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**TEACHERS' KNOWLEDGE, ATTITUDES AND
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ABSTRACT

Purpose: The objective of this study was to assess the knowledge, attitudes and practices of basic school teachers on epilepsy in Tarkwa-Nsuaem Municipality.

Methodology: The study employed a descriptive cross-sectional design. Teachers were sampled from public basic schools in the municipality using the Yamane's formula for known sampling frame to arrive at 226 participants for the study. The multi-stage and convenience sampling techniques were then used to sample teachers from five of the seven circuits with each circuit being allocated 62 teachers for the study. A semi-structured questionnaire which was used for the data collection was adapted from a study in Namibia. Chi squares and P-values were applied to determine the association between dependent and independent variables as confidence level set at 0.05. Data was analyzed with SPSS version 20.

Results: The study found that majority of the teachers, 167 (73.9%) were knowledgeable about epilepsy and 191 (84.5%) had positive attitudes toward epilepsy. However, seizure management practices among the teachers were poor; only 44 (19.3%) of the teachers had appropriate seizure management practices. Notwithstanding, the religion of the teachers was found to be significantly associated with knowledge on epilepsy ($p=0.041$). The study found that marital status had an effect on attitudes toward epilepsy ($p=0.004$), whilst educational qualification was also significantly associated with attitudes toward epilepsy ($p=0.001$). The self-rated knowledge levels of the teachers, had no significant relationship with seizure management practices ($p=0.508$).

Conclusion: Though majority of the teachers had adequate knowledge and positive attitudes toward epilepsy, it did not reflect in appropriate management of seizure.

Recommendation: The Ghana Health Service should collaborate with the Ghana Education Service in training teachers on the management of seizure attacks.

Key words: *Teachers, Knowledge, Attitudes, Practices, Epilepsy, Tarkwa-Nsuaem*

INTRODUCTION

Epilepsy is a neurological condition that affects people and manifests in repeated seizure activity in the victim as a result of brain cell malfunction. Seizure is broadly categorized into partial and generalized types depending on the part of the brain experiencing abnormal neuron activity. The condition may result from identifiable causes such as head injury, brain tumor, brain infection and certain genetic disorders. It may also result from unidentifiable causes, in which case a carefully taken history is used to diagnose the condition.^[1]

Epilepsy is one of the commonest neurological disorders in the world, and approximately 50 million people are known to suffer from the condition worldwide. Globally, the annual estimate of epilepsy diagnosis stands at 2.4 million, affecting between 30 and 50 people per 100,000 of the general population in high income countries. In low income countries, annual diagnosis is about double the number in high income countries.^[2] Africa has one of the highest prevalence rates of epilepsy in the world as evidenced by estimates provided by some agencies working on epilepsy including the Global Campaign Against Epilepsy who puts the prevalence at 11.29 cases per 1000 people.^[3] Similar findings were found in a study for selected Sub-Saharan African countries.^[4] In Ghana, the prevalence is reported to be 10.1 per 1000 people.^[4,5] The disease as it stands has enormous effect on the physical health of sufferers, with people with epilepsy (PWE) having a relatively higher number of physically unhealthy days than those without epilepsy due to frequent falls.^[6]

As found in a study that indicated that teachers generally have poor knowledge regarding the various manifestations of epilepsy, it explained that many of the teachers mentioned that epilepsy is always associated with seizure.^[20] Notwithstanding, the reported poor knowledge on epilepsy and its manifestation among teachers, however, is not limited to a single continent. The general impression is that seizure is the defining feature of epilepsy, and therefore any condition that closely mimics epilepsy but is short of a seizure is more likely to be seen and may be mistaken for epilepsy.^[12] Nevertheless, teachers in a Zimbabwe study were more likely to encourage participation of PWE in all school activities and not restrict them from playing with peers who do not have epilepsy.^[7] Contrary to this assertion, there are some teachers who do not think that PWE are intellectually incapable but would prefer not to have PWE in their class because they may be unnerved by the spectacle of an attack, a situation attributed to poor knowledge on first aid seizure management.^[15]

Living with epilepsy comes with lots of social challenges as well. This is evidenced by a publication of the impact social attitudes found widespread negativity towards people living with epilepsy (PWE) and their families.^[2] Indeed, many studies in developing countries have reported teachers being unwilling to teach in a class with a PWE; epilepsy policies rarely exist.^[7,8] However, many schools in developed countries have epilepsy policies that ensure that PWE are admitted and taken good care of.^[9] However, some teachers are unaware of the leading role they could play in helping PWE adjust to the social and academic challenges they face, and so in many cases recommend that PWE be sent to special schools.^[21] Nonetheless, after being educated on the disease and the role to play, some teachers were adamant about changing their behaviour towards PWE and were often ill-prepared to help in emergency situations.^[11] This argument was supported

by some studies that revealed the many of the teachers even did not know whether there was someone in their class with epilepsy, with a few being aware of PWE in the class.^[16,18]

The poor seizure management practices reported around the world could be the result of inadequate epilepsy and seizure management training of people. For instance, one study in Brazil made a startling revelation that almost all the teachers in a study conducted in a special school reported never having been taken through seizure management training,^[22] while some teachers in Sudan also reported their unwillingness to intervene in the event of a seizure attack.^[23] The findings above illuminates and adds weight to the widely held opinion that PWE are neglected, even to the extent that teachers in special schools lack the necessary skills to manage seizure. Additionally, in Ghana, teachers are not trained in epilepsy management while under training. This supports the view that teachers in Tarkwa-Nsuaem Municipality (TNM) may not be in a position to intervene when a pupil is seizing. Furthermore, unlike private basic schools where special arrangements exist between parents of PWE and the teachers, the public schools teachers are mostly unaware of the health status of their pupils.

As a substantial proportion of PWE receiving treatment at Tarkwa Municipal Hospital are children of school-going age, many of these children are left to their fate during an attack while in school with many reported to sustain serious injuries during attacks.^[10] Teachers, as being influential in almost every society and serving as scribes to members of in our communities in Ghana, the intent of the researchers is therefore to leverage this goodwill of teachers to support PWE. This could only be possible if the knowledge, attitudes and practices of the teachers are known.

METHODOLOGY

The current study was conducted in Tarkwa-Nsuaem Municipality (TNM) of the Western Region of Ghana due to the diverse nature of the population. A descriptive cross-sectional research design was used for the study because the intention was to obtain a snapshot of the knowledge, attitudes and practices of the teachers in TNM at one point in time. Teachers were sampled from public basic schools in the municipality using the Yamane's formula for known sampling frame, giving a total sample size of 312 for the study. The multi-stage and convenience sampling techniques were then used to sample teachers from five of the seven circuits with each circuit being allocated 62 teachers for the study. The study variables included the independent variables comprising age, gender, educational qualification, marital status, years of service, and religion and the dependent variables comprising knowledge, attitudes and practices.

A semi-structured questionnaire was used for data collection. The instrument was self-administered and adapted from a study in Namibia which used a similar study.^[11] The researchers administered the questionnaire in a systematic manner, starting from schools closest to them and ending with those farthest. The administration began in earnest after a meeting was convened to explain the purpose of the research in each school. The teachers willing to participate in the study were given a copy of the questionnaire and given a week to fill and submit. The collection of the questionnaire was done by the researchers themselves and it was collected in a systematic order, one circuit after the other. The entire process of data collection took a month, starting from May 16, 2017 to June 15, 2017. The collected questionnaire were subsequently inspected and sorted,

and improperly filled ones, those with arbitrary responses, rejected. Incompletely filled ones, those that failed to answer any of the questions on socio-demographic characteristics or those that failed to answer at least five of the questions under knowledge, attitudes and practices, were also rejected. Questionnaire that were deemed to be appropriately filled were subsequently numbered for analysis later. The questionnaire was pre-tested in the Prestea-Huni Valley District, a contiguous district, from March 16 to March 24, 2017. Identified challenges with some of the questions in the instrument were revised and a report, together with the revised questionnaire, sent to the researchers' supervisor who approved it for the study.

Data was analyzed and presented at two levels using SPSS version 20. The first level was the descriptive part, covering a report of exactly what was written by the teachers; hence, frequency tables and percentages were used. The second level was the analytic part, involving the use of Chi squares and P-values to determination association between the dependent and independent variables. Cross-tabs were used and the confidence level set at 0.05. The research was conducted in line with ethical guidelines. First, participation in the study was voluntary, and teachers who agreed to participate in the study given the consent form to sign. Also, no form of identification, such as names, telephone numbers or addresses, was required from the teachers. The teachers were also assured of the privacy and confidentiality of shared information. Even though the researcher did not anticipate harm of any sort to the teachers, a written permission was sought from the Ghana Education Service, through the Municipal Director of Education, and the Public Health Department of the University for Development Studies, Tamale, and approval received before data collection commenced.

RESULTS

The number of respondents who participated in this study numbered 226 teachers, and their socio-demographic characteristics are shown in Table 1. The study found that most of the teachers (73.9%) possessed adequate knowledge about epilepsy with a few (26.1%) showing inadequate knowledge, as indicated in Table 2. Besides, when the teachers' responses were categorized to evaluate their attitudes toward epilepsy, it was found that majority (84.5%) of them had positive attitudes with the rests showing negative attitudes toward epilepsy. This is shown in Table 3. When it came to the practices on epilepsy, 49 (21.6%) of the teachers claimed they would avoid touching saliva of a seizing person, with 6.1% (n=14/226) saying they would rather lay victims on their sides. When their responses on the practices were categorized, 182 (80.7%) however, exhibited inappropriate seizure management practices as shown in Table 4.

Bivariate analyses

On the bivariate analyses, the marital status of the teachers was significantly associated with knowledge on epilepsy ($p=0.002$). More so, the religion of the teachers was also found to be significantly associated with knowledge on epilepsy ($p=0.041$) as seen in Table 5. Besides, the study found that marital status had an effect on attitudes toward epilepsy ($p=0.004$) with educational qualification showing a strong association with attitudes toward epilepsy ($p=0.001$) as indicated in Table 6.

The practices of the teachers, although generally inappropriate with only 44 (19.3%) having appropriate practices, there was however, a significant relationship between the age of the teachers and seizure management ($p=0.003$). The relationship between the gender of the respondents and seizure management was found to be significantly associated with seizure management ($p=0.001$) as shown in Table 7. However, the study found no significant association between knowledge levels of the teachers and seizure management practices ($p=0.179$) as seen in Table 8. The self-rated knowledge levels of the teachers had no significant relationship with seizure management practices ($p=0.508$) as depicted in Table 9. In Table 10, however, the attitudes of the teachers had a significant relationship with seizure management ($p=0.001$).

Table 1: Socio-demographic characteristics

Variable	Category	Frequency (n)	Percentage (%)
Age	Young adults	130	79.2
	Middle aged adults	34	20.8
Gender	Male	93	58.8
	Female	133	41.2
Marital Status	Married	149	66
	Single	77	34
Educational Qualification	Up to Diploma	71	31.4
	Bachelor's Degree	140	62
	Postgraduate Degree	15	6.6
Years of service	Up to 10 years	106	62.7
	11-20 years	39	23
	Above 20 years	24	14.3
Religion	Christianity	217	96
	Islam	9	4

Table 2: Knowledge about epilepsy

Item	Responses		Total n (%)
	Yes (%)	No (%)	
Have you ever heard of epilepsy	226 (100%)	--	226 (100%)
Do you know anyone with epilepsy	169 (74.8%)	57 (25.2%)	226 (100%)
Have you ever taught a student with epilepsy	62 (27.4%)	164 (72.6%)	226 (100%)
Have you witnessed someone experience a seizure before	173 (76.5%)	53 (23.5%)	226 (100%)
Perception of epilepsy	126 (55.7%)	100 (44.3%)	226 (100%)
Causes of epilepsy	121 (53.5%)	105 (46.5%)	226 (100%)
Is epilepsy communicable	43 (21%)	161(79%)	204 (100%)
Is epilepsy treatable	208 (95%)	11 (5%)	219 (100%)
Appropriate treatment for epilepsy	110 (53%)	98 (47%)	208 (100%)
Categorization of knowledge about epilepsy			
Knowledge Levels	n	%	
Adequate knowledge	167	73.9	
Inadequate knowledge	59	26.1	
Total	226	100	

Table 3: Attitudes toward Epilepsy

Item	Yes	No	Total
Are you willing to teach a student with epilepsy	192 (85%)	34 (15%)	226 (100%)
Should PWE attend regular schools	132 (58%)	94 (42%)	226 (100%)
Can PWE achieve the highest education possible	172 (76%)	54 (24%)	226 (100%)
Would you allow your ward play with PWE	172 (76%)	54 (24%)	226 (100%)
Would you allow a close relative marry a PWE	98 (43.4%)	128 (56.6%)	226 (100%)
Should PWE have children	167 (73.9%)	59 (26.1%)	226 (100%)
Would you associate in social gathering with PWE	186 (82.3%)	40 (17.7%)	226 (100%)
Would you maintain your attitude when someone you know is diagnosed with epilepsy	194 (85.8%)	32 (14.2%)	226 (100%)
Are you willing to have a PWE as a close friend	172 (80.7%)	41 (19.3%)	213 (100%)
Categorization of Attitudes			
Attitude Category	n	%	
Positive attitude	191	84.5	
Negative attitude	35	15.5	
Total	226	100%	

Table 4: Seizure management practices

Practices	N	Percentage
Promptly move from danger	30	13.2
Lay victim on their side	14	6.1
Pour water on the face	20	8.8
Let them smell something	13	5.7
Hold legs and arms	31	15
Avoid touching a person having a seizure	28	12.3
Avoid touching saliva of a seizing person	49	21.6
Put something in the mouth	41	17.3
Seizure management categories		
Practices	n	%
Appropriate practice	44	19.3
Inappropriate practice	182	80.7
Total	226	100%

Table 5: Socio-demographic characteristics and knowledge on epilepsy

Socio-demographic variable	Knowledge Level: n (%)		p-Value
	Adequate	Inadequate	
Age			
– Young adults	80 (83.3%)	16 (16.7%)	0.506
– Middle aged adults	29 (78.3%)	8 (21.7%)	
Gender			
– Male	56 (60.2%)	37 (39.8%)	0.259
– Female	70 (52.6%)	63 (47.4%)	
Marital Status			
– Married	94 (63%)	55 (37%)	0.002*
– Single	32 (41.5%)	45 (58.5%)	
Educational Qualification			
– Up to Diploma	39 (55%)	32(45%)	0.053
– Bachelor’s Degree	83 (59.2%)	57 (40.8%)	
– Degree Postgraduate	4 (26.6%)	11 (73.4%)	
Years of service			
– Up to 10 years	59 (64%)	33 (36%)	0.120
– 11-20 years	10 (33.3)	20 (66.7%)	
– Above 20 years	10 (58.8%)	7 (41.2%)	
Religion			
– Christianity	118 (54.3%)	99 (45.7%)	0.041*
– Islam	8 (89%)	1 (11%)	
Level of significance (α) = 0.05	*p-values based on the chi-square analysis		

Table 6: Socio-demographic characteristics and attitudes towards epilepsy

Socio-demographic variable	Attitude Level: n (%)		p-Value
	Positive	Negative	
Age			
– Young adults	87 (83.6%)	18 (16.4%)	0.208
– Middle aged adults	21 (72.4%)	8 (27.6%)	
Gender			
– Male	60 (64.5%)	33 (35.5%)	0.119
– Female	72 (54%)	61 (46%)	
Marital Status			
– Married	96 (65.3%)	51 (34.7%)	0.004*
– Single	36 (45.5%)	43 (54.5%)	
Educational Qualification			
– Up to Diploma	17 (30.3%)	39 (69.7%)	0.001*
– Bachelor's Degree	102 (76.7%)	31 (23.3%)	
– Postgraduate Degree	13 (86.6%)	2 (13.4%)	
Years of service			
– Up to 10 years	73 (87%)	11 (13%)	0.086
– 11-20 years	20 (69%)	9(21%)	
– Above 20 years	17 (77.2%)	5 (22.8%)	
Religion			
– Christianity	124 (57%)	93 (43%)	0.058
– Islam	8 (89%)	1(11%)	

Level of significance (α) = 0.05

*p-values based on the chi-square analysis

Table 7: Socio-demographic characteristics and seizure management practices

Socio-demographic variable	Practice Level: n (%)		p-Value
	Appropriate	Inappropriate	
Age			
– Young adults	28 (21.5%)	102 (78.5%)	0.003*
– Middle aged adults	16 (47%)	18 (53%)	
Gender			
– Male	25 (34.2%)	48 (65.8%)	0.001*
– Female	19 (14.2%)	114 (85.8%)	
Marital Status			
– Married	29 (19.4%)	120 (80.6%)	0.997
– Single	15 (19.5%)	62 (80.5%)	
Educational Qualification			
– Up to Diploma	11 (15.5%)	60 (84.5%)	0.509
– Bachelor's Degree	29 (20.7%)	111 (79.3%)	
– Postgraduate Degree	4 (26.7%)	11 (73.3%)	
Years of service			
– Up to 10 years	23 (21.7%)	83 (78.3%)	0.209
– 11-20 years	12 (30.8%)	27 (69.2%)	
– Above 20 years	9 (37.5%)	15 (62.5%)	
Religion			
– Christianity	42 (19.4%)	175 (80.6%)	0.831
– Islam	2 (22%)	7 (88%)	
Level of significance (α) = 0.05		*p-values based on the chi-square analysis	

Table 8: Knowledge levels and seizure management practices

Knowledge level	Practices		Total	p-Value
	Appropriate practices	Inappropriate practices		
Adequate knowledge	29 (16%)	138 (84%)	167 (100%)	0.179
Inadequate knowledge	15 (25.4%)	44 (74.6%)	59 (100%)	
Total	44	182	226 (100%)	

Level of significance (α) = 0.05

Table 9: Self-rated knowledge and seizure management practices

Self-rated knowledge	Practices		Total	p-Value
	Appropriate practice	Inappropriate practice		
High level	25 (26.3%)	70 (73.7%)	95 (100%)	0.508
Low level	19 (22%)	67 (78%)	86 (100%)	
Total	44	137	181 (100%)	

Level of significance (α) = 0.05

Table 10: Attitudes and seizure management practices

Attitude Category	Practices		Total	p-Value
	Appropriate practices	Inappropriate practices		
Positive attitude	30 (15.7%)	161 (84.3%)	191 (100%)	0.001*
Negative attitude	14 (40%)	21 (60%)	35 (100%)	
Total	44	182	226 (100%)	

Level of significance (α) = 0.05 *p-values based on the chi-square analysis

DISCUSSION

Studies conducted on knowledge about epilepsy among teachers have revealed poor knowledge about epilepsy in many parts of the world.^[12,13] The case is especially troubling in developing countries where much of knowledge about epilepsy is rooted in culture and so culturally appropriate treatment is sought.^[2] In this study, however, the majority of the teachers were found to possess adequate knowledge about epilepsy. Similar findings were made in Pakistan and Southern Saudi Arabia.^[14,15] The knowledge levels of teachers in this study is evidenced by the generally higher scores obtained by the teachers on the adequate knowledge category as against the other category on the composite scores table, making it imperative to discuss some of the highlights.

It was found that, although the teachers generally perceived epilepsy as a brain disorder, an appreciable number 58 (25.6%) perceived it as a form of mental retardation or mental illness, a finding that agrees with a study in Turkey.^[16] This is worrying because the teachers expressing this view may not see the need to educate PWE. It is important to mention that many people with epilepsy have over time, through repeated attacks developed mental problems because of poor access to anti-epileptic medications.^[2] This may have informed the choice of mental illness by some teachers. The above position is supported by the opinion that teachers in developing nations tend to associate mental illness with epilepsy more, compared with their counterparts in developed countries.^[14] The finding in this study, therefore, gives support to the above position.

Additionally, despite the fact that modern health facilities abound in the Municipality, as evidenced by the two public hospitals, dozens of private hospitals as well as specially trained professionals to treat epilepsy with modern medicine, a significant number of the teachers recommended treating epilepsy with traditional medicine, a finding similar to a study in Nigeria.^[12] This practice is known to be dangerous and should not be encouraged. There are lots of radio shows locally at TNM that promote the use of traditional products for treating epilepsy and other conditions. This has really caught the attention of people and many are patronizing these traditional products. This may have influenced the choice of traditional medicine by some of the teachers for treating epilepsy.

The marital status of the teachers was also found to influence their knowledge on epilepsy ($p=0.002$). The study found that married teachers possessed more adequate knowledge about epilepsy than their single counterparts, a finding similar to another made in Iran.^[16] In Ghana, the tradition among many ethnic groups requires that comprehensive background checks are made before marriage is contracted between couples. This is done to rule out any undesirable health conditions including epilepsy in the family of a potential partner. The married teachers in the study may have gone through these checks already and may in the lead up to their unions sought information from different sources regarding epilepsy, perhaps explaining the difference in knowledge. It is important to point out that, out of the total number of teachers who mentioned inheritance as a possible cause of epilepsy, 142 (63%) were married while 84 (37%) were single. It is therefore possible that Ghanaian culture may have played a role in exposing married people to more information about epilepsy than their single counterparts. However, this position is strongly contested against that the teachers' knowledge regarding inheritance may be attributed to their appreciation of science rather than culture.^[17]

The religious affiliation of the teachers was also found to influence their knowledge on epilepsy. In the study, the majority of the teachers indicated being Christians, and in Christianity, stories about epilepsy can be found a number of times in the Bible which may have induced interest in the condition and the desire to read about it and clarify any lingering misconceptions. Surprisingly, even though epilepsy is rarely mentioned in the Quran and stories about the condition is uncommon in the religion, Muslim teachers were more knowledgeable about epilepsy than Christians ($p=0.041$). The reason for this may lie in the small size of Muslim participants in the study.

On the attitude of teachers towards epilepsy, the study found that a higher number of the teachers had positive attitude. The attitude of the teachers was found to be positive for eight of the nine

items that measured attitude towards epilepsy. This aligns with findings made in Zimbabwe and Nigeria where the majority of the teachers exhibited positive attitudes towards epilepsy.^[7,13]

The study found that even though almost half of the teachers 95 (42%) would have preferred PWE to attend special schools, the reason behind their position was one of personal discomfort and not that epilepsy is contagious. Indeed, many of the teachers 161 (71.7%) who chose that option were aware that the condition is not contagious. Additionally, many of the teachers showed willingness to teach in a class with someone having epilepsy as evidenced by the composite score table on attitudes. The finding aligns with a study in Nigeria^[13] and is encouraging and could be seized on by the Ghana Education Service to encourage families having PWE to send their wards to school.

Knowledge, to a large extent, forms the basis of peoples' attitudes. It is instructive to note that even though the teachers generally had a positive attitude towards epilepsy, one position that they were unwilling to compromise on was allowing a close relative to marry someone with epilepsy. The finding is similar to a study in Osogbo in Eastern Nigeria.^[13] There appears to be some sort of relationship between knowledge of cause of epilepsy and willingness to sanction marriage between people with epilepsy and people without epilepsy. Marriage usually leads to procreation, and by extension, offspring inheriting genes from parents. The teachers in this study appear to be well aware that inheritance plays a role in epilepsy as evidenced by the majority of teachers choosing inheritance twice more than the other causes of epilepsy in the composite score on knowledge. This may have informed the majority of teachers' decision to disallow marriage between a close relative and a PWE.

The study also found that married teachers showed more positive attitude towards epilepsy than their single counterparts ($p=0.004$). This finding is not surprising since married teachers in the study have been found to be more knowledgeable about epilepsy than their single counterparts and given that knowledge largely influences attitude.

The educational qualification of the teachers was also found to influence attitudes toward epilepsy. In the study, the attitudes of the teachers who possessed up to Bachelor's degree and Post Graduate certificates were more positive than the teachers with up to Diploma certificates ($p<0.001$). Even though the reason for this difference in attitude is unclear, the broad nature of University education could have possibly influenced the teachers' worldview and their subsequent attitudes toward epilepsy. The finding here is similar to others made in other studies.^[16,17]

Appropriate knowledge on seizure management is key to saving lives of people experiencing seizure. It is would be good for teachers to learn seizure management given that they spend lots of time with students in school not only as teachers but as care givers as well.

The current study found that the teachers had poor seizure management practices, a situation that has serious implications for students in the Municipality. The current study's finding is similar to an Ethiopian study^[18] as well as another in Nigeria.^[19] It is also not different from an Iranian study.^[16] The sources of information may have something to do with the poor seizure management. It could be seen in the table on sources of information that majority of the teachers sourced information on epilepsy from friends and relatives; sources that may not exactly be authorities in epilepsy care.

However, some differences in seizure management were observed among the various demographic characteristics. On the ages of the teachers, for instance, it was found that middle aged adults exhibited more appropriate seizure management practices than their young adult counterparts ($p=0.003$). Even though the reason for this difference is not clear, it could be that more middle aged adults may have witnessed seizure being managed than young adults. Another possible reason could be marriage, since more middle aged adult teachers than young adult teachers were married and so may have been exposed more to issues on epilepsy than young adult teachers.

Another observation made in the study is that, male teachers exhibited more appropriate seizure management practices than females ($p=0.001$) which may partly be attributed to the higher knowledge of males on epilepsy 136 (60.2%) compared to females 119 (52.6%), although this is not statistically significant ($p=0.259$). Generally, females are considered to be more caring than males and perhaps would have been expected to know more about seizure management than males. However, that is not the case here. Knowledge and, perhaps, courage may have an influence in male teachers showing more appropriate seizure management than their female counterparts.

The relationship between the teachers' knowledge on epilepsy and seizure management practices was analyzed and an interesting finding made. It is instructive to note that the teachers found to possess inadequate knowledge about epilepsy were in fact found to have more appropriate seizure management practices 57 (25.4%) than those with adequate knowledge on epilepsy 36 (16%) even though this difference is not statistically significant ($p=0.179$). However, the teachers who rated themselves as knowledgeable about epilepsy were found to possess more appropriate seizure management practices than those who rated themselves as not knowledgeable even though this difference is not statistically significant ($p=0.508$).

The relationship between the teachers' attitudes toward epilepsy and seizure management practices was also analyzed. Surprisingly, the teachers found to have positive attitudes toward epilepsy showed more inappropriate seizure management practices 36 (15.7%) than their counterparts with negative attitudes 90 (40%) and this was found to be statistically significant ($p=0.001$). This finding is not encouraging and tells a story of a group of teachers who have the goodwill to help PWE acquire formal education against all the odds yet are poorly skilled in helping PWE in emergency situations.

The importance of knowledge in changing the world for the better is invaluable, and even though knowledge is known to form the basis of action, it is unfortunate to find that the reported high levels of knowledge and positive attitudes of the teachers toward epilepsy in this study did not translate into appropriate seizure management practices.

CONCLUSION

The study made some key findings including the finding that majority 167 (73.9%) of the teachers possessed adequate knowledge about epilepsy. Majority 191 (84.5%) of the teachers were also found to have positive attitudes toward epilepsy. However, seizure management was found to be poor among majority 182 (80.7%) of the teachers, a finding with serious implications for PWE.

It was also found that, even though the teachers had adequate knowledge and positive attitudes toward epilepsy, this did not necessarily translate into appropriate seizure management practices.

RECOMMENDATION

1. As a matter of urgency, teachers need to be educated on epilepsy so that they are able to identify pupils with the condition and make appropriate recommendations to their guardians to avoid complications so as to save lives and prevent injuries.
2. Heads of basic schools periodically should invite community health nurses to their institutions to give a lecture on causes of seizure and its management, and train teachers to intervene during attack using recommended first aid measures.
3. The Ghana Education Service in consultation with the Ghana Health Service should set up sick bays in the schools and employ the services of nurse practitioners to manage the pupils when they fall sick.
4. An in-depth qualitative study needs to be conducted as to why some individuals would not allow themselves and/or a close relative marry PWE.

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