

# Knowledge, Attitudes, and Practices with Respect to Epilepsy among Nurses in the City of Niamey, Niger

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## Abstract

**Objective** The aim of this study is to evaluate knowledge, attitudes, and practices about epilepsy among nurses in the city of Niamey, Niger, to identify existing gaps in their knowledge concerning epilepsy to formulate recommendations to improve the quality of care for people with epilepsy.

**Materials and Methods** We conducted a descriptive cross-sectional survey on epilepsy knowledge among nurses in the city of Niamey, using a self-administered questionnaire including questions related to knowledge about epilepsy.

**Results** A total of 98 nurses (29 men and 69 women) were included in the survey. The mean age of the participants was of  $32.88 \pm 10.87$  years (range: 17–58 years). The sample consisted of 10.2% of student nurses, 64.3% of college patent, and 25.5% of bachelor nurses. Only 22.4% of participants reported having heard about epilepsy during their training programs. Among the respondents, 43.9% of them had already attended at least one epileptic seizure. Epilepsy is considered as a psychiatric illness and contagious disease by 11.2 and 19.4% of respondents, respectively. The main transmission routes reported were physical contact with an epileptic person (14.3%) and contact with saliva (4.1%). Epilepsy was considered as an incurable disease by 5.1% of respondents. When someone has an epileptic seizure, 10.2% of respondents think that physical contact with this person should be avoided to prevent from contamination. Only 6.1% of respondents had appropriate attitudes when someone has an epileptic seizure such as lying the patient on his side, clearing the airway if necessary, and diazepam injection.

**Conclusion** Considering that people with epilepsy are largely cared out by nurses in Niger, the results of the study justify the need to train nurses with respect to epilepsy to improve their knowledge about epilepsy and the care of people with epilepsy.

## Keywords

- ▶ knowledge
- ▶ attitudes
- ▶ practices
- ▶ epilepsy
- ▶ nurses
- ▶ Niamey
- ▶ Niger



## Introduction

The hospital frequency of epilepsy is 29.5% in Niger and mainly affects men and people younger than 20 years.<sup>1</sup> In Niger, epilepsy remains a major public health concern, and people with epilepsy experience socioeconomic problems that affect their quality of life more than the disease itself. False beliefs about this condition such as serious, contagious, and incurable illness result in the rejection of the people with epilepsy by the society responsible for social integration problems.<sup>2,3</sup> A recent study conducted in Niamey, Niger<sup>2</sup> on knowledge, attitudes, and practices about epilepsy among primary and secondary school teachers found that 38.6% of teachers considered epilepsy as an impurity, 9.7% as witchcraft, and 46.2% as a contagious disease.

In Niger, people with epilepsy are usually cared out by nonphysician health care workers, nonspecialist physicians, and non-neurologist physicians who work mainly in primary and secondary care facilities. Thus, good general knowledge about epilepsy of health care professionals will have a key role in their communication with people with epilepsy and their entourage and therefore could change the public's misconceptions about epilepsy and promote positive attitudes regarding people with epilepsy. Unfortunately, studies have reported among some health care professionals a lack of good knowledge about epilepsy and its problems.<sup>4-6</sup>

The present study was designed to evaluate knowledge, attitudes, and practices about epilepsy among nurses in the city of Niamey, Niger to identify existing gaps in their knowledge concerning epilepsy to formulate recommendations to improve the quality of care for people with epilepsy.

## Materials and Methods

### Study Design and Participants

Details of the design and protocol have been reported previously.<sup>2</sup> In brief, we conducted a descriptive cross-sectional survey among nurses in the city of Niamey, Niger between June and July 2019 to evaluate their knowledge about epilepsy. There are two categories of nurses in Niger: (1) state-certified nurses who have an education level "baccalaureate + 3 years" and (2) basic health workers who have an education level "college patent + 3 years." The training modules are very different, and state-certified nurses receive more in-depth training than basic health workers. Overall, these two categories of nurses practice the same activities in hospital settings.

After obtaining their verbal consent, we distribute to nurses questionnaires including questions relating to knowledge about epilepsy that they fill themselves. Each respondent completes the questionnaire alone based on their knowledge about epilepsy without resorting to a colleague to limit the influence of each other in the responses. We recover the completed form when the participant finishes completing the questionnaire.

The study was approved by the Institutional Review Board of the Faculty of Medicine of Abdou Moumouni University

of Niamey (Niger) in accordance with the Declaration of Helsinki.

### Statistical Analysis

All statistical analyses were performed using the IBM SPSS statistical software package, version 22.0 (SPSS Inc.; New York, United States). The qualitative variables were expressed as percentages and the quantitative variables as mean  $\pm$  standard deviation. The Chi-square test of Pearson and Fisher's exact test was used to compare the proportions of the qualitative variables. The *p*-values <0.05 were considered statistically significant.

## Results

### Demographic Characteristics of the Participants

► **Table 1** details the demographic characteristics of the 98 nurses who completed the questionnaire. The mean age of the participants was  $32.88 \pm 10.87$  years (range: 17–58 years). Women were more represented with a sex ratio of 2:4. The sample consisted of 10.2% of student nurses, 64.3% of college patent, and 25.5% of bachelor nurses.

### Knowledge, Attitudes, and Practices about Epilepsy of the Participants

► **Table 2** presents the percentages of responses to questions regarding participants' general knowledge about epilepsy.

**Table 1** Demographic characteristics of the participants

Variables	Number (%)
Sex	
Males	29 (29.6)
Females	69 (70.4)
Sex ratio (females/males)	2.4
Age (y)	
Mean	$32.88 \pm 10.87$
Range	17–58
Mean/males	$29.79 \pm 8.12$
Mean/females	$34.17 \pm 11.64$
<30	43 (43.9)
30–39	25 (25.5)
40–49	20 (20.4)
$\geq 50$	10 (10.2)
Profession	
Nurses	98 (100)
Education level	
Student nurses	10 (10.2)
College patent	63 (64.3)
Bachelor graduates	25 (25.5)
Religion	
Islam	98 (100)
Christianity	0

**Table 2** General knowledge of participants about epilepsy

Variables	Number (%)
Have you ever heard about epilepsy?	
Yes	98 (100)
No	0
Who told you about epilepsy?	
Friends	10 (10.2)
Elders (parents and grandparents)	9 (9.2)
At school during training	22 (22.4)
Media	5 (5.1)
I have already attended an epileptic seizure	43 (43.9)
Parent or relative of an epileptic person	1 (1)
Nonrespondents	8 (8.2)
What do you think is the manifestation of an epileptic seizure? (more than one answer is allowed)	
Convulsions	67 (68.4)
Bite of the tongue	4 (4.1)
Loss of urine	24 (24.4)
Foaming from the mouth	25 (25.5)
Loss of consciousness	28 (28.6)
Behavioral disorders	13 (13.3)
Do not know	5 (5.1)
What do you think is the cause of epilepsy? (more than one answer is allowed)	
Brain disease	77 (78.6)
Hereditary disease	8 (8.2)
Psychiatric illness	11 (11.2)
Witchcraft	2 (2)
Possession by geniuses or spirit possession	9 (9.2)
Insanity	0
Do you think that epilepsy is a contagious disease?	
Yes	19 (19.4)
No	76 (77.6)
Do not know	3 (3.1)
What do you think is the transmission route for epilepsy? (more than one answer is allowed)	
Contact with the saliva of an epileptic person	4 (4.1)
Contact with places of crisis	2 (2)
Breathing the gas emitted during the crisis	3 (3.1)
Physical contact with an epileptic	14 (14.3)
By eating foods touched by an epileptic	2 (2)
Contact with the blood of an epileptic	1 (1)
Do you think that epilepsy is a treatable condition?	
Yes	88 (89.8)
No	5 (5.1)
Do not know	5 (5.1)
How do you think that epilepsy is treated? (more than one answer is allowed)	
Modern medicine	78 (79.6)
Traditional medicine and or maraboutage	29 (29.6)
Combination of modern medicine and traditional medicine and or maraboutage	18 (18.4)
Do not know	5 (5.1)

**Table 3** Attitudes and practices of participants toward epilepsy

Variables	Number (%)
What would you do if someone has an epileptic seizure? (here we present the answers of the participants)	
Call the doctor	1 (1)
Calm the seizure by chlorpromazine injection	3 (3.1)
Calm the seizure by diazepam injection	30 (30.6)
Calm the seizure by promethazine injection	2 (2)
Calm the seizure by diazepam injection and refer the patient to a hospital	5 (5.1)
Lying the patient on his side, clearing airway if necessary, and injecting diazepam	6 (6.1)
Refer the patient to a hospital	12 (12.2)
Pour water on the patient	3 (3.1)
Read the Quran	1 (1)
Do not know	35 (35.7)
What will you avoid doing if someone has an epileptic seizure? (here we present the answers of the participants)	
Abandon the patient	16 (16.3)
Physical contact with the patient	10 (10.2)
Make noises around the patient	9 (9.2)
Do not leave dangerous objects around the patient	3 (3.1)
Contact with the places of the crisis	2 (2)
Do not know	58 (59.2)

A total of 22 participants (22.4%) reported having heard about epilepsy during their training programs. Among the respondents, 43.9% of them had already attended at least one epileptic seizure. Epilepsy is considered as a psychiatric illness and contagious disease by 11.2 and 19.4% of respondents, respectively. A total of 29 respondents (29.6%) think that epilepsy is treatable by traditional medicine and or maraboutage, while 78 (79.6%) think of the treatment by modern medicine. Total 18 participants (18.4%) think that epilepsy is treatable by the combination of modern medicine and traditional medicine and or maraboutage.

The attitudes and practices of the participants were presented in **Table 3**. Total 35 participants (35.7%) said that they did not know what to do when someone has an epileptic seizure. However, 5.1% of respondents reported inappropriate attitudes such as "calm the seizure by chlorpromazine or promethazine injection." Only 6.1% of respondents had appropriate attitudes when someone has an epileptic seizure such as "lying the patient on his side, clearing the airway if necessary, and diazepam injection." Ten participants (10.2%) think that physical contact with the epileptic person should be avoided to prevent from contamination when this person has an epileptic seizure.

Significantly, nurses aged <30 years ( $p = 0.048$ ) and student nurses ( $p = 0.035$ ) think that epilepsy is transmitted when you breathe the gas emitted during the seizure (**Table 4**). Student nurses believe that epilepsy is a contagious disease but without significance ( $p = 0.082$ ).

**Table 4** Knowledge about epilepsy of the participants by age group and education level

Variables	Age group				P-value	Education level			p-Value
	<30 (n = 43)	30–39 (n = 25)	40–49 (n = 20)	>50 (n = 10)		Student nurses (n = 10)	College patent (n = 63)	Bachelor graduates (n = 25)	
Psychiatric illness	6 (14%)	1 (4%)	3 (15%)	1 (10%)	0.837	1 (10%)	9 (14.3%)	1 (4%)	0.353
Brain disease	33 (77%)	21 (84%)	15 (75%)	8 (80%)	0.942	7 (70%)	49 (77.8%)	21 (84%)	0.590
Hereditary disease	6 (14%)	1 (4%)	0	1 (10%)	0.207	2 (20%)	5 (7.9%)	1 (4%)	0.070
Witchcraft	0	2 (8%)	0	0	0.986	0	0	2 (8%)	0.399
Possession by geniuses	4 (9.3%)	1 (4%)	2 (10%)	2 (20%)	0.476	1 (10%)	7 (11.1%)	1 (4%)	0.210
Is epilepsy a contagious disease?	10 (23.2%)	3 (12%)	4 (20%)	2 (20%)	0.439	4 (40%)	12 (19%)	3 (12%)	0.082
Contact with the saliva of an epileptic	3 (7%)	1 (4%)	0	0	0.068	2 (20%)	1 (1.6%)	1 (4%)	0.161
Contact with places of crisis	2 (4.6%)	0	0	0	0.080	1 (10%)	1 (1.6%)	0	0.154
Breathing the gas emitted during the crisis	3 (7%)	0	0	0	0.048	2 (20%)	1 (1.6%)	0	0.035
Physical contact with an epileptic	6 (14%)	3 (12%)	2 (10)	2 (20)	0.871	2 (20%)	9 (14.3%)	3 (12%)	0.465
By eating foods touched by an epileptic	1 (2.3%)	0	1 (5%)	0	0.377	1 (10)	1 (1.6%)	0	0.154
Is epilepsy a curable disease?	38 (88.4%)	22 (88%)	18 (90%)	10 (100%)	0.471	10 (100%)	56 (88.9)	22 (88%)	0.328
Modern medicine	32 (74.4%)	20 (80%)	17 (85%)	9 (90%)	0.258	8 (80%)	50 (79.4%)	20 (80%)	0.706
Traditional medicine and or maraboutage	13 (30.2%)	6 (24%)	8 (40%)	2 (20)	0.893	3 (30%)	20 (31.7)	6 (24%)	0.385

The *p*-value was calculated using Fisher's exact test.

## Discussion

In this descriptive cross-sectional study, we evaluated knowledge about epilepsy among nurses in the city of Niamey, Niger. Because in Niger, people with epilepsy are usually cared out by nonphysician health care workers and nonspecialist physicians, we have chosen to specifically survey nurses in the city of Niamey to evaluate their knowledge about epilepsy to identify existing gaps to make recommendations to introduce detailed information modules regarding epilepsy into the nurses training program. However, the study findings revealed misperceptions and erroneous beliefs about epilepsy in some nurses. Epilepsy is considered as a psychiatric illness and contagious disease by 11.2 and 19.4% of respondents, respectively. These results confirm the literature data on the lack of good knowledge about epilepsy and its problems among some health care professionals.<sup>4-6</sup> In our study, 9.2% of respondents considered epilepsy as a disease due to possession by geniuses or spirit possession. Similar results (10.5%) were reported in a Saudi Arabian study.<sup>3</sup> Religious and sociocultural beliefs play an important role in the misperception and erroneous beliefs about epilepsy among some health care professionals who do not have good knowledge about this disease. In the present study, 10.2% of respondents think that physical contact with the epileptic person should be avoided to prevent from contamination when this

person has an epileptic seizure. This attitude seems dangerous because these nurses will not be able to help an epileptic person at the time of the seizure and at the right time. We found, in the present study, 29.6% of participants suggesting treatment by traditional medicine and or maraboutage, and 18.4% treatment by the combination of modern medicine and traditional medicine and or maraboutage. Religious and sociocultural beliefs greatly influenced the response of participants in the choice of treatment method. Thus, for some respondents, traditional medicine is the most suitable and effective treatment for epilepsy.

Although 43.9% of respondents had already attended at least one epileptic seizure, only 6.1% of respondents had appropriate attitudes when someone has an epileptic seizure such as "lying the patient on his side, clearing the airway if necessary, and diazepam injection." In a Zambian study, 92.6% of respondents recommended lying the patient on his side.<sup>4</sup> However, 58.8% of respondents in this same study recommended putting something hard in the mouth of the patient, which is an inappropriate attitude. We recorded in our study inappropriate attitudes in 5.1% of cases such as calm the seizure by chlorpromazine or promethazine injection. Besides, 12.2% of the respondents believe that the patient must be immediately transferred to a hospital as soon as he has an epileptic seizure without thinking about doing initial care.

These attitudes demonstrate a low level of knowledge about epilepsy and its problems among some nurses in Niger.

In the majority of cases, respondents declare that they did not receive detailed information or formal instructions on epilepsy during their training. Some respondents declared that they received practical information on epilepsy in the workplace with physicians. Almost all of the respondents had shown their satisfaction with the information provided to them regarding epilepsy, and they underlined that continued medical training on this condition is necessary for nurses already in post. This initiative of continued medical training for nurses already in post and integration of detailed information modules on epilepsy in the training modules for future nurses must be heard by the responsible for training nurses and those of the Ministry of Health.

Our study has some limitations. First, this study included only nurses working in the public sectors of the city of Niamey. Second, the narrowness of the sample studied due to a large number of nurses not wishing to participate in the survey. Thus, the generalization of our findings may be limited.

## Conclusion and Recommendations

The study shows misperception and erroneous beliefs and inappropriate attitudes about epilepsy among some nurses in Niamey, Niger. Considering that people with epilepsy are largely cared out by nurses in Niger, the study findings justify the need to integrate into the training modules of future

nurses' modules of detailed information related to epilepsy to enable them to acquire know-how about epilepsy. It is also necessary to organize continued medical training for nurses already in post.

### Conflict of Interest

None declared.

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