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Awareness and Attitudes on Epilepsy Among Undergraduate Health Care Students in Southern Brazil

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ABSTRACT

Objective: To evaluate the awareness on epilepsy among undergraduate health care students in a private university. **Methods:** A self-administered questionnaire about epilepsy was applied to 417 students at Universidade de Caxias do Sul. The answers were analyzed in two groups: group 1, medical and nursing students; group 2, psychology, physiotherapy and nutrition students. **Results:** Most of the students were familiar with the disease. Although many of them recognize brain disease as a cause of seizure, it was observed that a quarter of them linked epilepsy with mental disease. Besides, a relevant portion of the sample presents mistaken attitudes on seizure management. **Conclusion:** There is lack of information on epilepsy among these students. The students and the health care professionals are important vectors of information. Therefore, further discussion on this subject is necessary in health care training to demystify some aspects concerning the disease.

Key words: Epilepsy, knowledge, students, university, questionnaire, Brazil.

RESUMO

Consciência e atitudes sobre epilepsia entre estudantes da área da saúde do sul do Brasil

Objetivo: Avaliar a consciência sobre epilepsia entre estudantes da área da saúde em uma universidade privada. **Métodos:** Um questionário auto-preenchível sobre epilepsia foi aplicado a 417 estudantes da Universidade de Caxias do Sul. As respostas foram analizadas em dois grupos: grupo1, estudantes de medicina e de enfermagem; grupo 2, estudantes de psicologia, fisioterapia e nutrição. **Resultados:** A maioria dos estudantes estavam familiarizados com a doença. Embora muitos deles reconhem uma doença cerebral como causa de epilepsia, observou-se que um quarto deles relacionou epilepsia com doença mental. Além disso, uma proporção relevante da amostra apresenta atitudes errôneas quanto ao manejo da crise convulsiva. **Conclusão:** Há falta de informação sobre epilepsia entre esses estudantes. Os estudantes e os profissionais da saúde são importantes vetores de informação. Portanto, mais discussão sobre esse assunto é necessário durante a formação acadêmica destes profissionais para desmistificar alguns aspectos concernentes à doença.

Unitermos: Epilepsia, conhecimento, estudantes, universidade, questionário, Brasil.

INTRODUCTION

Epilepsy is a common neurological disorder that affects 1% of the population worldwide.[1] Despite this high prevalence, studies in several countries show that people lack information concerning the disease, which generates negative attitudes and prejudice on individuals with epilepsy.[2-14] Moreover, lack of education is likely to be one of the main causes of the stigma involving epilepsy,[9,15] and the stigma is considered to be one of the major negative influences on the quality of life of people with epilepsy.[16,17]

Community-based studies have reported that better-educated individuals know more and have less negative

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attitudes concerning epilepsy.[3-8,11-13] University students probably are the better-educated section of society. In addition, health care students are expected to become professionals who will provide care to the patients with epilepsy, and are likely to be opinion formers in society. Thus, it is important that these future health care professionals be well informed about epilepsy and take an appropriate attitude towards the disease.

The aim of this study was to access the level of knowledge and the attitudes on epilepsy among health area university students in a private university in Southern Brazil.

METHODS

The study was carried out at Universidade de Caxias do Sul, a private university located in the state of Rio Grande do Sul, Brazil, among students of five health care courses: medicine, n=154; nursing, n=66; physiotherapy, n=67; nutrition, n=26; and psychology, n=104. The students completed a self-administered questionnaire after signing the term of consent to participate in the study. The questionnaire presented to the students had questions about: 1 – age, gender and income; 2 – familiarity with the disease; 3 – knowledge on etiology and treatment; 4 – attitudes in dealing with a person with epilepsy. Most of the questions in the instrument have already been used by other researchers.

In order to analyze possible differences in the answers among courses that deal more directly with patients with epilepsy than the others, the sample was divided into two groups: group 1, including medical and nursing students, and group 2, including psychology, physiotherapy and nutrition students.

The statistical analysis was performed with SPSS® for Windows (SPSS Inc., Chicago, IL, USA). The categorical variables were presented as proportions and the age as mean and standard-deviation. The Chi-square test was used to compare the proportion of answers in the two groups, and the Mann-Whitney test was used to compare the age averages as this variable was not normally distributed in Kolmogorov-Smirnov test. Statistical significance was considered if $p \leq 0.05$. The study was submitted to the Ethics and Research Committee of UCS and began after approval.

RESULTS

Four hundred and seventeen questionnaires were completed (group 1 = 220; group 2 = 197; Table 1). Female subjects predominate (82.5%) and this proportion is observed mainly in group 2 ($p<0.001$). It was observed that only 10% of the sample have an income of less than three minimum wages. Most of the students were quite familiar with epilepsy. The proportion of students in group 1 who have ever heard or read about epilepsy and witnessed a seizure is higher than in group 2 ($p<0.05$). As to the source of information about this disease, 43.9% of the students said that they had heard or read about this subject in the mass media, such as television, magazines, newspapers, and the internet (group 1 = 33.6%; group 2 = 55.6%; $p<0.001$); 55.2% claimed hearing about epilepsy at university (group 1 = 70.9%; group 2 = 37.6%; $p<0.001$). Moreover, almost 70% of the sample know someone with epilepsy.

Table 1. General sample characteristics and familiarity with epilepsy.

	Total (n=417)	Group 1 (52.8%)	Group 2 (47.2%)	*p*
Female gender	82.5%	73.6%	92.4%	< 0.001
Age (in years)	22.13 (±5.59)	21.99 (±4.56)	22.29 (±6.56)	0.06
Family income				< 0.001
Up to 3 wages	10.1%	9.1%	11.2%	
Up to 7 wages	36.9%	27.7%	47.2%	
More than 12 wages	53.0%	63.2%	41.6%	
Heard or read about epilepsy	94.0%	96.4%	91.4%	0.03
Knew someone with epilepsy	67.9%	67.3%	68.5%	0.78
Witnessed an epileptic seizure	48.7%	54.5%	42.1%	0.01

Concerning the causes of epilepsy (Table 2), 73.4% of the respondents correlated epilepsy with brain disease, this proportion being higher in group 1 ($p=0.001$). This group also had better responses regarding drug use compared with group 2 ($p=0.01$). It was observed that 26.4% of the university students correlated epilepsy with mental disease. Only 10.3% of the sample studied did not know what could cause epilepsy among the options proposed in the questionnaire (group 1 = 4.5%; group 2 = 16.8%; $p<0.001$). Other causes marked by the volunteers are shown in Table 2.

Most students recognized the pharmacological treatment of epilepsy (93.5%) and about one third of them (29.5%) acknowledged that there is surgical treatment (Table 2). These proportions were slightly higher among medical and nursing students ($p<0.05$). Only four students in group 2 (three physiotherapy students and one nutrition student) believe that medicinal herb teas are a therapeutic option for epilepsy (Table 2). Few university students marked that there is no therapy for epilepsy (n=4) and that they did not know what the treatment was (n=23).

As to the students' attitudes in dealing with a seizure, it was found that 54.7% of the individuals worry about removing objects that could hurt the patient during the

seizure (Table 2). The idea of inserting something inside the patient's mouth during the seizure was mentioned by 38.8% of the health care students (group 1 = 34.1%; group 2 = 44.2%). Attitude such as keeping away from the person was marked by only a small fraction of the sample and throwing water on them by none. In the post-ictal period, the majority of the sample (97.6%) believes that the patient should rest (Table 2).

The questions that aimed at evaluating stigma among the students are shown in Table 3. It is observed that a higher proportion of group 2 students believe that patients with epilepsy usually have severe psychiatric disease (group 1 = 6.8%; group 2 = 18.3%; $p<0.001$). The majority of the students declared that they would offer a job (90.4%) and they would marry an epileptic (85.1%). None of the students believe that epilepsy is a contagious disease.

DISCUSSION

This university-based survey with health care students shows the familiarity, the knowledge, and the attitudes toward epilepsy among the future professionals who will provide care to these patients in the future. The sample was composed mainly by people from the Brazilian middle class, since most of them declared that their income was more than 12 minimum wages. Many population-based surveys showed that awareness of the disease is higher among people with a higher socioeconomic status and educational level.[3-8,11-13] It was observed that the health care students are familiar with epilepsy, with similar rates reported in the general populations of USA,[3] Finland,[6] Denmark,[7] India,[12] Hungary,[11] New Zealand[5] and Korea.[8] The rate of students who have heard or read about epilepsy is comparable with

Table 2. Knowledge on epilepsy (n = 417).

	Total	Group 1	Group 2	*p*
Causes of epilepsy				
Blood diseases	4.3%	4.5%	4.1%	0.80
Drug use	39.1%	44.5%	33.0%	0.01
Mental disease	26.4%	24.1%	28.9%	0.26
Accidents	22.5%	24.1%	20.8%	0.42
Congenital abnormalities	23.0%	22.3%	23.9%	0.70
Hereditary disease	20.1%	23.2%	16.8%	0.10
Brain disease	73.4%	80.5%	65.5%	0.001
I don't know the cause	10.3%	4.5%	16.8%	< 0.001
Treatment				
Medication	93.5%	95.9%	90.9%	0.03
Surgery	29.5%	35.0%	23.4%	0.009
Medicinal herb teas	1.0%	0	2.0%	0.03
There is no treatment	1.0%	0.5%	1.5%	0.26
I don't know what the treatment is	5.5%	3.6%	7.6%	0.07
What would you do if a patient had a seizure?				0.04
Keep away from the epileptic patient	0.5%	0	1.0%	
Hold the person, to try contain the patient	6.0%	5.5%	6.6%	
Move away objects that could hurt the patient	54.7%	60.5%	48.2%	
Put something inside the patient's mouth, so that they won't asphyxiate	38.8%	34.1%	44.2%	
Throw water at the patient	0	0	0	
After a seizure, you must:				0.02
Force the patient to eat	0.2%	0	0.5%	
Force the patient to exercise	2.2%	0.5%	4.1%	
Leave the patient to rest	97.6%	99.5%	95.4%	

Table 3. Attitudes toward a person with epilepsy (n = 417).

	Total	Group 1	Group 2	*p*
Think epilepsy is a contagious disease	0	–	–	–
Think the patients with epilepsy usually have severe psychiatric disease	12.2%	6.8%	18.3%	<0.001
Judge necessary that children with epilepsy study in special classes	4.3%	3.2%	5.6%	0.22
Would employ someone with epilepsy	90.4%	89.5%	91.4%	0.52
Would marry someone with epilepsy	85.1%	81.4%	89.3%	0.02

those reported among university students from Italy[10] (96.0%), Canada[14] (91.0%) and Brazil[4] (91.3%) and higher than reported among Malaysian university students[2] (86.5%).

As to witnessing an epileptic seizure, it is observed that a higher proportion of group 1 said that they had already seen a seizure compared to group 2. This is probably explained by the fact that medical and nursing students are more exposed to practical situations involving this disease in their undergraduate course. Besides, concerning the source of information about the disease, it is observed that about 70% of group 1 students stated that they heard about epilepsy at university, compared with 37% of group 2.

However, only half of the students have already witnessed a seizure. Witnessing a seizure and its management could provide experience to the students to deal with this situation. For example, the mistaken idea of introducing objects into the mouth to protect the tongue has been observed in 38.8% of the sample. Another Brazilian study demonstrated that 71% of the first-year students of health care-related disciplines and 32% of the last year follow this practice.[4] These data suggest that there is lack of information about assistance and safe handling of a seizure in these health care courses.

Moreover, Brazilian studies[18,19] that aimed to evaluate the practices regarding epilepsy among non-neurologist physicians showed that they recognize that there is a lack of undergraduate medical training about this disease. In a survey with pediatricians and general practitioners, 72.2% claimed that they did not receive satisfactory instruction to deal with epileptics during their training.[18] In addition, only 43% of the general practitioners who provide primary care in Brazil feel comfortable when managing a person with epilepsy.[19]

Although many students recognize brain disease as a cause of seizure, it was observed that a quarter of them correlated epilepsy with mental disease. In the Malaysian study,[2] 39.7% of the undergraduate students stated that epilepsy is a form of mental illness. In the same study, when asked if epilepsy is caused by evil spirits, 5.3% answered no and 20.1% did not know.[2] In the Italian study,[10] 45% of the university students considered that epilepsy is a psychiatric disease. In our survey, 12.2% of the sample think that epileptics have severe psychiatric disease, this proportion being higher among non-medical and non-nursing students (18.3%). These concepts are not due only to lack of individual information, but also to stigmas prevalent in cultures and backward laws in many places throughout the world.[9] In addition, mistaken information concerning epilepsy is still widespread among the population through generations, keeping alive a consensus of unfamiliarity and negative attitudes towards the disease.

Self-perception of stigma, psychological stress and social isolation are factors associated with quality of life in patients with epilepsy, independent of their clinical state.[17] In our survey, the questions that aimed to evaluate the stigmas and prejudice in university students showed that most of them would employ and would marry a person with epilepsy. Conversely, an Italian university-based survey showed that 56% of the students think epilepsy limits a person's working capacity.[10] Another erroneous concept present in many societies is that epilepsy is a contagious disease. Although this was not found in our survey, the Malaysian study[2] showed that 5% of the students think that this is true.

CONCLUSIONS

This survey shows that although the health care students were familiar with epilepsy, there are major gaps in their knowledge of this disease. Therefore, further discussion on the subject of epilepsy is necessary in undergraduate courses in order to improve the level of education of professionals who will provide care to these patients in future.

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