury	54 (19.2)	3
Spirit possession	46 (16.3)	4
Brain infection	33 (11.7)	5
Birth trauma	20 (7.1)	6
Witchcraft	1 (0.4)	7

* Multiple responses recorded

Table 3: Respondents' preferred treatment for epilepsy

Response	No. (%)
Orthodox medicine	68 (34.0)
Traditional medicine	38 (19.0)
Spiritual healing	94 (47.0)
Total	200 (100)

Table 4: Distribution of attitude towards the epileptic by gender

Attitude	Male (%)	Female (%)	Total
Tolerance	81 (61.8)	50 (38.2)	131
Kindness	70 (61.9)	43 (31.8)	113
Sympathy	35 (35.7)	63 (64.3)	98
Indifference	35 (63.6)	20 (36.4)	55
Fear	21 (47.7)	23 (52.3)	44
Suspicion	8 (30.8)	18 (69.2)	26
Avoidance	31 (35.6)	56 (64.4)	87
Hostility	22 (59.5)	15 (40.5)	37

Table 5: Influence of literacy level of respondents on attitude towards the epileptic

Literacy level	Positive attitude	Negative attitude	Total
Literate	120	19	139
Not literate	29	32	61
Total	149	51	200

$\chi^2 = 31.5$, $df = 1$ $P < 0.001$, Significant

Discussion

Convulsions and falling down were the most frequently mentioned perceived symptoms of epilepsy mentioned by the respondents. This can be explained by the fact that these two symptoms are easily noticeable. Convulsions and falling down were followed by rolling of eyes and foaming of the mouth both of which usually occur during an epileptic attack. In this study 17.5% of the respondents believed that epilepsy is transmissible through physical contact, saliva and droplet infection. Similar findings were reported from Enugu,¹² Benin¹⁰ and Ibadan.¹⁹ Elsewhere in Africa Matuja⁷ reported similar findings among secondary school students in Tanzania.

Up to 25.2% of the respondents admitted ignorance of the cause of epilepsy. Similar findings were reported by Nyame and Biritwum¹⁶ among literate adults in an urban population in Ghana. Possession by evil spirits ranked fourth among the perceived causes of epilepsy mentioned by respondents in the present study. This concurs with the report from the Ghanaian study¹⁶ in which 27.9% of respondents mentioned witchcraft or evil spirits as the cause of epilepsy. This is a common belief in African society as most diseases affecting the brain or the mind are assumed to be due to affliction by evil spirits. This belief is responsible to a large extent for patients with seizure disorders and psychiatric illnesses to seek treatment from traditional healers.

Spiritual healing was the most preferred method of treatment for epilepsy. Respondents who opted for this method of treatment were mostly those who believed the disorder was a result of affliction by evil spirits. This choice of method of treatment is also not unconnected with religious inclination of the study population. Muslims in particular regard prayer as capable of healing many ailments. Up to 34.0% of respondents showed preference for orthodox medical care as a method of treatment of epilepsy. Respondents who opted for orthodox medical care were also mostly those who believed the disorder has an organic cause.

Although a lot of misconceptions existed about epilepsy in the study population e.g. epilepsy is transmissible by contact and that epileptics must be isolated or avoided, several respondents would share a room, eat with or employ persons with epilepsy. This was also observed by Nyame and colleagues¹⁶ in Ghana. Male respondents perceive epileptics more favourably than their female counterparts. The preventive measures proposed by our respondents included offering prayers, choice of spouses from families without epileptic members. These responses are similar to those proffered by the respondents in Enugu¹² and Ghana.¹⁶ The high frequency of positive attitude among the respondents may be due to the fact that an epileptic is not viewed as a mentally sick person. He is therefore considered to be in control of his mental faculties like any other person, except during an attack. This is even more so in an urban setting where the study population is more educated

and less superstitious when compared to persons in the rural area.

Literacy status was significantly associated with the type of feeling exhibited towards epileptics by the participants. Similar findings were reported by Nyame and Biritwum in Ghana¹⁶ and Santos et al in Brazil.¹⁷ A community based study of teachers' perception of epilepsy in Enugu, Nigeria by Ojinaka¹² also found that paucity of good knowledge of epilepsy resulted in negative attitude and beliefs despite the teachers' high level of education. Similar findings were reported by Millogo and Siranyan in a study among school teachers in Bobo-Dioulasso, Burkina Faso.¹⁸

The low level of knowledge and misconceptions found among respondents demonstrates the need for educational programmes aimed at demystifying epilepsy. A better understanding of the disorder among the public would allay fears and mistrust about epileptics in the community as well as lessen stigmatization towards such persons. Our finding would be useful to health policy makers in the design of community health education programmes on epilepsy.

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