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Corresponding author: Shahzad S Hasan (shahzad_hasan@imu.edu.my)

Correspondence concerning this article should be addressed to Dr. Shahzad S Hasan; Department of Pharmacy Practice, School of Pharmacy and Health Sciences, International Medical University, Kuala Lumpur, 57000, Malaysia; Email: shahzad_hasan@imu.edu.my

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Department of Pharmacy Practice, School of Pharmacy and Health Sciences,
International Medical University, Malaysia

Abstract

Background: Epileptics are often socially discriminated due to the negative public attitudes, misconceptions and false beliefs. Thus, the main objective of this study was to assess the knowledge and attitudes toward epilepsy among Malaysian Chinese.

Methods: A cross-sectional study by using a 23-item validated, self-administered questionnaire was carried out in urban areas, selected through stratified sampling. A Chinese population was randomly selected in the stratified areas of Penang, Ipoh, Klang valley, and Kuala Lumpur and was asked to complete the questionnaire.

Results: Among 382 (74.6%) respondents, 16.2% believed that epilepsy is a type of mental illness. Majority (90.8%) accepted that epileptics can become useful members of the society however, only 16% agreed to marry them. About 57% of respondents recognised epilepsy as nervous system problem. Significant relationships between education level and statements such as, epileptics are as intelligent as everyone else ($p=0.009$), epilepsy can be successfully treated with drugs ($p=0.037$) and epileptics can be successful in their chosen career ($p=0.009$), were found.

Conclusions: The general Chinese population in the selected areas of peninsular Malaysia had relatively good knowledge and positive attitudes toward certain aspects of epilepsy at the time of the investigation. However, minority of the study participants demonstrated prejudice and discriminatory behaviour towards people with epilepsy.

Keywords: Epilepsy, understanding, attitudes, urban areas, Chinese population

Background

Epilepsy is the most common neurological disorder that affects 50 million people of all ages, especially in childhood, adolescence and the elderly [5]. By losing control and representing human weakness, people with epilepsy are seen as "uniquely dangerous" and an affront to societal values [20]. Epilepsy affront social order through their unpredictability, typically dramatic presentation and the sense of fear they induce in others [15]. However, such explanations rely on a powerful stereotype in which all seizures are generalized and all patients have chronic and incapacitating epilepsy. In other words, the diversity of epilepsy and the associated seizures are often ignored [21]. Another persistent stereotype seems to be that epilepsy is a mental illness. People with epilepsy are sometimes thought to have a range of undesirable tendencies in addition to seizures, such as aggressiveness and over-anxiety [22]. Ironically, some have also given new stereotypes in which people with epilepsy are regarded as introverted. These fundamentally flawed ideas about epilepsy are carried over into negative public connotations and it has been shown by many studies of lay people's knowledge and attitudes to epilepsy [21, 22].

It is well known that patients with epilepsy are socially discriminated on the ground of widespread negative public attitudes, misconceptions and defensive behaviors. This discrimination against epileptic patients could also be due to the lack of knowledge and understanding about epilepsy. Historical ascription of seizures to insanity, witchcraft, or supernatural forces such as evil possession remains a basis for contemporary stigma [38]. That discrimination is further exacerbated by the perception of epileptic seizure behaviour as socially deviant [8]. Some even believe that epilepsy is contagious [12].The most frequent false beliefs are related to mental illness, retardation and emotional disturbances in the patients [9]. Research has apparently shown that the stigma on people with epilepsy contributes to reduced social interactions, reduced social capital and reduced quality of life in both developed and developing countries [12]. Some patients even find that the social attitude, the stigmata, and discrimination against epilepsy are probably more devastating than the disease itself [13, 28]. Historical ascription of seizures to insanity, witchcraft, or supernatural forces such as evil possession remains a basis for contemporary stigma [15]. Several studies had highlighted the high prevalence of negative attitudes and misunderstanding towards epilepsy [20, 21].

Malaysia is a multiethnic country, where only limited studies are available so far regarding the general public awareness towards epilepsy. There are three main ethnic groups in Malaysia, namely, Malays which are in majority, followed by Chinese and Indians. Previous study was conducted on Malay population in Kelantan, Malaysia, found that Malay respondents were familiar with epilepsy but many had negative attitudes and poor knowledge on causation as well as treatment of epilepsy [27]. Similarly, a survey carried out among the university students at Malaysian public university indicated a generally favorable level of awareness and knowledge of epilepsy among students at the university [26]. Understanding and attitudes towards epilepsy among the general public plays a major role in determining the extent to

which people with epilepsy could be integrated into their societies [10]. Gauging the knowledge, attitude and understanding of epilepsy is the first step towards alleviating discrimination. Before a health education program can be formulated and established, one must first know what the target population believes and does with respect to the disease in question [11]. Hence, there is a clear indication to objectively assess the community's level of understanding and attitudes toward epilepsy.

In recent years, surveys to assess the awareness and understanding towards epilepsy among the public in Asian countries generally showed a similar level of awareness, but more negative attitudes towards epilepsy when compared to the developing countries in the West [27]. Nevertheless, there is still an insufficiency of researches on public understanding and attitudes towards epilepsy in Malaysia. This eventually generates a rationale to carry out this study. Furthermore, the assessment of deficiencies in knowledge and attitude among the public would help to identify the foci for increasing awareness and removing misinformation about epilepsy in a more targeted and effective manner.

Methods

Development of Questionnaire

This was a cross-sectional study conducted on the Chinese population living in the selected urban areas of Peninsular Malaysia. A 23-item questionnaire had been developed with the aid of questions used in previous studies to gather the required information, with an intention to aid in the comparison of the results [1,9,11,13,27,32]. Amendments were made whenever any questions were deemed culturally inappropriate or outdated conceptually. Some modifications had also been done with consultation of the lecturers from behavioral sciences and pharmacy practice. The questionnaire was split into 3 parts. The first part was concerning ‘the demographic data’ which was included in section 1.A; Q(a) to Q(h). The second part was regarding ‘the understanding of epilepsy’. The questions allocated for this part was found in section 1.B; Q1 to Q11, Q21 and Q22. The final part was ultimately ‘the attitudes toward epilepsy’. The questions were found in section 1.B; Q12 to Q20 and Q23. The questionnaire was also translated into Chinese language and was sent to a Chinese language teacher for inspection and remarks. The questionnaire designed in Chinese language was also validated by the forward-backward translation method in translating the questionnaire into Chinese language, to ensure conceptual equivalence.

Validation of Questionnaire

For validation, the questionnaire was distributed to 40 participants on two separate occasions with 10-15 days apart. The time span of 10-15 days was judged to be drawn out enough to avoid simple recall of previous answers but short enough to avoid consistent change in response over time. A null hypothesis was developed that there

was no agreement between the respondents on those two different occasions. The kappa test is used to assess the level of agreement between two respondents classifying a sample of objects on the same categorical scale. The calculated value of Kappa test was K= 0.464. This positive value reflected that there was an agreement between the respondents. The exact p-value was found to be significant at 0.034, which leaded to rejection of the null hypothesis. Hence, it was concluded that the questionnaire produced results that were internally consistent.

In addition, the researcher also assessed the internal consistency (reliability) of the questionnaire by investigating whether the items or questions were significantly correlated with each other. This step was carried out via the most popular reliability testing method, namely the Cronbach's alpha test. The reliability coefficient for all the 23 items was calculated as Alpha = 0.71. Hence, the questionnaire was found to be highly reliable. The Chinese version of the questionnaire was also pre-tested on 20 individuals from the expected population. The same procedures and methods for validation and reliability examination of the questionnaire were applied. The results were comparable to that of the English version questionnaire.

Sample Size Estimation

According to Malaysian Statistics Department, the total Chinese population in Malaysia is 23.7% and about more than half of them stayed in urban areas. The calculated sample size was 500 Chinese people living in urban areas of Malaysia with an estimated drop out rate of 20%. This number was obtained from the calculations using the Chinese population with selected confidence level of 95% and confidence interval of 6. Nevertheless, the collected number of samples in this study was 382 subjects with an actual drop out of approximately 23%.

Data Collection

The sections within the states of peninsular Malaysia were selected using stratified sampling technique. The sections fell within Penang, Ipoh Kuala Lumpur, Klang, Shah Alam, Serdang, Kajang were included. The numbers of respondents from each of these areas are presented in Table 1.

The target population in this study consisted of Chinese respondents aged 18 years old and above. The sections were selected due to dense population of Chinese which was our target population in the study. The data collection was completed in three months time where the researcher covered almost all the urban areas selected sections. During data collection, the questionnaire was completed by the respondents under the guidance or clarification of the researcher. However, no attempt was made by the researcher to prompt the responders by suggesting answers directly. A letter explaining the purpose or objectives of the study was shown upon request to the respondents before obtaining their consent. During data collection period, ideal spots

and locations were selected such as shopping centers or malls, schools especially high schools and colleges/universities, offices and agencies, restaurants and coffee houses were approached with the concept of getting respondents whom can spend a little time on the survey. In addition, individuals from random houses and apartments were approached as well. Every effort was made to choose locations that could accurately represent the targeted population.

Statistical Analysis

Both descriptive and inferential statistics were used for data analysis. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) version 13.0. The variables were taken significant at p-value≤0.05. In order to find out the association between the independent variables (demographic characteristics such as age, gender, marital status, children, education level, and employment status) and dependent variables (responses for questions addressing understanding and attitudes toward epilepsy), Chi-square was used. However, for relationship between these variables, Spearman test was used. The Spearman and Kendall-Tau tests were used to analyze the relationships between demographic characteristics and questions regarding attitudes/ understanding about epilepsy.

Results

Demographic characteristics

A total of 382 (76.4%) respondents participated out of 500 approached for the study. Among them 187 (49%) were male and 195 (51%) were female. The demographic characteristics of the respondents are presented in **Table 1.** The mean age of the respondents was 34.7 years, where majority (72.3%) of respondents was aged between 18 and 34. About 31% were married while 68.3% were unmarried. Most (73.6%) of the respondents did not have children. Level of education revealed 61% graduates, followed by individuals with secondary schooling (26.4%), postgraduates (7.6%), no formal education (2.6%) and primary schooling (2.4%). Almost 43.7% of the respondents were students while professionals, labors, housewives, retired and unemployed were 29.3%, 9.4%, 8.6%, 3.7% and 4.5% respectively.

Understanding towards epilepsy

Details of aspects related to understanding of epilepsy are summarized in **Table 2**. Only 16.2% of the respondents believed that epilepsy is a type of mental illness (insanity or madness) while 74.6% disagreed with that. Almost 72% believed that epileptic patients can lead a normal married life. Interestingly only 38.2% of respondents felt that persons with epilepsy were discriminated by the society whereas

42.9% were not in favor. Most (90.8%) respondents accepted that epileptic patients can be useful members of the society and 49% vows in favor of their participation in sports.

Attitudes toward epilepsy

Attitude responses towards epilepsy are shown in **Table 3**. A significant 91.6% of respondents thought that epileptic patients should not be isolated from normal population. A majority (83.8%) of respondents would help while 9.4% felt little awkward and would rather avoid, whereas 4.5% will not contact someone with epilepsy. When questioned about becoming a close friend with epileptics, 62.8% of respondents replied they can easily do this while, 34% felt hesitant about it. Marriage with an epileptic provided the person is otherwise acceptable showed only 16% in favor whereas 47.9% were hesitant and 21.7% were not in favor. 44.5% would hire an epileptic in a business provided he or she had the skills or qualifications for it. As for their children's interaction with an epileptic patient, 64.9% were having no objections while 3.1% would be very hesitant and 3.4% will not permit.

Attitude related agreement responses showed that, 41.4% thought epileptics are as intelligent as everyone else while almost 30% respondents remained neutral. About 30% of respondents felt, people with epilepsy have more personality problems than others and about 43% agreed that it is frightening for others to see someone having an epileptic seizure. Around half (50.8%) of the respondents agreed that a person with epilepsy can be as successful as other people in their chosen career. In order to assess public perception about epilepsy, respondents were asked to choose a 'preferred' disease in a person close to them, only 8.6% had chosen epilepsy**.**

Job preference for epileptics

According to the respondents rating, jobs that were deemed unsuitable for epileptics include doctor (51.6%), police officer (44.5%), lorry driver (56.3%), fire fighter (57.3%) and armed forces (45%).

Causes of epilepsy

The respondents were tested on their understanding about the main causes of epilepsy and according to them main causes were, problem with nervous system (56.3%), brain disorder (40.8%) and born with it or birth injury (48.4%), whereas 30.1% considered accident such as head injury as one of the causes **Table 4**.

Concerns regarding epilepsy

Respondents were asked about their concerns (Question 23) regarding epilepsy by ranking their concerns from "most to least" on a condition of a new colleague. About 27% showed most concern in 'a person who had been sick with stress or depression for past 3 months' followed by 'a wheelchair user (16.8%)'. There were only 6.8% respondents who felt that 'a person with epilepsy' would cause most concern. For the least concerned condition, most of the respondent chose 'a person older than 50 years (46.3%).

Relationship between socio-demographic characteristics and questions:

Interestingly socio-demographic factors such as gender, age groups, marital status, children, education level, and employment were found to have association and positive correlation with questions (1, 3, 4, 9, 10, 11, and 21b, c, d, e) and are presented in **Table 5.** From the statistical results, some of the demographic variables and socioeconomic factors were apparently showing significant associations and correlations with the questions regarding understanding and attitudes. Gender was found to be significantly associated with questions on whether epileptics were having intellectual functioning below average or slow learners and whether epileptics should participate in sports with p-values of 0.026 and 0.032 respectively. It was also found that the positive responses were acquired more from female as well as university graduates. Moreover, age groups and the statement on whether epilepsy can be successfully treated with drugs in most cases showed significant association as well (p=0.022) as it was found that more respondents from the age group of 50 to 64 and female agreed with the statement.

In addition, significant associations were discovered between education level of the respondents and statements such as, whether epileptics are as intelligent as everyone else (p=0.009), whether epilepsy can be successfully treated with drugs (p=0.037) and whether epileptics can be as successful as other people in their chosen career (p=0.009). Positive responses were mainly acquired from respondents with secondary schooling and above. More female and respondents aged between 18 and 34 have a propensity that epileptics can be as successful as others. However, male respondents were more in conformity that epileptics can be as intelligent as others compared to female respondents.

Marital status of respondents was significantly associated with the question on marrying themselves or their children with epileptics (p=0.021), as more unmarried respondents would easily marry with epileptics. Significant associations between education level and statements on social association with epileptics (p=0.035), becoming close friend with epileptics (p=0.031) and letting their children to play with epileptics (p=0.036) were also found which rationalized level of education with these associations where majority of the postgraduates and university graduates were of positive opinions. Effect of epilepsy in hindering normal and happy life showed

significance (p=0.041) in responses among genders as more female than male respondents were of positive response. Furthermore, respondents with secondary schooling and respondents aged 60 or above were also more of positive response. A p-value of 0.022 further justified that the marital status of respondents was significantly associated with the question on marrying themselves or their children with epileptics, where more unmarried respondents would easily agree to marry with epileptics. Hence, it was fair to say that the demographic characteristics including age groups, educational level and employment status were having effects on the understanding and attitudes toward epilepsy.

Discussion

The success of programmes aiming at improving the life of people with epilepsy depends on public understanding and attitudes toward epilepsy. Unfortunately, stigmatization and discrimination against people with epilepsy is still present [1, 6, 8, 23, 27], which reduces social interactions, social capital and quality of life of individuals with epilepsy [15]. This study was aimed to assess the level of understanding towards epilepsy and epilepsy-related attitudes in a representative sample of Malaysian Chinese respondents living in urban areas of peninsular Malaysia. The respondents were prompted verbally on whether they know or heard about epilepsy ever before and generally they were aware of epilepsy as majority had heard about it. However, they were found to have little or inadequate knowledge about some aspects of this chronic condition such as the treatment and clinical manifestation of epilepsy.

When respondents were asked about their understanding of epilepsy, majority (74.6%) believe that it is not a mental illness or insanity while 16.2% believed in other way. This result was relatively positive compared to studies done in Malaysia and in South India where 23% and 27.3%, respectively thought epilepsy as type of a mental illness [27, 32]. However, upon comparison with the developed or western world, results were more negative since only 3% in USA while in Italy, Denmark and Hungary, 8%, 1% and 15% respectively considered epilepsy as insanity or mental illness [1, 9, 11, 29, 30].

Overall, respondents were knowledgeable about the causes of epilepsy compared to the results obtained from other studies. About the causes of epilepsy, respondents were allowed to pick more options and the results showed that many were able to associate epilepsy with its causes such as, problem with nervous system (56.3%), congenital factors such as birth injury or born with it (48.4%) and brain disorder (40.8%). A few (3.1%) believed that epilepsy is an infection transmitted from others. In addition, only a minority of 15.7% linked epilepsy with mental illness. Whereas, studies in Vietnam and Kelantan, found that 20.5% and 24% respectively labeled mental illness as a causes of epilepsy [23, 27]. The possible reason behind this better understanding could be the education level as about 60% of the respondents in this study were university graduates. Similarly only 9% respondents in Canadian study

attributed mental illness as a cause of epilepsy [31].

In conjunction to the above, considerable better understanding towards epilepsy was further elaborated as 91.7% respondents were of opinion that epileptic patients should not be isolated from normal population. Similarly about 85.6% respondents agreed that epileptics can perform daily life activities while 90.8% believed that epileptics can become useful members of the society. Following the same, 92.9% respondents were in favor of academic education for epileptics and this figure was much higher than the study in Kerala, South India, which found 38% in favor. Again education status of the respondents could be a possible reason of this variation. Attitudes toward epilepsy were assessed and some of the findings were consistent with study carried by Diamantopoulos N *et al*., as 57.1% responded that they would talk about epilepsy (if they had) only to people close to them whereas 21.2% can talk about it freely to anyone. This percentage was rather close to that of the Greek study with 50.4% could talk to close ones and 25% can freely [33].

Fairly positive and encouraging attitudes were highlighted when 83.8% respondents acknowledged that would treat or react with someone they knew as before if they came to know that he or she has epilepsy, similarly 62.8% had no hesitation in becoming friend to an epileptic likewise 64.9% would easily let their children to associate with epileptics. These responses were consonant with study done in Greece where the percentages of respondents giving similar responses were 76.3%, 64.7% and 65.7% respectively [33]. A possible effect of higher education levels on attitudes toward epilepsy had been pointed out in many studies [11, 28, 33]. Only 66% would easily associate with an epileptic in social situations and 28.3% would be a little hesitant about it, in Greek study these percentage were 74% and 14% respectively [33], which indicates relatively positive attitude towards epilepsy.

Interestingly when the respondents were asked about marrying themselves or their children to persons with epilepsy, lamentably only 16% would easily do it while 47.9% would be a little hesitant and 21.7% would simply avoid it. Perhaps this could be due to scarcity of awareness as much as the deeply ingrained social stigma linked with epilepsy. However, this finding is little better than some other studies as in Greece hardly 9% agreed whereas 45.4% preferred to avoid it [43]. Respondents' stance on epilepsy was further enlightened when they preferred asthma and high blood pressure (hypertension) 31.7% and 30.1% respectively, as they were asked to pick a "preferred" disease listed, in a person close to them. Only 8.6% chose epilepsy since to them it is frightening to see someone having seizure whereas other diseases like hypertension might not have clinical presentations that would cause such degree of concern.

Respondents' conformity to attitudes related statements revealed that more than half agreed that it is frightening to see someone having a seizure. This could be due to the fear invoked by the clinical presentations of epilepsy, particularly the tonic-clonic seizure (grand mal) that is characterized by a loss of consciousness, body stiffening, shaking as well as tongue biting [15]. This agreement was 90% in a study conducted in UK [13]. Further to that over 70% agreed that person with epilepsy can be as

successful as others normal individuals, though it was an undeniably positive finding but, about 94% respondents in UK were in agreement to that [13].

Fire fighting (57.3%) and lorry driving (56.3%) were regarded as the most unsuitable jobs for epileptics which concurring to study done by Jacoby *et al* in the UK. Nevertheless, the percentages of respondents thinking that epileptics should not be employed as fire fighters (72%) and lorry drivers (87%) were higher [13]. Other jobs rated by the respondents include police officers (44.5%) and armed forces (45%), which is again somehow compare able to that of the UK study as police officers (46%) and armed forces (57%) [13]. This particular finding indicated that the knowledge about epilepsy of the study population could be comparable to the public in developed countries as they were able to identify the risk that epileptics would encounter in certain jobs.

Conclusions

According to this study the Malaysian Chinese population residing in Peninsular Malaysia appeared to have relatively better understanding and positive attitudes towards the certain aspects of epilepsy. It is supported by their high responses in showing willingness to help and assist epileptics (83.8%), agreement in having friendship (62.8%), accepting epilepsy as a medical condition but not madness (74.6%) and accepting them as a useful member of the society (90.8%). However, low tolerance towards people with epilepsy was shown by some of their understandings and attitudes for instance, although 72% people believe that epileptic patients can have a normal married life, only 16% would easily marry themselves or their children to an epileptic patient. This indicates a low tolerant behavior especially when it comes to individual act and understanding. Conjointly, their preferences to other diseases over epilepsy in person close to them confirm their reluctant attitude in contacting epileptic patient. Meanwhile, demographic characteristics including age groups, educational level and employment status seemed to have effects on understanding and attitudes toward epilepsy. The study confirms the need of having educational programs such as public educational campaigns to improve the knowledge and understanding about epilepsy in general population. Nevertheless, it is indeed very challenging to change the attitudes of public towards people with epilepsy.

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Table 1: Number of respondents from each areas (n=382)

Areas	n	%
Kuala Lumpur	80	20.9
Penang	70	18.3
Ipoh	60	15.7
Klang	58	15.2
Serdang	40	10.5
Kajang	39	10.2
Shah Alam	35	9.2

Table 2: Understanding towards epilepsy

	Yes		No		Don't Know	
	n	%	n	%	n	%
Q1. Do you think epileptics are slow learners?	73	19.1	246	64.4	63	16.5
Q2. Do you think epilepsy is a type of mental illness?	62	16.2	285	74.6	35	9.2
Q3. Do you think epilepsy is a hindrance to a happy life?	157	41.1	166	43.5	59	15.4
Q4. Do you think epileptics can lead a married life?	276	72.3	46	12	59	15.4
Q5. Do you think epileptics can to lead normal sexual life?	239	62.6	38	9.9	103	27
Q6. Do you think society discriminates epileptics?	146	38.2	164	42.9	72	18.8
Q7. Do you think that epileptic patients should be isolated from normal population?	19	5	150	91.6	12	3.1
Q8. Do you think epileptics can perform daily activities?	327	85.6	33	8.6	22	5.8
Q9. Do you think epileptics can receive academic education?	355	92.9	16	4.2	11	2.9
Q10. Do you think epileptics should participate in sports?	187	49	136	35.6	59	15.4
Q11. Do you think that epileptics can become useful members of the society?	347	90.8	16	4.2	19	5

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Table 3: Attitudes towards epilepsy

	n	%
Q12. If you had epilepsy how easily would you talk about it with others?		
Keep it as a secret from everybody	52	13.6
Talk about it only to people very close to me	218	57.1
Talk about it freely with anyone	81	21.2
I don't know or wish to answer	31	8.1
Q13. How you would react if you learnt that someone you know has epilepsy?		
Treat him as before	320	83.8
Feel a little awkward and afraid and I would rather avoid him	36	9.4
Feel very awkward and afraid and I would stop contacting him	9	2.4
I don't know or wish to answer	17	4.5
Q14. Would you like to associate with him/her in social situations?		
I would easily do it	252	66
I would be a little hesitant about it	108	28.3
I would be very hesitant about it	14	3.7
I would avoid it	8	2.1
Q15. Could you become a close friend with him/her?		
I would easily do it	240	62.8
I would be a little hesitant about it	129	33.8
I would be very hesitant about it	10	2.6
I wouldn't do it	3	0.8
Q16. Would you agree to marry yourself/children to epileptics?		
I would easily agree	61	16
I would be a little hesitant about it	183	47.9
I would be very hesitant about it	52	13.6
I would avoid it	83	21.7
Q17. Would you like to hire him/her in your own business?		
I would hire him	170	44.5
I would hire him under certain circumstances	172	45
I would be very hesitant to hire him	18	4.7
I wouldn't hire him	22	5.8
Q18. Would you agree your children to play with epileptics?		
I would easily agree	248	64.9
I would be a little hesitant about it	108	28.3
I would be very hesitant about it	12	3.1
I would avoid it	13	3.4

Table 4: Q22. Which of the following do you think are the main causes of epilepsy?

	n	%
Accident	115	30.1
Brain disorder	156	40.8
Problem with nervous system	215	56.3
Mental illness	60	15.7
Stress/Pressure	77	20.2
Born with it/birth injury	185	48.4
Result of another illness or disease	70	18.3
Old age	22	5.8
Alcohol or drug abuse	50	13.1
An infection caught from other people	12	3.1
None of these	10	2.6

*Note: Respondents can select or choose more than one option(s).
*Note: 1 = Most concern 6 = Least concern

Table 5: Interrelation between socio-demographic variables and questions on understandings toward epilepsy

Variables	Question	Association
Gender	Q3	0.026
	Q21c	0.032
Age groups	Q10	0.007
	Q21d	0.022
	Q21e	0.029
Education level	Q1	0.01
	Q4	0.024
	Q21e	0.007
Employment status	Q1	0.044
	Q21b	0.018
	Q21c	0.009

Q1. Do you think epileptics are slow learners? Q3. Do you think epilepsy is a hindrance to a happy life? Q4. Do you think epileptics can lead a married life? Q9. Do you think epileptics can receive academic education? Q10. Do you think epileptics should participate in sports? Q11. Do you think that epileptics can become useful members of the society? Q21b. Epileptics have more personality problems than other people, Q21c. It is frightening for others to see someone having an epileptic seizure, Q21 d. Doctors can successfully treat epilepsy with drugs in most cases, Q21e. Epileptics can be as successful as other people in their chosen career