Epilepsy & Behavior 80 (2018) 1–4

Contents lists available at ScienceDirect

Epilepsy & Behavior

journal homepage: [www.elsevier.com/locate/yebeh](http://www.elsevier.com/locate/yebeh)

Development of the perceived stigma scale and the concealment of  epilepsy scale for the Turkish population

Nuran Aydemir a,⁎, Büşra Kaya b, Gözde Yıldız c

a *Izmir Katip Çelebi University, Faculty of Humanities and Social Sciences, Department of Psychology, Izmir, Turkey*

b *Turkish Ministry of Justice, Turkey*

c *Izmir Katip Çelebi University, Graduate School of Social Sciences, Department of Psychology, Izmir, Turkey*

# a r t i c l e i n f o

*Article history:*

Received 19 October 2017

Revised 23 November 2017

Accepted 26 November 2017

Available online 3 February 2018

# a b s t r a c t

The aim of this study was to develop two culture-speciﬁc scales to measure the level of felt stigma, and level of concealment of Turkish adult people with epilepsy (PWE). For this purpose, a 10-item felt-stigma scale and a 17-item disclosure of epilepsy scale were developed and then applied to 200 adult PWE. After item and factor analyses of the stigma scale, the 10 items with a one-factor solution explained 45.6% of the variance with a

0.86 internal consistency value. Higher scores represent higher felt stigma. The concealment of epilepsy scale has 17 items loaded on one factor, which explained 45.1% of the variance. Cronbach's alpha coefﬁcient was found to be 0.92. The higher the score, the higher the concealment of illness by the participant. For convergent validity, the relationship between stigma and disclosure scales was examined, and a positive signiﬁcant relation (r = 0.64, *p* b 0.000) was found.

© 2017 Elsevier Inc. All rights reserved.

1. Introduction

Stigma has been deﬁned as an “attribute which is deeply discrediting” or an “undesired differentness” by Goffman [1]. According to Morell, “Stigma is a mark of shame or discredit, a stain and an identifying mark or characteristic” [2, p. 21]. Jones et al. [3] deﬁned certain dimensions of stigma, including concealability (whether the symptoms are visible to other people), the course of the mark (whether the prognosis is degenerative or salient over time), disruptiveness (whether the illness disrupts social interactions or not), aesthetics (other people's reactions to the unattractive sides of the stigmatized illness), origin (other people's attributes toward the origin of the illness: congenital, accidental, or intentional), and peril (the perceived threat of the disorder by others). Unfortunately, epilepsy ﬁts almost all the deﬁnitions and dimensions of stigma. People with epilepsy (PWE) have been seen as dangerous and the illness seen as contagious or inheritable, and its origin even as demonic or ambiguous [4,5]. Depending on the type, seizures can interrupt social order and can be unesthetic and uncontrollable [6]. This is why, for centuries, PWE have suffered from the negative effects of both felt stigma, which is a fear of stigmatization and a fear of encountering enacted stigma, and enacted stigma, which is real discriminative experiences, simply because of having epilepsy [7–11].

⁎ Corresponding author at: Izmir Katip Çelebi University, Faculty of Humanities and Social Sciences, Department of Psychology, 35620 Balatcik-Izmir, Turkey.

*E-mail address:* nuran.aydemir@ikc.edu.tr (N. Aydemir).

There have been numerous attempts in the literature from different countries to investigate the level of, mostly, felt stigma [e.g., 8,12–15]. The most commonly used scale is the one developed by Jacoby [16], although, as even she stated [17], there is doubt over its cross-cultural applicability to measure felt stigma. Jacoby's scale was developed for British PWE, but since stigma is a cultural construct, the kinds and the degree of stigmatization will vary among cultures. In two of our previ- ous studies in which we applied Jacoby's stigma scale [18,19], contrary to our clinical observations indicating higher felt stigma, such as feeling inferior and being ashamed of the condition, we were not able to measure it. However, in the ﬁrst study in which we applied the present stigma scale [7], whose psychometric properties will be described in the present paper, we detected felt stigma in almost half of our participants, which was concordant with our clinical observations. Therefore, the ﬁrst aim of this study was to describe the development process of a culture-speciﬁc scale to determine felt stigma for Turkish PWE.

The second aim of this study was to develop a scale in order to

investigate the level of concealment of epilepsy from others. Other than seizures, PWE seem “normal” and “healthy” and conform to the expected standards of society. Because of this, most PWE do not disclose their illness [11], usually informing very few about their condition [20], and adopting concealment as the ﬁrst strategy to battle against enacted stigma. In an earlier study, we found that almost half of Turkish PWE con- ceal their condition and most do so from their diagnosis [18], which indi- cates a long-term strategy to deal with stigma. Almost 90% stated felt stigma as the most important reason for their concealment behavior [18]. In most studies, concealment of the condition is regarded as a part of stigma and has been found to correlate with and predict stigma

https://doi.org/10.1016/j.yebeh.2017.11.032

1525-5050/© 2017 Elsevier Inc. All rights reserved.

2 *N. Aydemir et al. / Epilepsy & Behavior 80 (2018) 1*–*4*

[e.g., 7,12,13]. Although a few studies found no relationship between stigma and concealment [e.g., 21], others showed that if an individual with epilepsy has observable seizures, such as tonic–clonic, this can contribute to stigma [14].

Interestingly, sometimes PWE disclose their condition, even though they feel stigmatized. For example, they reveal their epilepsy before- hand to avoid more negative consequences later, such as getting caught having a seizure in public, or so they can control the content of informa- tion, such as medicalizing their epilepsy, for example by saying they have low blood pressure, low blood-sugar level, or just saying having they have “ﬁts,” without specifying epilepsy. These disclosures were termed “preventive telling” [22]. In contrast, “pragmatic disclosure” is where PWE sometimes disclose their condition to obtain information about a doctor, a new treatment, or simply to assure themselves that they can get help during a possible seizure [23]. However, none of these disclosures necessarily mean that the person is free from felt stigma; rather, they are strategies to manage stigma.

Another issue related to concealment is its psychological cost on the person. Hiding an illness that usually manifests itself without warning or that cannot be controlled causes great anxiety and requires continuous efforts to keep it hidden. Consequently, many PWE live in constant fear and anxiety of being caught out and make endless efforts to disguise their condition. Hence, it is believed that concealment of epilepsy is worth measuring and evaluating separately from stigma.

Therefore, the aims of the study were to describe the development process of culturally speciﬁc felt stigma and the concealment of epilepsy scales and to provide their psychometric evaluation.

1. Method
	1. *Procedures followed for the development of epilepsy stigma scale and concealment of epilepsy scale*

The items for both scales were developed in three phases: (1) forma- tive research and concept development, (2) item development, and

(3) data collection, reliability, and validity assessment. The ﬁrst step in- cluded a literature review to obtain background information about the stigma, speciﬁcally felt stigma related to epilepsy [20,24,25]. The present paper's ﬁrst author's clinical experience with PWE and her personal notes from previous studies, such as how PWE feel about having epilepsy and how they see their condition, were also used during item generation. Items for the concealment of epilepsy scale were created to understand to what extent PWE conceal their epilepsy from others, such as people in the outer social circle, like acquaintances, colleagues, coworkers,

number of antiseizure medications used, and the existence of comorbidity).

*2.3. Data collection*

Two hundred adult PWE participated in the study. The ﬁrst source of data collection was Dokuz Eylül University, School of Medicine, Department of Neurology. This group consisted of 103 volunteer PWE who attend for regular control visits. The second source was the ofﬁcial website of the Turkish Epilepsy Association. Ninety-seven PWE registered with the Association completed online versions of the scales. The details related to the participants and the data collection proce- dure have been reported elsewhere [7]. The study was approved by the Izmir University of Economics Ethics Board (May 14, 2013, meeting no. 28, p. 66), and each patient gave informed consent for their participation.

1. Results
	1. *Data analysis*

For all statistical analyses, SPSS for Windows, version 21 (SPSS Inc., Chicago) was used. Factor analysis using varimax rotation was performed to determine the factor structure of the scales. The internal consistency of the scales was analyzed by using Cronbach's alpha (α). Correlation analysis was used to evaluate the relationship between the stigma scale and the concealment scale.

* 1. *Clinical and demographic characteristics of the participants*

The age range of the participants varied between 18 and 68 years (M = 31.68, SD = 11.17); more than half were female (60.5%), and most were single (53%). There was a high level of unemployment (35%). More than a quarter had no seizures (33.9%), and more than half (53.5%) were on polytherapy. The demographic and clinical characteristics of the participants are summarized in Table 1.

* 1. *Psychometric properties of the scales*
		1. *Factor analysis*

The necessary items were reverse coded before the factor analyses. Before we conducted the factor extraction, the Kaiser–Meyer–Olkin (KMO) value was examined to see whether the dataset supported

Table 1

Demographic and clinical characteristics of the participants.

and/or from their inner social circle, like romantic partners, relatives,

and close friends. The ﬁrst author's notes from previous studies related to concealment and disclosure strategies by Turkish PWE were also used.

Sex (%)

Participants (n = 200)

In step two, the items were generated for both stigma and conceal- ment scales according to their conceptualizations stated above. Ten items were created for the stigma scale, and 17 items were created for the concealment scale. In order to evaluate the content validity, readability, and clarity of the scales, they were evaluated by three academics, each with a Ph.D. in psychology, and 20 PWE volunteers. Following feedback, some wording changes were made to increase the clarity of the items.

*2.2. The scoring system of the scales*

For both the scales, a ﬁve-point Likert scoring system was used. Response options were “completely agree,” “agree,” “not sure,” “disagree,” and “completely disagree.” Responses were combined to create a ﬁve-point Likert scale whose higher scores indicate higher felt stigma and higher concealment of epilepsy.

On the cover page, demographics and clinical characteristics of the participants were requested (duration of epilepsy, seizure frequency,

Female 60.5

Age (SD) 31.68 (11.17)

Year of education (SD) 10.70 (3.28)

Marital status (%)

Single 53

Married 42.5

Divorced/widow 4.5

Occupational status (%)

Employed 35

Unemployed 35

Housewife 8

Student 17

Retired 4.5

Duration of the illness (SD) 13.03 (9.95) Number of seizures per month (%)

No seizures 33.9

1–3 38.3

4–5 13.9

6+ 13.9

Number of AEDS (%)

Monotherapy 46.5

Polytherapy 53.5

*N. Aydemir et al. / Epilepsy & Behavior 80 (2018) 1*–*4* 3

Table 2

Exploratory factor analysis and factor loadings for the single-factor solution.

|  |  |  |
| --- | --- | --- |
| Item |  | Factor loading |
| S16 | I feel ashamed after a seizure | 0.80 |
| S49 | I feel more incomplete than others because of my epilepsy | 0.79 |
| S17 | I feel less valued than others because of my epilepsy | 0.79 |
| S58 | I feel people value me less because of my epilepsy | 0.74 |
| S2 | I fear being an outcast because of my epilepsy | 0.73 |
| S40 | I feel people who know about my epilepsy pity me | 0.68 |
| S3 | After I have a seizure, I want to get away from people | 0.62 |
| S31 | who witnessed itEpilepsy is not a discreditable illness | 0.54 |
| S56 | I think epilepsy is a discreditable illness | 0.48 |
| S34 | I believe having epilepsy is a misfortune | 0.46 |

valid factor extraction. We used a principal factor extraction using the Keiser criterion of accepting eigenvalues only higher than 1, and also evaluating the factors with a scree plot using varimax rotation.

Since the KMO value for the stigma scale was almost excellent (0.88), the exploratory factor analysis was run. In the unrotated compo- nent matrix, all the items had values above 0.30, so none of the items were excluded from the scale. Only two factors had eigenvalues greater than 1 (4.49 and 1.08) using a principal factor extraction. On the other hand, the scree plot showed a clear break at the second factor; the component plot in the rotated space indicated a single-factor solution, which, we, therefore accepted a one-factor solution which explains 45.61% of the variance (Table 2).

For the concealment of epilepsy scale, the same steps were followed. After running the KMO analysis, which had an excellent value (0.91), we performed the factor analysis. In the unrotated component matrix, all of the items had values above 0.30, so none were excluded from the scale. Likewise with the stigma scale, three factors had eigenvalues greater than 1 (7.54, 1.68, and 1.14). However, the scree plot and the compo- nent plot in the rotated space indicated a single-factor solution. Hence, it was decided that the scale was uniﬁed around one single factor. The single-factor solution explains 45.13% of the variance (Table 3).

* + 1. *Reliability analysis*

To determine the internal consistency of the scales, Cronbach's alpha values were analyzed, which were found to be 0.86 for the stigma scale and 0.92 for the concealment scale.

Table 3

Exploratory factor analysis and factor loadings for the single-factor solution of the concealment of epilepsy scale.

* + 1. *Convergent validity*

In order to measure the convergent validity of the scales, a correlation analysis was performed between the stigma scale and the concealment scale using Pearson correlations. As expected, there was a highly signiﬁ- cant correlation between the scales (r = 0.64, *p* b 0.000).

* + 1. *The relationship of the stigma and concealment scales with demographics*

First of all, to examine the relationship of stigma and concealment with age, duration of epilepsy, year of education, number of antiseizure medications, and number of seizures, a Pearson correlation analysis was performed. The results revealed only one signiﬁcant relationship between stigma and the number of antiseizure medications (r = 0.21, *p* b 0.00). We then examined whether gender has any effect on stigma or concealment. Independent sample *t*-tests revealed there is no signiﬁcant effect of gender on these variables.

1. Discussion

The epilepsy stigma and concealment of epilepsy scales were devel- oped in response to the need for a culture-speciﬁc, contemporary, and psychometrically sound instrument to measure the stigma and conceal- ment behavior of Turkish PWE. The results of the analyses revealed that both scales have good item properties, and both are reliable and valid. The stigma scale consists of 10 items with a one-factor solution, which explains 45.6% of the variance, with a 0.86 internal consistency value. Higher scores represent higher felt stigma. The concealment of epilepsy scale has 17 items loaded on one factor, which explains 45.1% of the variance. Cronbach's alpha coefﬁcient was found to be 0.92. The higher the score, the higher the concealment of illness by the participant.

In the present study, stigma and concealment correlated highly, similar to some previous studies [26]. When this ﬁnding is combined with our previous paper's results [7], which showed that concealment is the strongest variable explaining the total variance in stigma—at least for the Turkish population—we can claim that concealment is an important indicator to predict felt stigma. The lack of correlation be- tween stigma and concealment in some previous studies [21] could be due to different reasons. First, especially in Western cultures, as a result of strict protective laws against kinds of discrimination, even if a person with epilepsy struggles with stigma, the disclosure, or unintentional re- vealing of the epilepsy, does not cause serious consequences. Therefore, negative consequences are usually limited to a personal level. This is why enacted stigma is quite low in Western and other developed countries [16]. On the other hand, in Eastern cultures and in most developing countries, epilepsy is seen as a “moral weight,” as termed by Schneider and Conrad [22], such that epilepsy not only brings shame and guilt to the affected person but also to the whole family.

 Therefore, disclosure or unintentional revealing not only harm the

|  |  |  |
| --- | --- | --- |
| Item |  | Factorloading |
| C47 | I conceal my epilepsy from everyone other than my family | 0.84 |
| C38 | I avoid disclosing my epilepsy to my friends | 0.83 |
| C13 | I feel uncomfortable when my friends know about my epilepsy | 0.80 |
| C60 | I feel uncomfortable when people other than my family know | 0.78 |
| C15 | about my epilepsyI feel uncomfortable if my coworkers know about my epilepsy | 0.77 |
| C33 | I feel hesitant to disclose my epilepsy to a recently met person | 0.75 |
| C57 | I conceal my epilepsy from people that I am not quite familiar with | 0.69 |
| C20 | I avoid disclosing my epilepsy to a woman/man that I like | 0.68 |
| C55 | I disclose my epilepsy to my coworkers without any hesitation | 0.67 |
| C52 | I have relatives from whom I conceal my epilepsy | 0.66 |
| C27 | I reveal my epilepsy only when it is impossible to hide it | 0.60 |
| C5 | My close friends know about my epilepsy | 0.60 |
| C54 | Very few people in my family know about my epilepsy | 0.56 |
| C39 | I feel comfortable talking about my epilepsy with my close friends | 0.55 |
| C45 | It would be to my advantage to have people around me that know | 0.54 |
| C28 | about my epilepsyI disclose my epilepsy to a woman/man that I like | 0.53 |
| C23 | Everyone in my family knows about my epilepsy | 0.43 |

person with epilepsy but the whole family's future could be in jeopardy.

Another important issue is related to enacted stigma in developing countries. Voluntary disclosure, unintentional revealing, or forced dis-

closure of epilepsy can lead to serious consequences in some cultures, such as divorce and increased stigma [8,27]. Although there is legisla- tion to protect PWE against discrimination and enacted stigma in Eastern and developing countries, going to court for any discriminative

act also means revealing one's epilepsy to the public, which returns us to the previous problem. Therefore, in some cultures, the relationship between stigma and concealment is stronger and more tied because of consequential and collateral damage.

Similar to some previous ﬁndings, neither stigma nor disclosure

showed signiﬁcant relationships with age, duration of epilepsy, year of education, number of seizures [8,13,21,28], or gender [14,28,29], and these variables showed no signiﬁcant differences with either of the study variables. Actually, these results make the recognition of stigma

by healthcare professionals more difﬁcult. These variables are the

ﬁrst to be gathered while examining patients; however, as the results

4 *N. Aydemir et al. / Epilepsy & Behavior 80 (2018) 1*–*4*

indicate, they are not useful in providing clues to the existence of stigma, and thus, health professionals that deal with epilepsy need to dig more to reach perceived stigma. Unfortunately, in most countries, due to the few specialists in epilepsy but the huge number of patients, visiting time is generally only enough to collect necessary information, such as seizure frequency and seizure type, which leads to stigma being neglected, and even being an “extravagant” question. However, if our ﬁndings related to the predictive power of and the relationship of concealment to stigma are validated in other societies, perhaps the questioning of concealment behavior could provide clues to healthcare professionals about the presence of felt stigma.

Interestingly, only a number of antiseizure medications signiﬁcantly correlated with stigma. In a previous study by Ryu et al. [13], it was also found that polytherapy was a predictor of higher stigma perception in adolescents with epilepsy. Ryu et al. [13] explained this result with resistant seizures and other issues related to uncontrolled seizures possibly indirectly causing an increase in stigma perception through polytherapy. Also, receiving polytherapy can increase the risk of side effects, which could again indirectly affect stigma perception [13]. Another reason could be the burden caused by the patient's adherence efforts to the medical regime, such as remembering the name of the medication, as well as the dose and time schedule of different medica- tions. If the patient conceals his/her condition, it can also add an extra burden, such as using vitamin boxes or pill boxes to disguise the purpose of taking the actual pills. Therefore, all these actions and efforts could act as a reminder of having an illness that needs to be hidden, potentially turning into increased perceived stigma.

Lastly, it is worth of mentioning the necessity of creating different stigma scales, even for the same chronic illness for different cultures. Since stigma is created by society itself, it is impossible to use a single generic scale to assess stigma in different cultures as the form of stigma- tization and/or degree of stigmatization in a certain illness will show a huge variation from culture to culture. Although there are numerous studies in the literature that have used the same scale in different cul- tures to detect stigma [e.g., 15,30–32], when we closely examine these studies, usually we see that the stigma scale lacks validity and reliability for all the countries to which it was applied. The use of the same stigma scale could be applied in neighboring countries that share similarities in terms of culture, level of wealth, religion, and history, after validity and reliability studies of the scale for each country. However, comparing an Eastern society with a Western one by using the same scale is more problematic on the grounds of stigma theory, making it more difﬁcult to make cross-cultural comparisons of stigma; when we accept the uniqueness of every culture in terms of stigmatization, it might not, in fact, be pertinent to make cross-cultural comparisons, rather to simply evaluate each culture in its own context.

1. Conclusion

Both the stigma and the concealment of epilepsy scales have good psychometric values for use in future studies. The correlation of stigma and disclosure thus deserve to be examined in different cultures.

Conﬂict of interest

The authors declare no conﬂict of interest.

References

1. Goffman E. Stigma: notes on the management of spoiled identity. New Jersey: Prentice Hall; 1963.
2. Morell MM. Stigma and epilepsy. Epilepsy Behav 2002;3:S21–5.
3. Jones EE, Farina A, Hastorf AH, Markus H, Miller DT, Scott RA. Social stigma: the psychology of marked relationships. New York: Freeman; 1984.
4. Ozer IJ. Images of epilepsy in literature. Epilepsia 1991;32(6):798–809.
5. Devinsky O. Religious experiences and epilepsy. Epilepsy Behav 2003;4:76–7.
6. Aydemir N, Tekcan AI, Özkara Ç. Remembering the ﬁrst seizure and the diagnosis of epilepsy: how much impact do they have in our lives? Epilepsy Behav 2009;16: 156–60.
7. Aydemir N, Kaya B, Yıldız G, Öztura İ, Baklan B. Determinants of felt stigma in epilepsy. Epilepsy Behav 2016;58:76–80.
8. Atadzhanov M, Haworth A, Chomba EN, Mbewe EK, Birbeck GL. Epilepsy-associated stigma in Zambia: what factors predict greater felt stigma in a highly stigmatized population. Epilepsy Behav 2010;19:410–8.
9. Li S, Wu J, Wang W, Jacoby A, De Boer H, Sander JW. Stigma and epilepsy: the Chinese perspective. Epilepsy Behav 2010;17:242–5.
10. Lim YJ, Chan SY, Ko Y. Stigma and health-related quality of life in Asian adults with epilepsy. Epilepsy Res 2009;87:107–19.
11. Scambler G, Hopkins A. Generating a model of epileptic stigma: the role of qualitative analysis. Soc Sci Med 1990;30(11):1187–94.
12. Yeni K, Tulek Z, Bebek N. Factors associated with perceived stigma among patients with epilepsy in Turkey. Epilepsy Behav 2016;60:142–8.
13. Ryu HU, Lee SA, Eom S, Kim HD. Perceived stigma in Korean adolescents with epilepsy: effects of knowledge about epilepsy and maternal perception of stigma. Seizure 2015; 24:38–43.
14. Bielen I, Friedrich L, Sruk A, Prvan MP, Hajnsek S, Petelin Z, et al. Factors associated with perceived stigma of epilepsy in Croatia: a study using the revised Epilepsy Stigma Scale. Seizure 2014;23:117–21.
15. Baker GA, Brooks J, Buck D, Jacoby A. The stigma of epilepsy: a European perspective. Epilepsia 1999;41(1):98–104.
16. Jacoby A. Felt versus enacted stigma: a concept revisited. Evidence from a study of people with epilepsy in remission. Soc Sci Med 1994;38(2):269–74.
17. Jacoby A. Epilepsy and stigma. An update and critical review. Curr Neurol Neurosci Rep 2008;8:339–44.
18. Aydemir N, Özkara Ç, Ünsal P, Canbeyli R. A comparative study of health related quality of life, psychological well-being, impact of illness and stigma in epilepsy and migraine. Seizure 2011;20:679–85.
19. Aydemir N, Özkara Ç, Canbeyli R, Tekcan A. Changes in quality of life and self- perspective related to surgery in patients with temporal lobe epilepsy. Epilepsy Behav 2004;5:735–42.
20. Scambler G, Hopkins A. Being epileptic: coming to terms with stigma. Sociol Health Illn 1986;8:26–43.
21. Westbrook LE, Bauman LJ, Shinnar S. Applying stigma theory to epilepsy: a test of a conceptual model. J Pediatr Psychol 1992;17:633–49.
22. Schneider JW, Conrad P. Having epilepsy: the experience and control of illness. Philadelphia: Temple University Press; 1983.
23. Aydemir N, Dang Vu T, Snape D, Baker GA, Jacoby A. Multiple impacts of epilepsy and contributing factors: ethnographic study of Vietnam. Epilepsy Behav 2009;16: 512–20.
24. Jacoby A, Snape D, Baker GA. Epilepsy and social identity: the stigma of a chronic neurological disorder. Lancet Neurol 2005;4:171–8.
25. Baker GA, Jacoby A. The stigma of epilepsy. Implications for clinical management. Stigma and social exclusion in healthcare. Florence KY, USA: Routledge; 2001. p. 144–53.
26. Lee SA, Lee BI. Disclosure management behaviors in Korean adults with well- controlled epilepsy: their relation to perception of stigma. Epilepsy Behav 2017; 67:28–32.
27. Lalwani E, Ali F, Sherani M, Ali A, Sulaiman N, Sachwani S. Disclosing versus concealing: marital prospects of female epileptic patients in Karachi, Pakistan. Int J Nurs Educ 2015;7:202–6.
28. Bautista RED, Shapovalov D, Shoraka AR. Factors associated with increased felt stigma among individuals with epilepsy. Seizure 2015;30:106–12.
29. Taylor J, Baker GA, Jacoby A. Levels of epilepsy stigma in an incident population and associated factors. Epilepsy Behav 2011;21:255–60.
30. Forsgren L, Ghanean H, Jacobsson L, Richter J. On the experience of stigma by persons with epilepsy in Sweden and Iran–a comparative study. Seizure 2013;22: 748–51.
31. Baker GA. People with epilepsy: what do they know and understand and how does this contribute to their perceived level of stigma? Epilepsy Behav 2002;3:26–32.
32. Baker GA, Jacoby A, Gorry J, Doughty J, Ellina V. Quality of life of people with epilepsy in Iran, the Gulf and Near East. Epilepsia 2005;46(1):132–40.