

# RESEARCH ARTICLE

## Knowledge and Attitude Towards Epilepsy Among Biology Teachers in Fars Province, Iran

How to Cite this Article: Asadi-Pooya AA, Torabi-Nami M. Knowledge and Attitude Towards Epilepsy Among Biology Teachers in Fars Province, Iran. Iranian Journal of Child Neurology 2012;6(1):13-18.

**Ali Akbar ASADI-POOYA MD<sup>1, 2</sup>,**  
**Mohammad TORABI-NAMI MD<sup>3</sup>**

1. Associate Professor of Epileptology, Neurosciences Research Center, Shiraz Medical School, Shiraz University of Medical Sciences, Shiraz, Iran.
2. Adjunctive Research Assistant Professor, Department of Neurology, Thomas Jefferson University, Philadelphia, USA.
3. PhD Candidate, Department of Neuroscience, Institute for Cognitive Science Studies (ICSS), SBMU, Tehran, Iran.

Corresponding Author:  
Asadi-Pooya AA. MD  
Neurosciences Research Center,  
Shiraz University of Medical  
Sciences, Shiraz, Iran.  
Tel: +98-9352274990  
E-mail: aliasadipooya@yahoo.com

Received: 27-Jan-2012  
Last Revised: 28-Jan-2012  
Accepted: 17-Feb-2012

### Abstract

#### Objective

This study investigates the awareness and perception on “epilepsy” amongst biology teachers in Fars province, Iran.

#### Materials & Methods

A sample of high school biology teachers in Fars province, Iran, filled out an investigator designed questionnaire including questions about their knowledge and attitude concerning “epilepsy”. There were 17 questions in the questionnaire. Nine questions addressed the knowledge and the rest were about attitude and perception.

#### Results

Forty two teachers completed the questionnaires. More than two-thirds of the participants had a fairly desirable awareness about the definition; whereas, only approximately 40% knew something about the etiology and treatment of epilepsy. More than two-thirds of the participants had a positive attitude towards epilepsy; however, misconceptions and negative attitudes were observed.

#### Conclusion

Educational programs for biology teachers and also other teachers are necessary to improve their knowledge, attitude and perception about epilepsy.

**Keywords:** School Teachers; Knowledge; Attitude; Perception; Epilepsy

### Introduction

Epilepsy is a common neurological disease and about 1% of the world's population are affected (1, 2). Many previous studies showed that epilepsy has been associated with misconceptions and misbeliefs, that led to stigmatization and discrimination. Incorrect perceptions and negative attitudes toward epilepsy have been observed in several studies (3-8). Meanwhile, there is a lack of organized information campaigns in many countries to overcome this problem. Information campaigns are often very helpful in changing the knowledge and public attitudes toward epilepsy, but detailed information about the target group must be obtained to organize the campaign successfully (9).

The current study was planned to evaluate the knowledge, attitude and perception of biology teachers in Fars province, Iran with regard to epilepsy. Since these teachers are the main source of education for students connected with health and medical issues in our curriculum, their knowledge and attitude would directly affect students. These teachers will hopefully act as the advocates for epilepsy awareness in the community.

### Materials & Methods

This was a cross-sectional questionnaire survey. The questionnaire, which is shown in Table 1 was originally in Farsi. As a semi-structured, investigator designed questionnaire, it was used to quantify the participants' knowledge and attitude towards epilepsy. The questionnaire included 17 questions. Nine questions addressed the knowledge (definition, cause and treatment) and eight were about attitude and perception (social interactions, limitations in the activity of daily life, beliefs and feelings). Some questions needed both yes/no responses and descriptive answers. The questionnaires were filled out anonymously. Even gender and age were not asked to assure the participants about the anonymity and to encourage them to participate actively. Approximately 60 teachers attended their annual scientific symposium in 2010 and 42 of them completed the questionnaires. The sex ratio among participants was almost 1:1 and their age range was roughly between 25 and 55 years. Biology teachers, who deal with health related issues in our curriculum, are expected to know even modest, but true things about epilepsy. They were all BS degree holders in biosciences and had taken courses about neuro-anatomy and neurophysiology. This survey was conducted with the approval of Shiraz University of Medical Sciences Review Board.

### Results

Forty two teachers completed the questionnaires. More than two-thirds of the participants had a fairly desirable awareness about the definition. The majority of participants stated that they have read or heard about the condition, but few of them had acquaintances with epilepsy or even knew someone afflicted. Almost all responders knew that epilepsy is not a contagious condition; however, more than half of the responders were not well-aware of the etiologic factors. About two-thirds of the responders did not know if there is a treatment available for epilepsy. There was just one participant, who knew that surgery could be an option for treatment of epilepsy (Tables 1 and 2). More than two-thirds of the participants had a positive attitude towards epilepsy, but negative attitudes and misconceptions such as avoidance, sense of fear in social interactions were observed. More than one-third of the participants did not think they had the ability to help someone seizing, but about two-thirds of them were willing to help. About 60% of the participants would help the patient in an inappropriate way such as placing something between the jaws or restricting the body movements (Tables 3 and 4). The most common sources of obtaining the information were books and TV-media (Table 2).

**Table 1.** Knowledge Among Biology Teachers About Epilepsy (Yes/No Questions)

No.	Question	Yes	No	Missing	I do not know
Q1	Do you know anything about the term «epilepsy»?	29 (74%)	10 (26%)	3 (7%)	-
Q2	Have you ever heard or read anything about «epilepsy»?	33 (85%)	6 (15%)	3 (7%)	-
Q4	Do you know someone with epilepsy?	8 (20%)	33 (80%)	1 (2%)	-
Q5	Have you ever witnessed someone with an active seizure?	28 (67%)	14 (33%)	-	-
Q12	Do you think «epilepsy» is contagious?	0 (0%)	40 (98%)	1 (2%)	1 (2%)
Q14	Do you know etiologic factors for epilepsy?	17 (43%)	23 (57%)	2 (5%)	-
Q16	Do you know if there is any treatment for epilepsy?	16 (38%)	10 (24%)	-	16 (38%)

## Teachers' Perception About Epilepsy

**Table 2.** Knowledge Among Biology Teachers About Epilepsy (Descriptive Questions)

Q1	What is epilepsy? (15 answers)	A nervous system disorder	11 (73%)
		Involuntary movements of the body	4 (27%)
Q14	What is the etiology of epilepsy? (17 answers)	Genetics	7 (41%)
		Neurological diseases	5 (29%)
		Fever	3 (18%)
		Head trauma	2 (12%)
Q15	What do you think is the main reason for epilepsy? (42 answers)	Central nervous system disorder	37 (88%)
		Psychiatric disorder	2 (5%)
		Others	3 (7%)
Q16	What are the treatment options for epilepsy? (9 answers)	Medical therapy	8 (89%)
		Surgical therapy	1 (11%)
Q17	What is the source for your awareness on «epilepsy»? (42 answers)	TV-Media	16 (38%)
		Books	21 (50%)
		Others	5 (12%)

**Table 3.** Perception and Attitudes Towards Epilepsy Among Biology Teachers (Yes/No Questions)

No.	Question	Yes	No	Missing
Q3	Do you think that patients with epilepsy are «Insane»?	3 (7%)	39 (93%)	0
Q8	Do you think you have the ability to help someone actively convulsing?	26 (62%)	16 (38%)	0
Q9	Do you think that patients with epilepsy suffer from some limitations in their daily life activities?	25 (64%)	14 (36%)	3 (7%)
Q10	Are you willing for social interaction with epilepsy patients?	29 (69%)	13 (31%)	4 (10%)
Q11	In the classroom, are you willing to sit beside a student who is an epilepsy patient?	38 (90%)	4 (10%)	0
Q13	Are you willing to shake hands with someone with epilepsy?	41 (100%)	0 (0%)	1 (2%)

## Teachers' Perception About Epilepsy

**Table 4.** Perception and Attitudes Towards Epilepsy Among Biology Teachers (Descriptive Questions)

<b>Q6</b>	How do you feel when you see someone with active seizure «on the scene»? (42 answers)	Fear	6 (15%)
		Mercy and sympathy	8 (20%)
		Indifference	0 (0%)
		Willingness to help	27 (66%)
		Missing	1 (2%)
<b>Q7</b>	What action(s) do you take when seeing someone convulsing? (42 answers)	Nothing	1 (2%)
		Calling emergency services	21 (50%)
		Helping the victim	20 (48%)
<b>Q8</b>	What do you do to help the patient seizing «on the scene»? (22 answers)	Placing something in between the jaws	9 (41%)
		Restricting the body movements	4 (18%)
		Unfastening collar and shirt bottoms	3 (14%)
		Taking sharp objects away from the vicinity	2 (9%)
		Calling emergency services	2 (9%)
		Staying relaxed	2 (9%)
<b>Q9</b>	What limitations do you think patients with epilepsy have in their daily life activities? (17 answers)	Driving	4 (24%)
		Attending special places	4 (24%)
		Height	4 (24%)
		Critical jobs	2 (12%)
		Being alone	1 (6%)
		Sports	1 (6%)
		Diet	1 (6%)
<b>Q11</b>	What makes you avoid interaction with someone afflicted with epilepsy? (4 answers)	Feeling of fear	4 (100%)

### Discussion

Epilepsy has been associated with misconceptions and misbeliefs that have led to stigmatization and discrimination. Incorrect perceptions and negative attitudes toward epilepsy have been observed in several studies and among different groups, including university students and teachers (3-15). In the current study, biology teachers who deal with health

related issues in our curriculum, did not have enough information about epilepsy and consequently had some considerations about social interaction with patients with epilepsy. Unfortunately, fear, avoidance and other negative attitudes and misconceptions were observed among these teachers. For example, they knew that epilepsy is not contagious; however, those who stated that they would prefer not to have social interaction

with patients with epilepsy had a sense of fear.

In a survey conducted in school teachers in eastern Africa, the knowledge and attitude about epilepsy among the participants were similar to our study in most of the questioned fields (10). Another study performed in Africa also revealed similar observations (11). In one study, it was observed that the level of awareness, understanding and beliefs about epilepsy among the Iranians was fairly desirable, but their attitude about their children's marriage with people who had epilepsy was highly negative (12).

Teachers often play a major role in shaping the personal development of their students. Biology teachers have a fundamental role with regard to information transfer and shaping attitudes about health related issues. Lack of enough knowledge and negative attitude towards epilepsy could have negative impact on the students, who will constitute the next generation. It is very important for teachers to be well-informed about epilepsy. More knowledgeable teachers may even help improve the management of patients with epilepsy by developing a well-informed and tolerant community (13). Information campaigns are often very helpful in changing the knowledge and public attitude toward epilepsy, but detailed information about the target group must be obtained to organize the campaign successfully (9, 13). For the teachers in this study as well as other groups, misconceptions, wrong information and negative attitudes about epilepsy may be changed through appropriate educational campaigns. We suggest organizing provincial and national epilepsy awareness campaigns through preparation and dissemination of leaflets, flyers and concise booklets, appropriate TV programs and continuing involvement of media, focusing on the nature of epilepsy, etiologic factors and available treatment options. The next step will be international epilepsy awareness campaigns to help patients live their lives free from stigmatization and discrimination everywhere.

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.

### Acknowledgment

We would like to appreciate Dr. Yaghoubi and Mr.

Mostaan for their help and the Neurosciences Research Center, Shiraz University of Medical Sciences, Shiraz, Iran, for supporting this project financially.

**Conflict of interest:** The authors have no conflict of interest.

### References:

1. Sander JW, Shorvon SD. Incidence and prevalence studies in epilepsy and their methodological problems: a review. *J Neurol Neurosurg Psychiatry* 1987;50:829-39.
2. Saraceno B. The WHO world health report 2001 on mental health. *Epidemiol Psychiatr Soc* 2002;11(2):83-7.
3. Kim MK, Cho KH, Shin J, Kim SJ. A study of public attitudes towards epilepsy in Kwang-Juarea. *J Kor Neurol Assoc* 1994;12:410-27.
4. DiIorio C, Shafer PO, Letz R, Henry T, Schomer DL, Yeager K, et al. The association of stigma with self-management and perception of health care among adults with epilepsy. *Epilepsy Behav* 2003;4(3):259-67.
5. Aziz H, Akhtar SW, Hasan KZ. Epilepsy in Pakistan: stigma and psychological problems: a population-based epidemiologic study. *Epilepsia* 1997;38:1069-73.
6. Ablon. The nature of stigma and medical conditions. *Epilepsy Behav* 2002;3:2-9.
7. Jacoby A. Stigma, epilepsy and quality of life. *Epilepsy Behav* 2002;3:10-20.
8. McLin WM, de Boer HM. Public perceptions about epilepsy. *Epilepsia* 1995;36:957-9.
9. Daoud A, Al-Safi S, Otoom S, Wahba L, Alkofahi A. Public knowledge and attitudes towards epilepsy in Jordan. *Seizure* 2007;16:521-6.
10. Ndour D, Diop AG, Ndiaye M, Niang C, Sarr MM, Ndiaye IP. A survey of school teachers' knowledge and behaviour about epilepsy, in a developing country such as Senegal. [Article in French]. *Aert Rev Neurol* 2004;160(3):338-41.
11. Millogo A, Siranyan AS. Knowledge of epilepsy and attitudes towards the condition among school-teachers in Bobo-Dioulasso (Burkina Faso). *Epileptic Disord* 2004;6(1):21-6.
12. Masoudnia E. Awareness, understanding and attitudes towards epilepsy among Iranian ethnic groups. *Seizure* 2009;18(5):369-73.
13. Fernandes PT, Noronha AL, Araújo U, Cabral P, Pataro R, de Boer HM, Prilipko L, Sander JW, Li LM.

- Teachers' perception about epilepsy. *Arq Neuropsiquiatr* 2007;65(1):28-34.
14. Aydin K, Yildiz H. Teacher's perceptions in central turkey concerning epilepsy and asthma and short term effect of a brief education on the perception of epilepsy. *Epilepsy Behav* 2007;10:280-90.
  15. Caixeta J, Frenandes PT, Bell GS, Sander JW, Li LM. Epilepsy perception amongst university students. A survey. *Arq Neuropsiquiatr* 2007;65 (suppl 1):43-8.