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Knowledge, Attitudes and Practices with respect to Epilepsy among Preparatory School Students in Mekelle city, Ethiopia

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ABSTRACT

Background: Epilepsy, one of the most common serious chronic brain disorders, is poorly understood by the public and has been associated with numerous misconceptions and beliefs. This, coupled with its sometimes dramatic clinical manifestations, has often resulted in a strong social stigma.

Objective: This study was conducted to find out knowledge, attitudes and practices toward epilepsy among preparatory school students in Mekelle, North Ethiopia.

Methods: A semi-structured questionnaire used previously by various authors was self-administered to 391 students studying in four preparatory schools in Mekelle, North Ethiopia.

Results: About 85.7% had heard about epilepsy, 19.23% had read on the subject, 67.03% had known someone with epilepsy and 57.14% had witnessed a seizure. Those who would offer equal employment opportunities to people with epilepsy (PWE), refuse to associate with, or refuse to marry PWE represented 64%, 16.8%, and 44.8%, respectively. Negative attitudes seemed to be reinforced by beliefs that epilepsy is evil spirit (33.24%), contagious (28.6%) or a kind of insanity (51.6%). Majority of respondents (70.33%) opted for Holy water, followed by physicians (64.01%), traditional healer (44.78%) and prayers (32.14%).

Conclusions: The study revealed practices and knowledge toward epilepsy were limited, especially with respect to epilepsy's cause, manifestation, and management. Moreover, there were statistically significant differences between respondents attitude with respect to epilepsy based on age, gender, level of education, religion and school category.

Keywords: Epilepsy, knowledge, attitude, practice, students

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 [1,2] that results in almost instantaneous disturbance of sensation and loss of consciousness [2]. Epilepsy is one of the most common neurological disorders that affect approximately 70 million people worldwide [3]. Nearly 80% of people with epilepsy are found in developing countries, where epilepsy remains a major public health problem, not only because of its health implications but also for its social, cultural, psychological and economic effects [1,3]. However, worldwide prevalence rate of epilepsy varies from 2.8 to 19.5 per 1,000 of the general population [4]. The incidence of epilepsy in Ethiopia was reported to be 64/100,000 population as indicated in a community-based study in rural Central Ethiopia [5].

Religious and socio-cultural beliefs influence the nature of treatment and care received by PWE [1,6,7]. Wrong perceptions and beliefs about epilepsy create serious negative social and psychological consequences for PWE such as fear, humiliation, and limitations in social interactions [8]. One of the greatest challenges facing the optimal management of epilepsy is stigma and discrimination [4,9-11]. In particular, incorrect information about the causes and inheritability of epilepsy increase the stigma and make the lives of PWE more difficult [12]. Many communities in Africa believe that epilepsy results from insanity, witchcraft or possession by evil spirits [1,13]. Persons with epilepsy are shunned and discriminated against education, employment and marriage because epilepsy is seen as a highly contagious and shameful disease in the eyes of the public [1]. This discrimination against epileptic patients could also be due to

lack of knowledge and understanding about epilepsy [13].

Social discrimination against people with epilepsy affects mainly school children [9,14] as they are growing and have interactions at multiple levels [15]. A necessary first step to increasing the knowledge and changing attitudes among students in particular and the population in general, is to assess what they already know [11]. Gauging the knowledge, attitude and understanding of epilepsy is the first measure towards alleviating discrimination [13]. Therefore, the present study was conducted to assess the knowledge, attitude and practice towards epilepsy among preparatory school students of Mekelle city.

Methods

Respondents

The ethical approval and clearance was obtained from Research and Ethics Review Committee of College of Health Sciences, Mekelle University. We surveyed 391 students randomly selected from four preparatory schools in Mekelle city. This survey was carried out in one government 302(82.97%) and three private 62(17.03%) preparatory schools students. Students who did not give informed consent and those with previous or current epileptic seizures were excluded.

Survey setting

This cross-sectional study was carried out in Mekelle city. Mekelle is the largest town in Northern Ethiopia and lies about 783 Km North of Addis Ababa, the capital city of Ethiopia. There were approximately 4,445 students who were studying grade eleven and twelve in one government and four private preparatory schools in Mekelle. The study period was from March to June, 2011.

Survey methods

As there was no previous study conducted in Mekelle on the current topic, a 50% expected prevalence of epilepsy was used. Sample size calculation indicated that sample of 391 students were appropriate considering 95% confidence interval, 5% margin of error and 10% contingency for non-response. The number of selected students in each school was proportionate to the school population. Participating classes and students in each class were randomly selected in each school. Instruction on how to complete the questionnaires was given to each class before the distribution of the questionnaires. After permission was obtained from the school principals, a total of 391 questionnaires were distributed to the four schools and self-administered by consenting students who were present in campus.

Survey questionnaire

The survey instrument was a 13-item questionnaire in English, designed to evaluate knowledge, attitudes and practices with respect to epilepsy that had been used in recent studies in Cameroon [7,10,11,16], South Korea [2], Brazil [4], India [9], Malaysia [13] and Turkey [15]. The questionnaire was in two parts; the first section elicited demographic information including age, sex, school category, educational level (grade) and religion; while the second part elicited awareness of existence of epilepsy, attitude toward epilepsy, knowledge of cause, manifestation, first aid measure and treatment option of epilepsy (see [Appendix](#)).

Data analysis

Data were recorded in a pre-coded questionnaire and data entry was done using the Excel program. Then MedCalc version 12.4 was used to do the data analysis.

Continuous variables such as age were expressed as the mean \pm standard deviation, whereas categorical variables were presented as frequencies (%). Chi-square test was used to examine the association between responses and each demographic variable in a univariate analysis. Significance level was set at $P < 0.05$.

Results

Demographic data

A total of 364 out of 391 questionnaires distributed were completely filled and returned, giving a participation rate of 93.1%. There were 212 females and 152 males giving a female to male ratio 1.4. Average age was 17.3 years (range = 15–29); 235(64.56%) and 129(35.44%) of the participants were between 14 to 19 and 20 to 30, respectively. Most of the participants said that they were Christians 353(96.98%). Majority, 302(82.94%) and 221(60.71%) of the students were from government school and grad eleven, respectively. The key demographic variables are summarized in **Table 1**.

Familiarity with epilepsy

About 85.70% of participants had heard about epilepsy and 57.14% had witnessed a seizure while 67.03% had known someone with epilepsy. Approximately 19.23 % of them had read about the condition. Students in the age range of 20 to 30 years ($P < 0.01$), those in governmental schools and those who declared to be Christians were the most likely to have heard about epilepsy ($P < 0.001$), as summarized in **Table 2**. Students in the age range of 14 to 19 years and students of the higher classes were more likely to know someone with epilepsy ($P < 0.05$); while female students were more likely to have witnessed a seizure ($P < 0.05$) than male students. Students of private school ($P < 0.001$) and higher class ($P < 0.05$) were

more likely to have read about epilepsy compared to their counterpart.

Understanding and attitudes toward epilepsy

From the respondents, 16.8% would object to association with PWE, 44.8% would not allow marriage with PWE, 64% would offer equal employment to PWE while 55.8% students think that there are jobs that PWE can't do. On the other hand, 51.6% and 53% of students think epilepsy is contagious and curable, respectively; while 28.6% students believe epilepsy is a form of insanity. **Table 3** gives a summary of how demographic variables relate with understanding and attitudes with respect to epilepsy. Muslims were more likely to object to marriage with PWE compared to Christians ($P<0.05$); likewise, females were more likely to object association with PWE ($P<0.05$). None of the variable studied seemed to influence the attitudes that there are some types of jobs not suitable for PWE. Students in the age range of 20 to 30 years ($P<0.05$) believed that PWE should be employed in jobs like other people compared to the age group 14 to19. In similar fashion, female students believed that epilepsy is a form of insanity compared to male students ($P<0.05$). Significantly, private school students were more likely to think that epilepsy is contagious ($P<0.0001$) than government school students. Moreover, younger students ($P<0.01$), those of higher level, private school and male students were most likely to agree that epilepsy is curable ($P<0.05$).

Knowledge and practices with respect to epilepsy

Concerning the understanding of and practice toward epilepsy (**Table 4**), most participants mentioned more than one cause, manifestation, or treatment. About 55.8% of students thought that epilepsy is a brain disease. Evil spirit (33.24%), blood disorder (31%), birth defect (25.50%), heredity (23.60%) and punishment for wrong doing

(17.6%) were the most cited causes. For those who considered epilepsy to be contagious, the main methods of transmission identified were: physical contact (45.88%), saliva (14.56%), waste gas (12.64%), blood and sexual intercourse (11.30%). Concerning the manifestation of an epileptic attack, most respondents mention "foams from mouth" (69.20%), convulsions (63.46%), change in behavior (19%) and "screaming" (17.86%). As first aid for a person having seizures, 81.90% of the students would provide match stick smoke while 59%, 27.20%, 22.80% 14% and 11.30% would take them to safe place, force some medicine down the patients throat, put a spoon or cloth in the patients mouth, hold or tie them down and put their head in a toilet hole, respectively (**Table 4**). Most striking, 70.33% of participants would recommend that PWE to use Holy water; and up to 64.01% would prefer medical doctor for management of epilepsy. Traditional healers (44.78%), prayers (32.14%), and witch-doctors (18.41%) were also recommended.

Discussion

In Ethiopia, few studies do suggest that epilepsy is a major problem within the country [5,17]. Children with epilepsy not only have to cope with the complex demands of a chronic illness, but also have to deal with social stigma and prejudice in physical activities and education [15]. Despite this, psychosocial studies on people with epilepsy are few or nonexistent and this study is the first that to assess knowledge, attitude and practice toward epilepsy in preparatory school students within the region.

On the whole, among those surveyed, 85.70% and 19.23% reported having heard and read about epilepsy, respectively. This is somewhat striking that almost 15% and 80% of school students, the more educated in society, had

never heard of and read about epilepsy, respectively. That was remarkably consistent with a study among college students done in Trinidad and Tobago (86%) [18] and significantly better than the study among upper-middle school students done in Turkey (49.9%) [15]. On the other hand, awareness on epilepsy significantly lower in this study compare to findings among similar respondents in Egypt (100%) [19], India (97.7%) [9] and Cameroon (94.7, 95.1%) [11,16]; as well as among college students in Cameroon (100%) [7]. It was also lower than among the general public reported in Ethiopia (89%) [17], Italy (93.4%) [21], Cameroon (100%, 99.3%) [6,10], Croatia (97%) [22], South Korea (94%) [2]; and among school teachers reported in Egypt (100%) [20] and Brazil (100%) [4]. Students attending the private preparatory schools were more likely to have read ($P < 0.001$) than government schools that contrasts other works reported elsewhere among health students in Cameroon [7].

Moreover, more students had witnessed a seizure (57.14%) and had known someone with epilepsy (67.03%) in this study than among college students in India (43.4%, 38.5%) [23] and Trinidad and Tobago (51%, 44%) [18]. While lower than among secondary school (73.3%, 76.4%) [16] and college students (86.5%, 85.5%) [7] in Cameroon; that was expected as epilepsy is not taught in preparatory schools in Ethiopia. This figure was comparable with findings among similar study in Cameroon (77.2%, 55.2%) [11]. Familiarity with epilepsy was significantly low among the young ($P < 0.01$), similar to other works reported in Cameroon [7,11,16].

As far as attitudes toward epilepsy are considered, more would object to marriage (44.8%) than to association (16%) with PWE. Compared to similar studies conducted in

Cameroon (47.8%, 64.2%) [11,16] and college students in Trinidad and Tobago (81%) [18], Cameroon (52.1%) [7] and India (49.7%) [23], attitudes were more positive. On the other hand, attitudes were more negative compared to the study in Egypt (8%) [19]. Among the variables examined, females and Muslims influenced attitudes regarding association with and marriage to PWE ($P < 0.05$), respectively; while in another finding none of the variables influenced attitudes of health students in Cameroon [7]. Almost two-third of respondents thought that people PWE could be employed in jobs like other people. Participants portrayed more favorable attitudes as compared to other works done among students in Cameroon (70.6%, 77.2%) [7,11], India (77.7%) [23] and Trinidad and Tobago (93%) [18]; and less favorable attitudes compared to reports elsewhere in Egypt (30.1%) [19] and Cameroon (58.6%) [16]. Contrary to this, approximately half of respondents believed that there are jobs PWE can't do. None of the variable studied seemed to influence the attitudes that there are some types of jobs not suitable for PWE ($P > 0.05$). In view of this, it could be suggested that reluctance to offer employment to epileptic patients in this study could be attributed to concerns about safety and ability rather than prejudices towards such patients.

Up to 28.6% of students considered epilepsy to be a form of insanity that indicates a better understanding compared to those findings among similar participants in Cameroon (38%) [16] as well as among population studies done in Cameroon (35.1%, 62.2%) [6,10] and Italy (54.2%) [21]. Furthermore, this misconception was high compared to the surveys conducted among similar participants in Egypt (15%) [19] and Cameroon (13.2%) [11], particularly, compared to the population study in Croatia (2.5%) [22]. About 51.60% of students considered epilepsy to be contagious. Similar findings were reported in Cameroon

(49.90%) [16] as well as among populations study in Cameroon (46.20%) [6] and Ethiopia (45%) [17]. This belief was better compared to that reported among similar participants in Cameroon (58%) [11], but worst compared to that reported in Egypt (19%) [19] and among populations study in Cameroon (23.20%) [10]. These findings showed that misconception is very much present in Africa and seems to be responsible for the high level of discrimination. Furthermore, almost half of respondents believed epilepsy can be cured comparable to other findings elsewhere among similar respondents in India (47.30%) [9] and public study in Italy (53.90%) [21]. The finding, however, was lower compared to the results reported in Cameroon (62.2%) [16].

In the present study, majority of respondents gave reasonable answers to the questions about causes of epilepsy. The understanding of epilepsy as a brain disease (55.8%) was higher in this study than among similar participants in Egypt (8.5%) [19], Cameroon (18.5%) [11] and India (50.4%) [9]. The result was less than the previous study in Cameroon [10], 86.1% of population believed that cause of epilepsy is brain disease. The proportion of respondents who thought that epilepsy is a hereditary disease (23.60%) was higher than among similar respondents in Egypt (7.9%) [19] and Cameroon (12.5%) [11]. Furthermore, evil spirit (33.24%), punishment for wrong doing (17.6%) and witchcraft (9.6%) were among causes of epilepsy cited by respondents. The prevalence of this belief was higher compared to studies in Cameroon [11], punishment for wrong doing (1.1%) and witchcraft (3.3%); and Egypt [19] punishment for wrong doing (2.6%). Results indicated that though most of the students were aware of epilepsy, their knowledge of the causes of epilepsy was poor. This shows that traditional beliefs and misconception about causes of epilepsy are still deeply rooted in these students and hence need to be addressed in

both the student and society through meaning full education.

Up to 51.6% of respondents thought epilepsy was contagious, with the most incriminated mode of transmission being physical contact (45.88%), saliva (14.56%) and waste gas (12.64%). A similar study in Cameroon [11] indicated that waste gas (27.5%) and saliva (14.2%) were among the mode of transmission; while a community based study in Cameroon [10] showed also saliva (21.2%) and waste gas (13.3%) as common mode of epilepsy transmission. This misconception of the transmission of epilepsy is nurtured by anecdotal reports of traditional practices in the community that contributes significantly to epilepsy- associated stigma in the student. As far as the manifestation of epilepsy is considered; foaming from mouth (69.2%), convulsions (63.46%), changes in behavior (19%), and screaming (17.86%) were cited as manifestations of epilepsy. These were also the most frequently cited signs of epilepsy in a study among similar respondents in Cameroon [11]. Only 14% of participants did not know any symptoms of epilepsy which was also in accord with a survey of Cameroonian high school students [11].

Findings showed that there is still a need for more widespread dissemination of information to improve general knowledge about epilepsy. This is especially true with respect to management of a seizure. Even though 59% of students knew that a person having seizure should be moved to safe place, they had other misunderstandings regarding management of epilepsy. The majority of students (81.9%) would provide match stick smoke, force some medicine down the patients' throat (27.2%), put their head in a toilet hole (11.3%), hold or tie them down (14%) and significant proportion would, however, act dangerously by putting a spoon/cloth in the patient's mouth (22.8%) as a first aid measure. Another study

in Cameroon [11] indicated that putting a spoon/cloth in the patient's mouth (41.6%), holding them down (13.4%) and putting their head in a toilet hole (11.7%), were reported as a first aid measure. These practices, particularly providing “match stick smoke”, have their roots in cultural beliefs and misconceptions with respect to epilepsy in the society. The willingness to give some form of first aid treatment to a patient in crisis indicates that if these students are well educated on epilepsy on what to do when faced with a patient in seizures, they would be ready to respond appropriately.

Participants would recommend a Holy water (70.33%), medical doctor (64.01%), traditional healer (44.78%), prayers (32.14%) and witch-doctor (18.41%) as sources of treatments for epilepsy. This perception may be in line with beliefs that epilepsy is due to a spell or spirit possession. Such misperception was in agreement with a study done in Cameroon [16] which God's help (67.3%) and physician (64.4%) were recommended for treatments of epilepsy. In college based study in Cameroon [7], about 67.4% recommended physician and 22% suggested prayers. Another work in Cameroon [11] also recommended a medical doctor (65.7%) and prayers (29.7%) as sources of treatments for epilepsy, while 8.6% would recommend a traditional healer. These findings indicated that participants would readily recommend divine help and a witch-doctor for managements of epilepsy ties in with their belief in a supernatural cause. This justifies the combination of either prayers (Holy water) or traditional indigenous therapies with modern treatment. These results emphasize the need to train medical personnel on management of epilepsy and to develop a collaborative approach with traditional healers and faith based organizations providing care to PWE [11].

Conclusion

These findings suggest that knowledge of the causes of epilepsy is vague among a considerable proportion of preparatory school students. In particular, there were an unexpectedly large proportion of students who believed that epilepsy is contagious or a form of insanity and caused by an evil spirit or punishment for wrong doing. It seems that majority of the students would provide a match stick smoke for a person having an epileptic seizure. The low level of knowledge and misconceptions found among students demonstrates that the need for educational program.

Ethical approval: We confirm that we have read the Journal's position on issues involved in ethical publication and affirm that this report is consistent with those guidelines.

Conflict of interest: None of the authors has any conflict of interest to disclose.

Author contributions: Tesfaye Wolde conceived the study and designed the study; Mulat Degefa collected and analyzed the data, Gebremedhin Solomon analyzed the data and drafted the article. All authors contributed significantly to improve the scientific content of the article and approved the final version.

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Table 1: Demographic characteristics of respondents

Variables	No. of respondents (n=364)	Percentage (%)
Age (years)		
14 to 19	235	64.56%
20 to 30	129	35.44%
≥30	0	0.00%
Sex		
Female	212	58.24%
Male	152	41.76%
School Category		
Government	302	82.97%
Private	62	17.03%
Grade		
Eleven	221	60.71%
Twelve	143	39.29%
Religion		
Christians	353	96.98%
Muslims	11	3.02%

Table 2: Students responses to questions concerning familiarity with epilepsy

Variables	No. of responses	Q1a Yes(%)	Q1b Yes(%)	Q2 Yes(%)	Q3 Yes(%)
Total	364	85.70	19.23	67.03	57.14
Age (year)					
14 to 19	235	82.13^b	18.30	70.64^a	49.79
20 to 30	129	92.25	20.93	60.46	70.54
Sex					
Female	212	90.01	17.93	62.26	58.02^a
Male	152	79.61	21.05	73.68	55.92
School					
Government	302	89.74^c	17.22	62.91	51.99
Private	62	66.13	29.03^a	67.74	62.90
Grade					
Eleven	221	84.62	12.22	62.44	57.47
Twelve	143	87.41	30.07^c	74.13^a	56.64
Religion					
Christians	353	87.25^c	19.26	67.14	56.37
Muslims	11	36.36	18.18	63.64	72.72

Values in superscript indicate statistical significance: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$,

Q1a: Have you ever heard about epilepsy?

Q1b: Have you ever read about epilepsy?

Q2: Do you know anyone who had or has epilepsy?

Q3: Have you ever seen a seizure?

Table 3: Responses to questions on attitudes and understanding according to demographic variables

Variable	No. of responses	Q4 Yes(%)	Q5 Yes(%)	Q6 Yes(%)	Q7 Yes(%)	Q8 Yes(%)	Q12a Yes(%)	Q13b Yes(%)
Total	364	16.80	44.80	64.00	55.80	28.60	51.60	53.00
Age								
15 to 19	235	23.80	46.00	59.60	51.90	29.40	31.60	57.50^a
20 to 30	129	27.10	42.60	72.10^a	62.80	27.10	56.60	45.00
Sex								

Female	212	29.70^a	46.20	61.80	56.60	33.50^a	53.30	48.10
Male	152	18.40	42.80	67.10	57.20	21.70	49.30	59.90^a
School								
Government	302	23.80	45.00	63.90	54.60	28.20	28.50	50.70
Private	62	30.65	43.55	62.90	61.29	37.10	59.68^d	67.74^a
Grade								
Eleven	221	25.80	42.10	66.10	57.00	27.60	46.60	46.60
Twelve	143	23.80	48.30	62.20	57.20	30.10	59.40	62.90^b
Religion								
Christian	353	24.70	43.60	64.30	55.80	28.10	51.60	52.40
Muslim	11	36.40	81.80^a	45.50	54.60	45.50	54.60	72.70

Values in superscript indicate statistical significance: ^a $p < 0.05$; ^b $p < 0.01$; ^c $p < 0.001$; ^d $p < 0.0001$

Q4: Would you object to your children associating with people who sometimes have seizures?

Q5: Would you object to your child marrying with people who sometimes have seizures?

Q6: Do you think people with epilepsy should be employed in jobs like other people?

Q7: Do you think there are jobs people with epilepsy cannot do?

Q8: Do you think epilepsy is a form of insanity?

Q12a: Do you think epilepsy is contagious?

Q13b: Can epilepsy be cured?

Table 4: Knowledge and practices with respect to epilepsy

Response	No. of Yes	Percentage
TOTAL	364	100.00%
Q9: What is the cause of epilepsy?		
Brain disease	203	55.80%
Birth defect	93	25.50%
Hereditary	86	23.60%
Witchcraft	35	9.60%
Punishment for wrong doing	64	17.60%
Evil spirit	121	33.24%
Blood disorder	113	31.00%
Q10: If you think epilepsy is contagious, what is the mode of transmission?		
Waste gas	46	12.64%
Saliva	53	14.56%
Sexual intercourse	43	11.30%
Blood	41	11.30%
Physical contact	167	45.88%
Q11: What do you think is the manifestation of an epileptic attack?		
Foaming from the mouth	252	69.20%
Convulsions	231	63.46%
Screaming	65	17.86%
Changes in behavior	69	19.00%
Q12b: What would you do if someone were having a seizure?		
Take them away from danger	214	59 %
Put a spoon or cloth in the patients mouth	83	22.80%
Force some medicine down the patients throat	99	27.20%
Put their head in a toilet hole	41	11.30%
Hold or tie them down	51	14.00%

Match stick smoke	298	81.90%
Q13a: What source of treatment would you recommend for a PWE?		
Medical doctor	233	64.01%
Traditional healer	163	44.78%
Prayers	117	32.14%
Witch doctor	67	18.41%
Holy water	256	70.33%

N.B.: As multiple responses were allowed, each of the results is expressed as a percentage

Appendix: Questionnaire

Q1a: Have you ever heard about epilepsy? (Yes No)

Q1b: Have you ever read about epilepsy? (Yes No)

Q2: Do you know anyone who had or has epilepsy? (Yes No)

Q3: Have you ever seen a seizure? (Yes No)

Q4: Would you object your child to play with people with epilepsy? (Yes No)

Q5: Would you object to your child marrying with people who sometimes have seizures?

(Yes No)

Q6: Do you think people with epilepsy should be employed in jobs like other people?

(Yes No)

Q8: Do you think epilepsy is a form of insanity? (Yes No)

Q9: Do you know the cause of epilepsy? (More than one answers possible)

Brain disease (trauma)

Evil spirit

Birth defect

Punishment from God

Hereditary

Blood disorder

Witchcraft

Others, specify _____

Q10: What do you think is an epileptic attack? (More than one answers possible)

Foaming from the mouth

Loss of consciousness

Screaming Changes in behavior Convulsion Periods of amnesia

Q11: What would you do if you noticed someone having a seizure? (Multiple answers possible)

 Take them away from danger Give them their blood to drink Put a spoon or cloth in the patient's mouth Hold or tie them down Force some medicine down the patients throat Let them to smoke a match smoke

Q12a: Do you think epilepsy is contagious?

 Yes No

Q12b: If you think epilepsy is contagious, what is the mode of its transmission? (Multiple answers possible).

 Waste gas Blood Sexual intercourse Urine Saliva Others, specify_____

Q13a: What source of treatment would you recommend for a PWE? (Multiple answers possible)

 Traditional healer Medical doctor Holy water Prayers Witch doctor Others,

specify_____

Q13b: Can Epilepsy be cured?
know)

 Yes No I don't