

Teachers and epilepsy: What they know, do not know, and need to know: A cross-sectional study of Taif City

Sultan Alamri¹, Abdullellah Al Thobaity²

¹Department of Radiological Sciences and ²Nursing, College of Applied Medical Sciences, Taif University, Saudi Arabia

ABSTRACT

Objective: The main aim of this study was to assess schoolteachers' knowledge of and attitudes toward epilepsy in Taif City, in the western region of Saudi Arabia. **Method:** A structured 28-item questionnaire was distributed to and collected from 290 schoolteachers between November 2017 and November 2018 in Taif City. **Results:** Generally, a negative attitude toward epilepsy was observed in this study. Of the 290 schoolteachers in this study, 80% had prior knowledge regarding epilepsy and 72% had witnessed a seizure. Only 2% of the participants expressed the thought that epilepsy is contagious but 59% of them expressed the thought that epilepsy is a mental disease. With respect to attitude, 64% of the participants reported that they would not approve of their daughter/son marrying someone with epilepsy. This attitude correlates with age and marital status as the prevalence of this attitude was higher among those who were either over 40 years old or married ($P < 0.05$). Although 73% of the participants stated that they know the correct management procedure to follow when helping an epilepsy patient during a seizure, inadequate practices are still performed by many. Finally, almost two-thirds of the respondents (66%) expressed the opinion that top-ranking professions are not suitable for people with epilepsy. This belief was twice as common among older respondents as it was among younger respondents ($P < 0.05$). **Conclusion:** This study concludes that schoolteachers' knowledge regarding epilepsy is limited and that an immediate intervention through educational campaigns is required to develop a well-informed community.

Keywords: Attitude, awareness, education, epilepsy, knowledge, schoolteachers

Introduction

Epilepsy is one of the most common neurological diseases, and it imposes a huge burden on worldwide health. It is estimated that around 50 million people worldwide suffer from epilepsy, and this number is increasing.^[1] The severity of epilepsy depends on the underlying causes, but this disease can have a huge impact on individuals and their families. The majority of people with epilepsy lack access to proper treatment because around 80% of them live in developing countries.^[2-4] Epilepsy comprises the

most prevalent neurological disorder during childhood, as it affects around 33 million children worldwide.^[5]

Children's quality of life is significantly affected by their school years. These years shape their psychological, physical, and social development.^[6,7] Because of this, school children with epilepsy face a higher risk of being affected by learning difficulties, underachievement, poor self-esteem, mental health problems, and social isolation.^[8] In addition, because of misconceptions about the disease, patients often suffer from discrimination and stigma, which can further complicate the situation.^[9,10] Several studies have investigated negative attitudes toward epilepsy.^[11,12]

The performance and social skills of schoolchildren with epilepsy are greatly influenced by their teachers' knowledge regarding epilepsy.^[13] Moreover, teachers' positive attitudes towards epilepsy

Address for correspondence: Dr. Sultan Alamri,
Department of Radiological Sciences, College of Applied Medical
Sciences, Taif University, Saudi Arabia.
E-mail: s.alamri@tu.edu.sa

Received: 14-02-2020

Revised: 12-03-2020

Accepted: 26-03-2020

Published: 30-06-2020

Access this article online

Quick Response Code:



Website:
www.jfmprc.com

DOI:
10.4103/jfmprc.jfmprc_33_20

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Alamri S, Al Thobaity A. Teachers and epilepsy: What they know, do not know, and need to know: A cross-sectional study of Taif City. J Family Med Prim Care 2020;9:2704-9.

encourage children with epilepsy to manage seizure onsets.^[14] Recent studies have found that there is knowledge and awareness of epilepsy in Western countries such as the United States^[15] and Italy^[16]; meanwhile, more negative attitudes prevail in Asian countries such as India^[10] and Malaysia.^[17]

In Saudi Arabia, because of cultural beliefs, misconceptions may engender negative attitudes towards epilepsy.^[18,19] To date, few studies have investigated this issue in Saudi Arabia.^[20-22] For example, Alamri *et al.*^[19] found poor knowledge of and negative attitudes towards epilepsy among schoolteachers in Tabuk City. Another study, conducted in Jeddah, concluded that school teachers' knowledge of epilepsy needs improvement and showed that there is a strong correlation between teachers' knowledge and their attitudes.^[23] The present study explored, for the first time, the knowledge, awareness, and attitudes of schoolteachers in Taif City.

Methods

Traditionally, knowledge and awareness of epilepsy have been measured using a structured questionnaire developed by Bekiroğlu, *et al.*^[24] We used this questionnaire, which was used in one of our previous studies^[19] and has been used in other national^[25] and international studies,^[24,26] for its reliability and validity. To avoid any ambiguity, the questionnaire was translated into Arabic (the first language spoken in Saudi Arabia); the translated version was then presented to two bilingual English-Arabic speakers to confirm its accuracy. The accuracy of the translation is almost 100%, as the concepts being investigated in the questionnaire are easily transferred between cultures through direct translation. Because this questionnaire has already been validated in similar cultures, it was not pilot tested. After obtaining ethical approval from the Committee of Research Ethics at the University of Taif, we conducted this cross-sectional study in different primary and secondary schools in Taif city between November 2017 and November 30 2018. For this study, we recruited 38 290 schoolteachers.

After data collection, we performed Pearson's Chi-squared test, using the Statistical Package for the Social Sciences (SPSS) (version 23) to examine the relationship between the respondents' demographics and each domain in the questionnaire.

Results

The 290 schoolteachers participated in this study voluntarily. Table 1 presents the demographic variables of the respondents. Generally, slightly more of the teachers were male (53%). Of the 290 participating teachers, 84% were married, while 16% were single. Teachers aged between 30 and 39 years old constituted the highest percentage of the total sample (42%); meanwhile, only 9% of the teachers were aged between 50 and 59 years old. Because the age distribution was not ideal, we grouped the participants into two groups (younger than 40 years old and

Table 1: Demographic characteristics of respondents

Items	Information	No.	Percentage
Gender	Male	153	53
	Female	137	47
Age	22-29	29	10
	30-39	121	42
	40-49	114	39
	50-59	26	9
Qualification	Diploma	28	9.7
	Bachelor	245	84.5
	Master	16	5.5
	PhD	1	0.3
Marital status	Single	47	16
	Married	243	84

Table 2: Responses on awareness and knowledge

Items	Yes (%)	No (%)
1. Do you know anything about epilepsy?	80	20
2. Have you ever met a person with epilepsy?	70	30
3. Have you ever witnessed a person having a seizure?	72	28
4. Is epilepsy a contagious disease?	2	98
5. Is epilepsy a hereditary disorder?	49	51
6. Is epilepsy a mental disorder?	59	41
7. Are the symptoms the same for all people with epilepsy?	25	75
8. Can epilepsy be treated?	83	17
9. Can some seizures be silent (unrecognizable)?	73	27

40 years old and over). Moreover, 85% of our sample held a bachelor's degree; the remaining 15% had either a diploma or a master's degree. For this reason, the education level was not considered in our statistical analyses.

Awareness and knowledge

Information on the schoolteachers' knowledge regarding epilepsy is illustrated in Table 2. Concerning familiarity with the disease, approximately 80% of the participating teachers had prior knowledge regarding epilepsy. Further analysis of the data revealed a strong association between age and prior knowledge regarding epilepsy. Younger participants (younger than 40 years old) were more likely than older participants to answer no (odds ratio [OR]: 1.97, 95% confidence interval [CI]: 1.1 to 3.6, $P < 0.05$). It is also clear from Table 2 that only 70% of the participants reported knowing someone with epilepsy. The likelihood of a male participant knowing someone with epilepsy was 1.7 times higher than the likelihood of a female participant knowing someone with epilepsy (OR: 1.7, 95% CI: 1.0 to 2.8, $P = 0.029$). Moreover, we found that the likelihood of a male teacher having witnessed a person having a seizure was significantly higher (2.6 times) than the likelihood of a female teacher having witnessed a person having a seizure (OR: 2.62, 95% CI: 1.5 to 4.5, $P < 0.001$). While only 2% of our sample expressed the thought that epilepsy is contagious, 51% of them expressed the thought that epilepsy is not hereditary. Close inspection of the table reveals that the younger participants

were more likely than older participants to express the belief that epilepsy is a genetic disorder (OR: 1.7, 95% CI: 1.1 to 2.7, $P < 0.05$).

Of the 290 schoolteachers, 59% expressed the thought that epilepsy is a mental illness. Interestingly, single participants, as well as female teachers, were more likely than married or male participants to harbor this false belief (OR: 2, 95% CI: 1.0 to 3.9, $P = 0.032$ and OR: 1.8, 95% CI: 1.0 to 2.8, $P = 0.013$, respectively).

Attitude

This section of the questionnaire required respondents to provide information on their attitudes towards epilepsy [Table 3]. While 38% of the participants expressed the opinion that having a child is inappropriate for a patient with epilepsy, this negative attitude was found to be more prevalent in male teachers (OR: 1.8, 95% CI: 1.1 to 2.8, $P = 0.014$). In relation to attitudes toward marrying someone with epilepsy, it was found that only 23% of the participants reported that they would marry a person with epilepsy. This attitude was twice as common in older participants as it was in younger individuals (OR: 1.85, 95% CI: 1.1 to 3.2, $P = 0.021$). Similarly, younger and single teachers were more likely to report that they would allow their children to play with someone with epilepsy (OR: 1.6, 95% CI: 1 to 2.6, $P = 0.029$ and OR: 1.9, 95% CI: 1 to 3.6, $P = 0.032$, respectively). In addition, it was found that the majority of participants (64%) reported that they would not approve of their children marrying someone with epilepsy. It was clear that his attitude was unaffected by gender, marital status, or age ($P > 0.05$).

When asked about accepting a colleague at work who has epilepsy, half of the participants reported that they would not accept a colleague with epilepsy. This negative attitude was more common in older participants than in younger individuals (OR: 1.6, 95% CI: 1 to 2.5, $P = 0.04$). Nevertheless, the majority of the respondents (91%) expressed the opinion that it is appropriate to employ a person with epilepsy.

The most striking result to emerge from the data is related to the response to the question of whether society discriminates against people with epilepsy. The majority of the respondents (77%) answered no. Further statistical analysis revealed that this positive attitude was significantly more common in younger participants than in older people (OR: 1.7, 95% CI: 1 to 2.9, $P = 0.039$).

Management

This section of the questionnaire required respondents to provide information on how to look after a patient with epilepsy during a seizure [Table 4]. The most surprising finding presented in this table is that, while 73% of the respondents reported knowing the correct practice to help a patient during a seizure, 71% and 43% still believed that smelling an onion or holding the legs and arms, respectively, would help a patient during a seizure. A closer inspection of the data revealed that holding the legs

and arms during a seizure is a more common practice among younger individuals than among older teachers (OR: 1.6, 95% CI: 1 to 2.6, $P = 0.024$).

Employment, driving, and social activities

This section of the questionnaire required respondents to provide information mainly on their opinions regarding employment and driving [Table 5]. The participating teachers were uncertain as to whether patients with epilepsy can succeed in high-ranking jobs (47% answered yes, and 53% answered no). Further analysis of this indicates that younger teachers are 1.7 times more likely than older teachers to think that a person with epilepsy can succeed in such a job (OR: 1.66, 95% CI: 1.05 to 2.67, $P = 0.021$).

Table 3: Respondents' attitudes toward epilepsy

Items	Yes (%)	No (%)
10. Is it appropriate for someone with epilepsy to get married?	78	22
11. Is it appropriate for someone with epilepsy to have a child?	62	38
12. Would you marry a person with epilepsy?	23	77
13. Would you allow your child to play with someone with epilepsy?	48	52
14. Would you approve of your son/daughter choosing to marry someone with epilepsy?	36	64
15. Can a person with epilepsy live alone?	67	33
16. Would you employ someone with epilepsy?	91	9
17. Would you accept a colleague with epilepsy?	51	49
18. Do people with epilepsy suffer from discrimination?	23	77

Table 4: Responses on the management of epilepsy

Items	Yes (%)	No (%)
19. Do you think that some people with epilepsy need to take medication for the rest of their lives?	27	73
20. Do you think that antiepileptic drugs should be taken by everyone who has an epileptic seizure?	85	15
21. Can an epileptic seizure be ended by smelling eau de cologne or an onion?	71	29
22. Can holding the legs and arms be useful during a seizure with convulsions?	43	57
23. Do you know the correct practice when helping a patient during a seizure?	73	27

Table 5: Responses to employment and social activities

Items	Yes (%)	No (%)
24. Can a person with epilepsy succeed in high-ranking jobs?	47	53
25. Do you think a child with epilepsy can succeed in a normal class?	34	66
26. Do you think it is appropriate for a person with epilepsy to drive?	82	18
27. Do you think that people with epilepsy should not be allowed to participate in social activities?	78	22
28. Do you think it is important for a child with epilepsy to be prohibited from participating in sports activities?	35	65

Although only 34% of the participating teachers expressed the belief that children with epilepsy can succeed in normal classes, the false belief that they cannot was twice as common among participants in the older group as it was among the younger respondents (OR: 2.2, 95% CI: 1.3 to 3.6, $P = 0.002$). Furthermore, of the 290 participants, 82% expressed the opinion that it is appropriate for a person with epilepsy to drive. No significant difference was uncovered between males and females regarding this question ($P > 0.05$); however, participants in the younger group were more likely than participants in the older group to answer no (OR: 1.9, 95% CI: 1 to 3.5, $P = 0.03$).

When the participants were asked whether epileptic patients should be allowed to engage in social activities, the majority (78%) answered that they should not be allowed to participate in social activities. This false belief is significantly associated with age, as the older participants were 1.8 times more likely than the younger individuals to express this belief (OR: 1.8, 95% CI: 1 to 3.2, $P = 0.026$). Finally, this table also evinces a positive attitude towards epilepsy in terms of social activities, as 65% of the teachers expressed the opinion that students with epilepsy should be allowed to participate in sports activities. There was no evidence that gender, age, or marital status influenced this belief.

Discussion

Because epilepsy is surrounded by prejudices and stigma, the quality of life of epileptic school children is significantly affected. These children are usually insecure and helpless. For this reason, people around these children need to be aware of their disease. The results of this study indicate that the participants have insufficient knowledge regarding epilepsy and seizure management practices. Although the majority of the participating teachers (80%) had read about epilepsy, they still had some misconceptions about the disease. First, around 59% of the total sample expressed the belief that epilepsy is a mental illness. Similar studies conducted in Saudi Arabia have proposed that this might be caused by the popular belief that epilepsy is associated with demonic possession.^[23,27,28] This finding is consistent with the findings of our previous study in Tabuk.^[19] Similar findings have also been reported by studies conducted in Jordan,^[29] Tanzania,^[20] and Nigeria.^[21] The opposite results have also been reported by other studies, conducted in countries including Thailand^[22] and Malaysia.^[30] A possible explanation for these results may concern linguistic misconceptions in Saudi Arabia, as suggested by Obeid, *et al.*,^[18] as *epilepsy* in Arabic means “to throw down”, implying an external force. In addition, Kiyak and Dayapoglu^[31] found that people tend to have more negative attitudes towards epilepsy if they associate epilepsy with religion.

Second, while 73% of our participating teachers reported knowing how to help a person having a seizure, many revealed that they still perform inadequate practices. For example, 71% expressed the belief that smelling an onion or cologne would stop the seizure, and 43% reported that they would hold the patient's legs and arms during the jerking movements. Similar results have

been found in other studies, including in Brazil^[32] and Turkey.^[24] Moreover, although 91% of the respondents exhibited a positive attitude in terms of willingness to hire a person with epilepsy, many still expressed the opinion that patients with epilepsy are incapable of succeeding in high-ranking professions. Similar findings were observed in our previous study, in Tabuk.^[19] Other studies have also reported similar results, including in the United Arab Emirates^[33] and Iran.^[34] Conversely, still, other studies have reported different results, uncovering a belief that people with epilepsy can succeed in high-ranking jobs in countries including Korea^[35] and Austria.^[26] Additionally, while the participating teachers reported negative attitudes towards epilepsy, 78% of them still expressed the opinion that society does not discriminate against people with epilepsy. One explanation for this is that people in cultures similar to Saudi Arabia find such statements or behaviors very disrespectful.^[24,36] This finding is consistent with what has been observed in India^[37] and Pakistan.^[38]

In addition, two-thirds of the teachers expressed the belief that children with epilepsy face academic difficulties. A similar result was reported by Hijazeen and his colleagues,^[39] who uncovered a prevalent belief that students with epilepsy are more likely than healthy students to earn lower grades. Contrary to expectations, the majority of the teachers (82%) expressed the belief that driving is not a problem for people with epilepsy. Because seizures lead to sensorimotor deficits, as well as a reduced level of consciousness, driving should be restricted for people with epilepsy.^[40] Further, over half of the teachers in this study expressed the belief that people with epilepsy should not be allowed to participate in social activities. Meanwhile, less than half of the teachers expressed the belief that children with epilepsy should be prohibited from participating in sports activities. There is no consensus among health professionals regarding this particular topic, but the findings of a recent study suggested that only dangerous sports, such as skydiving and SCUBA diving, should be avoided.^[41]

Conclusion

The main goal of this research was to assess schoolteachers' knowledge of and attitudes towards epilepsy in Taif City, in western Saudi Arabia. Unfortunately, this study uncovered insufficient knowledge of and negative attitudes towards epilepsy among schoolteachers in Taif City. This study also showed that schoolteachers in Taif City are liable to follow inadequate practices when looking after an epilepsy patient during a seizure. Therefore, there is a definite need for a focus on educational campaigns and strong interventions to develop a well-informed community.

Financial support and sponsorship

This work was supported by Taif university.

Conflicts of interest

There are no conflicts of interest.

References

- More Americans have epilepsy than ever before. Cent Dis Control Prev 2016. Available from: <https://www.cdc.gov/media/releases/2017/p0810-epilepsy-prevalence.html>. [Last accessed on 2019 Mar 21].
- Ngugi AK, Bottomley C, Kleinschmidt I, Sander JW, Newton CR. Estimation of the burden of active and life-time epilepsy: A meta-analytic approach. *Epilepsia* 2010;51:883-90.
- Meinardi H, Scott RA, Reis R, Sander J, ILAE Commission on the Developing World. The treatment gap in epilepsy: The current situation and ways forward. *Epilepsia* 2001;42:136-49.
- Khanal K, Maharjan R, Pokharel BR, Sanjel S. School teachers' knowledge about epilepsy in Kathmandu Metropolitan City. *Kathmandu Univ Med J* 2017;13:316-22.
- Bishop M, Boag EM. Teachers' knowledge about epilepsy and attitudes toward students with epilepsy: Results of a national survey. *Epilepsy Behav* 2006;8:397-405.
- Williams J. Learning and behavior in children with epilepsy. *Epilepsy Behav* 2003;4:107-111.
- Kokkonen J, Kokkonen E-R, Saukkonen A-L, Pennanen P. Psychosocial outcome of young adults with epilepsy in childhood. *J Neurol Neurosurg Psychiatry* 1997;62:265-8.
- Fraser RT, Clemmons DC. Vocational and psychosocial interventions for youths with seizure disorders. *Childhood Epilepsies Neuropsychological Psychosocial Intervention Aspects*. N Y Wiley; 1989. p. 201-18.
- McLin WM, de Boer HM. Public perceptions about epilepsy. *Epilepsia* 1995;36:957-9.
- Thacker AK, Verma AM, Ji R, Thacker P, Mishra P. Knowledge awareness and attitude about epilepsy among schoolteachers in India. *Seizure-Eur J Epilepsy* 2008;17:684-90.
- Ablon J. The nature of stigma and medical conditions. *Epilepsy Behav* 2002;3:2-9.
- Jacoby A, Snape D, Baker GA. Epilepsy and social identity: The stigma of a chronic neurological disorder. *Lancet Neurol* 2005;4:171-8.
- Hsieh L-P, Chiou H-H. Comparison of epilepsy and asthma perception among preschool teachers in Taiwan. *Epilepsia* 2001;42:647-50.
- Hasan SS, Wei WW, Ahmadi K, Ahmed SI, Yong AK, Anwar M. Knowledge and attitudes toward epilepsy among Malaysian Chinese. *Int J Collab Res Intern Med Public Health* 2010;2:361-76.
- Mott J, Shellhaas RA, Joshi SM. Knowledge of epilepsy and preferred sources of information among elementary school teachers. *J Child Neurol* 2013;28:740-4.
- Mecarelli O, Capovilla G, Romeo A, Rubboli G, Tinuper P, Beghi E. Knowledge and attitudes toward epilepsy among primary and secondary schoolteachers in Italy. *Epilepsy Behav* 2011;22:285-92.
- Lim KS, Hills MD, Choo WY, Wong MH, Wu C, Tan CT. Attitudes toward epilepsy among the primary and secondary school teachers in Malaysia, using the public attitudes toward epilepsy (PATE) scale. *Epilepsy Res* 2013;106:433-9.
- Obeid T, Abulaban A, Al-Ghatani F, Al-Malki AR, Al-Ghamdi A. Possession by "Jinn" as a cause of epilepsy (Saraa): A study from Saudi Arabia. *Seizure* 2012;21:245-9.
- Alamri S, Alghamdi A, Quait AA. What Saudi teachers know about epilepsy: A cross-sectional study of Tabuk City. *Epilepsy Behav* 2018;89:169-72.
- Mushi D, Hunter E, Mtuya C, Mshana G, Aris E, Walker R. Social-cultural aspects of epilepsy in Kilimanjaro Region, Tanzania: Knowledge and experience among patients and carers. *Epilepsy Behav* 2011;20:338-43.
- Owolabi LF, Shehu NM, Owolabi SD. Epilepsy and Education in developing countries: A survey of school teachers' knowledge about epilepsy and their attitude towards students with epilepsy in Northwestern Nigeria. *Pan Afr Med J* 2014;18:255.
- Tiamkao S, Aauevitchayapat N, Arunpongpaisal S, Bct AC, Jitpimolmard S, Phuttharak W, *et al*. Knowledge of epilepsy among teachers in Khon Kaen Province, Thailand. *J Med Assoc Thai* 2005;88:1802-8.
- Abulhamail AS, Al-Sulami FE, Alnouri MA, Mahrous NM, Joharji DG, Albogami MM, *et al*. Primary school teacher's knowledge and attitudes toward children with epilepsy. *Seizure-Eur J Epilepsy* 2014;23:280-3.
- Alqahtani JM. Knowledge and practice of schoolteachers towards students with epilepsy in Khamis Mushate, Southern Saudi Arabia. *J Fam Community Med* 2015;22:163.
- Bekiroğlu N, Ozkan R, Gürses C, Arpacı B, Dervent A. A study on awareness and attitude of teachers on epilepsy in Istanbul. *Seizure* 2004;13:517-22.
- Spatt J, Bauer G, Baumgartner C, Feucht M, Graf M, Mamoli B, *et al*. Predictors for negative attitudes toward subjects with epilepsy: A representative survey in the general public in Austria. *Epilepsia* 2005;46:736-42.
- Alaqael A, Sabbagh AJ. Epilepsy; what do Saudi's living in Riyadh know? *Seizure* 2013;22:205-9.
- Muthaffar OY, Jan MM. Public awareness and attitudes toward epilepsy in Saudi Arabia is improving. *Neurosci Riyadh Saudi Arab* 2014;19:124-6.
- Alkhamra H, Tannous A, Hadidi M, Alkhateeb J. Knowledge and attitudes toward epilepsy among school teachers and counselors in Jordan. *Epilepsy Behav* 2012;24:430-4.
- Neni SW, Latif AZA, Wong SY, Lua PL. Awareness, knowledge and attitudes towards epilepsy among rural populations in East coast peninsular Malaysia: A preliminary exploration. *Seizure* 2010;19:280-90.
- Kiyak E, Dayapoglu N. An evaluation of knowledge and attitudes toward epilepsy in Eastern Turkey. *Epilepsy Behav* 2017;75:241-5.
- Falavigna A, Teles AR, Roth F, Velho MC, Roxo MRR, Bosco D, *et al*. Awareness, attitudes and perceptions on epilepsy in Southern Brazil. *Arq Neuropsiquiatr* 2007;65:1186-91.
- Bener A, al-Marzooqi FH, Sztrihla L. Public awareness and attitudes towards epilepsy in the United Arab Emirates. *Seizure* 1998;7:219-22.
- Ghanean H, Nojomi M, Jacobsson L. Public awareness and attitudes towards epilepsy in Tehran, Iran. *Glob Health Action* 2013;6:21618.
- Lee H, Lee SK, Chung CK, Yun SN, Choi-Kwon S. Familiarity with, knowledge of, and attitudes toward epilepsy among teachers in Korean elementary schools. *Epilepsy Behav* 2010;17:183-7.
- Hoare P, Kerley S. Psychosocial adjustment of children with chronic epilepsy and their families. *Dev Med Child Neurol* 1991;33:201-15.
- Krishnaiah B, Alwar SP, Ranganathan LN. Knowledge,

- attitude, and practice of people toward epilepsy in a South Indian village. *J Neurosci Rural Pract* 2016;7:374-80.
38. Homi Bhesania N, Rehman A, Saleh Savul I, Zehra N. Knowledge, attitude and practices of school teachers towards epileptic school children in Karachi, Pakistan. *Pak J Med Sci* 2014;30:220-4.
 39. Hijazeen JK, Abu-Helalah MA, Alshraideh HA, Alrawashdeh OS, Hawa FN, Dalbah TA, *et al.* Knowledge, attitudes, and beliefs about epilepsy and their predictors among university students in Jordan. *Epilepsy Behav* 2014;41:238-43.
 40. Krumholz A. Driving issues in epilepsy: Past, present, and future. *Epilepsy Curr* 2009;9:31-5.
 41. Pimentel J, Tojal R, Morgado J. Epilepsy and physical exercise. *Seizure* 2015;25:87-94.