

KNOWLEDGE AND ATTITUDES TOWARD EPILEPSY AMONGST STUDENTS IN THE HEALTH AREA

Intervention aimed at enlightenment

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ABSTRACT - It is known that there is a lack of knowledge about epilepsy amongst the population in general, with consequent prejudice and discrimination towards epileptic patients. Considering the importance of health professionals in the diffusion of knowledge about this neurological condition, the objective of the present study was to evaluate modifications in the knowledge and attitudes of students in the health area with respect to epilepsy, after an intervention including the presentation of specific audio-visual material and a discussion on the basic aspects of epilepsy. Simple self-administered questionnaires were applied to one hundred and sixteen health area students before and after the session of enlightenment. After the session there was significant ($p < 0.05$) improvement in answers to different questions about etiology, epidemiology, education, work, and attitude during the seizure. The results suggest the need to include a routine low complexity educational activity in the curriculum of various courses in the health area.

KEY WORDS: epilepsy, knowledge, attitudes, stigma, prejudice.

Conhecimentos e atitudes sobre epilepsia entre universitários da área de saúde: uma intervenção com esclarecimentos

RESUMO - É sabido que na população em geral há falta de conhecimentos básicos referentes à epilepsia e, conseqüentemente, preconceitos, discriminação e estigma. Considerando a importância dos profissionais da saúde na difusão de conhecimentos sobre essa doença, o objetivo deste estudo foi avaliar em universitários da área da saúde, as modificações de conhecimentos e atitudes em relação à epilepsia, após uma intervenção constituída de apresentação de material áudio-visual específico e discussão de aspectos básicos da epilepsia. Cento e dezesseis estudantes responderam a um questionário sobre aspectos biopsicossociais da epilepsia, antes e após a intervenção educativa. Houve, após essa intervenção, melhora significativa ($p < 0,05$) no nível de respostas adequadas relacionadas a questões sobre etiologia, epidemiologia, associação com doença psiquiátrica, educação, casamento, trabalho e cuidados durante uma crise epiléptica. Os resultados favoráveis obtidos sugerem a necessidade de inclusão rotineira, de atividades educativas de baixa complexidade, nos currículos dos vários cursos da área da saúde.

PALAVRAS-CHAVE: epilepsia, estigma, aspectos psicossociais, conhecimento, atitudes.

Stigma and discrimination generally cause more suffering to epileptics than the actual fits¹. Although the causes of stigma are complex, a lack of knowledge about epilepsy has been considered to be an important determinant factor in the negative attitudes towards people with this clinical condition². A lack of knowledge about epilepsy has been shown in a large part of the populations throughout the World, as also prejudice and stigma¹⁻¹³. Epileptics are sometimes victims of discriminatory attitudes, and unnecessary, if not dangerous measures are applied in an attempt to assist them during an epileptic fit⁸. A lack of prepara-

tion amongst many doctors with respect to the attention given to epileptic patients is also evident^{14,15}. The education of the population, and in particular of professionals in the health area is thus important in order to revert this discriminatory and stigmatising situation, due to the multiplying effect of knowledge and positive attitudes generated by their actions¹⁶.

In an earlier survey¹⁷, the knowledge and attitudes of university students in the health area of a private university in the state of São Paulo, Brazil, were assessed at the beginning and end of their courses. It was shown that final year students were more famil-

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lar with epilepsy in terms of the aspects related to its causes, to work, to attitude during fits and to treatment. Nevertheless a significant percentage of final year students still presented a considerable lack of knowledge with respect to epilepsy, suggesting the need for actions directed at minimising this situation.

A few studies exist assessing interventions aimed at improving the enlightenment of medical students¹⁸ and of students from other courses in the health area¹¹, with respect to epilepsy.

Considering the importance of future health professionals in divulging information about epilepsy, the present study was carried out aimed at assessing possible changes in the knowledge and attitudes of university students in the health area studying in a private university in the State of São Paulo, Brazil, with respect to epilepsy, after an intervention involving the presentation of specific audio-visual material and a discussion about the bio-psychosocial aspects of epilepsy.

METHOD

In the period between August 2005 and June 2006, a questionnaire was applied to university students of 5 different courses (4th to 7th semester students, depending on the course) in the health area (pharmaceutical science, physiotherapy, medicine, nutrition and occupational therapy) of a private university in the state of São Paulo, Brazil (1st phase of the survey).

Questionnaire – The questionnaire was based on items related to familiarity, knowledge, attitudes and care during an epileptic fit, consisting of 15 questions already applied in the previous survey¹⁷, and, to a large extent, already applied in other surveys as well^{3,8,19}.

Intervention aimed at enlightenment – About a week after application of the questionnaire, the students were offered a workshop lasting for about 2 hours, consisting of the presentation of audio-visual material about biological and psychosocial aspects related to epilepsy, followed by a brief discussion. The questionnaire was then applied again (2nd phase of the survey).

The audio-visual material presented, produced by the Brazilian League of Epilepsy, consisted of two tapes. The first showed patients during various types of seizures or describing how they felt during the seizures, also showing diagnostic aspects of epilepsy. The other tape told the history of a man who had suffered from epileptic seizures since childhood, showing various situations involving relatives and his doctor. An epileptic seizure was also represented in the film, and the principle bio-psychosocial aspects appeared in the dialogues.

Data analysis – The responses before and after intervention (1st and 2nd phases, respectively) were compared using the chi-squared test, with a significance level of $p < 0.05$.

Of the 258 students who took part in the first phase, 142 did not fill in the questionnaire in the 2nd phase, and thus a comparison was also made between the initial responses (1st phase) of these students and of the 116 who concluded the 2nd phase.

Ethical aspects – The students were informed about the nature of the survey and of the strict secrecy maintained with respect to the names of the patients. All the subjects signed a free and informed consent form before taking part in the study, and the Ethics Committee for Research with Human Beings of PUC-Campinas approved the project.

RESULTS

Participants – Two hundred and fifty eight students from five courses in the health area took part in the first phase of the survey, corresponding to approximately two thirds of the students registered in the semesters chosen (4th to 7th semesters depending on the course). Of the initial 258 students, 116 took part in the workshop and filled in the questionnaire a second time (2nd phase). Of these, 20% were reading medicine.

Sources of knowledge about epilepsy before the survey – In the first phase of the survey, 93% of the students stated they had certain knowledge about epilepsy, the most cited sources being respectively the faculty (31.9% of the students) and television (29.3%). Other sources cited were: newspapers, the internet and articles in scientific journals, about 13% each.

A high proportion of the students (42.2%) stated they had already witnessed an epileptic seizure, and 18.9% stated that some member of their family had already had one.

Comparison of the responses in the two phases of the survey for the 116 participants – Table 1 shows the responses of the students to questions about their familiarity and knowledge with respect to epilepsy.

It can be seen that for the majority of the questions, the responses were more adequate after intervention, with statistically significant differences (chi-squared; $p < 0.05$) (Table 1).

Epilepsy was not considered to be a contagious disease by any of the students in either of the phases, and nor was it mistaken for "dysrhythmia".

With respect to work, considering the absence and accident indices and restrictions for some job activities, the frequency of adequate responses was higher in the 2nd phase (Table 2).

With respect to prejudiced cultural aspects such as not employing an epileptic, this was not cited more in the 2nd phase than in the 1st phase.

Table 1. Percent responses in the two phases of the survey and value for p to questions about familiarity and knowledge with respect to epilepsy.

Questions	Before intervention		After intervention		p
	yes	no	yes	no	
	%	%	%	%	
Epilepsy is usually hereditary	32.7	67.2	17.2	82.7	0.009*
Epilepsy is restricted to people where brain damage already exists	30.1	69.8	5.1	94.8	
Epilepsy is more common in people of lower socio-economic class	3.4	96.5	–	100	0.13
Epilepsy is frequent and can appear at any age	36.6	63.6	83.6	16.3	
Epilepsy is the same as dysrhythmia	4.3	95.6	0.8	99.1	0.21
People with epilepsy usually suffer from serious psychiatric illness	11.3	88.6	–	100	0.0001*
Would you marry someone suffering from epilepsy?	87.0	12.9	98.2	1.7	0.002*

*statistically significant values (chi-squared; p<0.05).

Table 2. Percent responses before and after intervention and value for p for questions concerning knowledge about the work of patients with epilepsy.

With respect to work, patients with epilepsy show	Before intervention		After intervention		p
	yes	no	yes	no	
	%	%	%	%	
Compromised performance	3.4	96.5	–	100	0.13
Greater absenteeism indices	11.2	88.7	0.8	99.1	
Greater accident indices	36.2	63.7	3.4	96.5	
Restrictions for some activities	53.4*	46.5	98.2*	1.7	
Would you employ someone with epilepsy?	93.8	6.1	100	–	0.006*

*statistically significant values (chi-squared; p<0.05).

Table 3. Percent responses before and after intervention and value for p for questions concerning care during epileptic seizures.

If, during an epileptic fit, the person falls down and writhes on the floor, you should:	1 st phase		2 nd phase		p
	yes	no	yes	no	
	%	%	%	%	
Keep well away	0.86	99.1	–	100	NS
Hold him down firmly	19.8	80.1	0.86	99.1	
Remove objects he could hurt himself with	59.4	40.5	100	–	
Introduce something into his mouth so that he will not bite his tongue or become asphyxiated	35.3	64.6	–	100	
Throw water onto the person	–	100	–	100	NS

*statistically significant values (chi-squared; p<0.05); NS: not significant.

Table 4. Percent responses after intervention and value for p for questions concerning the medication used by epileptics, comparing the responses of medical students with those of students reading other courses.

Epileptics take medication that:	Medicine		Other courses		p
	yes	no	yes	no	
	%	%	%	%	
Can completely cure them	3.3	96.6	0.8	99.1	NS
Only decrease the frequency of the fits	16.6	83.3	56	30	0.000*
Overcome the fits in the majority of cases	80.0	20.0	33	53	0.000*

*statistically significant values (chi-squared; p<0.05); NS: not significant.

Placing epileptic students in special classrooms for educational purposes was not considered adequate either before or after intervention.

When faced with an individual suffering an epileptic seizure (Table 3), erroneous concepts were more frequent in the 1st phase.

With respect to medication, there was no significant difference in the responses between the two phases: drugs "only decrease the frequency of the fits" (according to about 45% of the students) or they "overcome them in the majority of cases" (53%).

However, in the 2nd phase, the medical students stated that medication would overcome the fits more frequently than students from other courses (Table 4), although they had still not done their training in neurology, where they would concentrate on activities connected with epilepsy.

Comparison of the responses for the 1st phase given by the students who took part in the 2nd phase with those of the group who did not – Aiming to evaluate the impact of the 142 students who did not take part in the 2nd phase on the results of the survey, the initial responses of these students were compared with the initial responses (1st phase) of the 116 students who did.

The students who only completed the questionnaire in the 1st phase showed statistically significantly more adequate responses (chi-squared, $p < 0.05$) than those who took part in both phases for the following questions: "epilepsy only appears in cases of brain injury" (response "yes" for 17.5% of those who only took part in the 1st phase, and for 30.2% of those who took part in both phases), "greater work absence indices" (7% and 11.2%), "greater work accident indices" (10.5% and 36.2%) and "restrictions for some job activities" (76.2% and 53.4%), respectively).

Considering the hypothesis that the favourable responses obtained after intervention occurred essentially due to the inferior level of initial information of the students who took part in both phases, as compared to those who only filled in the first questionnaire, the initial results of those who only took part in the 1st phase were compared with the results obtained in the 2nd phase for the students who completed both phases. It can be seen that adequate responses appeared with greater frequency for those students who completed the 2nd phase (chi-squared, $p < 0.05$).

DISCUSSION

In the present survey, the degree of familiarity with epilepsy indicated by university students in the health area and the levels of adequate responses giv-

en to the questionnaire in the first phase of the study, were similar to those found in a similar survey carried out previously in the same university¹⁷, confirming a basic lack of knowledge about various aspects of epilepsy. The proposal for a workshop on the theme of epilepsy stimulated interest amongst students in various courses in the health area, resulting in significant participation. Nevertheless, many failed to fill in the questionnaire after the activity of enlightenment, probably due to reduced motivation in continuing with the survey.

With respect to the effects of the intervention aimed at enlightenment, a significant growth in adequate responses for the items concerning knowledge of the causes and age distribution of epilepsy was observed.

With respect to the prejudiced opinion frequently observed in populations, that epilepsy is usually associated with psychiatric disease¹⁰, such an opinion was not given by any of the students in the 2nd phase of the survey.

With respect to work, after the intervention for enlightenment, the concept that epileptics show greater indices of absenteeism and accidents was rarely indicated. At the end of the survey, all the students admitted the possibility of employing someone suffering from epilepsy, and with greater consciousness of the need for restrictions with respect to some job activities.

With respect to care during a seizure, at first about 20% of the students affirmed the need to contain the patient and 35% of introducing something into the mouth, but by the end of the survey such postures were no longer indicated. In the 2nd phase all the students affirmed the need to remove objects that offered risk, whilst only 60% affirmed this conduct in the first questionnaire.

Although the students showed progress in the responses to the above items, in questions related to medication, the percentage of students indicating that drugs could overcome fits in the majority of cases was relatively low in both phases amongst the medical students, and even lower amongst the students from other faculties. For this question the intervention was inadequate, and should involve a wider discussion.

The differences shown in the responses given to questions on medication by the medical students as compared to those from other courses could have been due to prior knowledge, their experiences or principally to different focuses given by the curricula of each course.

Another aspect suggesting the important effect of the workshop was that for the majority of questions, the level of adequate responses given by the students in the 2nd phase of the survey was higher than that observed for final year students in health area courses in the earlier survey¹⁷.

Since the students who took part in both phases showed inferior performance in the 1st phase as compared to those who only filled in the first questionnaire, one could raise the hypothesis that the favourable effects were mainly due to the low levels the first group presented in the initial phase. Nevertheless, the proof that their performance in the 2nd phase was superior to that shown in the 1st phase by the students who did not fill in the 2nd questionnaire indicates that the latter group could also benefit from the activity of enlightenment.

One paper was found in the literature about a study in which the effects of an activity of enlightenment¹¹ were assessed. This study was characterised by exposure of university students to a brochure prepared by the Epilepsy Foundation of America containing the basic elements about epilepsy. Some favourable effects were found, but were limited to aspects of the prevalence and causes of epilepsy.

The procedure used in the present survey was probably more motivating and of a wider scope, allowing for positive results in the majority of the items assessed in the questionnaire.

In a study involving exclusively medical students and including activities with more detail and for a longer period (8 hours) than used in the present study, greater improvements in knowledge, attitude and perception about epilepsy were observed¹⁸.

In the present survey, the beneficial results of a short, low complexity intervention aimed at enlightenment were apparent, both in providing enlightenment about basic questions concerning epilepsy and in orientation about how to aid an individual suffering from an epileptic fit. It is hoped that this will

lead to insertions into the curricula of courses in the health area of material that will lead to the formation of professionals better prepared to deal with the theme of epilepsy.

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