

Knowledge and Attitudes Toward Epilepsy Among Students of Health Occupations in a University



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Bir Üniversitede Öğrenim Gören Sağlık Meslek Öğrencilerinin Epilepsiye Yönelik Bilgi ve Tutumları

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Summary

Objectives: The aim of this study was to define knowledge and attitudes toward epilepsy among students of health occupations in a university.

Methods: This descriptive study was conducted with a total of 544 university students from different health professions (medicine, nursing, dentistry, physiotherapy, and midwifery). To select the sample of the study, stratified sampling method was used. In this study, Epilepsy Attitude Scale and Epilepsy Knowledge Assessment Form were used.

Results: Among the 544 participants, 59.6% were female and the mean age was 21.7 years. While the majority of the sample recognized a generalized tonic-clonic seizure, they did not know about other seizure types. The mean score of the Attitude Scale was 60.2±6.4 (range: 30–70). The attitudes were not different between males and females ($p=0.732$). The students who had a family member with epilepsy ($p=0.004$) or witnessed a seizure ($p=0.05$) and attended upper classes had a more positive attitude ($p=0.004$).

Conclusion: Although the sample of this study which consisted of students from health occupations had moderate to good attitude toward epilepsy; they still have a lack of knowledge in particular areas. Each faculty needs to re-arrange their curriculum to fill this knowledge gap.

Keywords: Attitude; epilepsy; health occupations; knowledge; student.

Özet

Amaç: Bu çalışmanın amacı bir üniversitede sağlık alanında eğitim gören öğrencilerin epilepsi hakkındaki bilgi, tutum ve davranışlarını değerlendirmektir.

Gereç ve Yöntem: Tanımlayıcı nitelikte olan bu çalışma bir üniversitenin farklı sağlık meslek gruplarında öğrenim (tıp, hemşirelik, diş hekimliği, fizyoterapi, ebelik) gören 544 öğrenci ile gerçekleştirildi. Örneklem seçiminde tabakalı örnekleme yöntemi kullanıldı. Çalışmada Epilepsi Tutum Ölçeği ve epilepsi bilgi formu kullanıldı.

Bulgular: Çalışmaya dahil edilen 544 öğrencinin %59.6'sı kadın ve yaş ortalaması 21.7 idi. Örneklem büyük çoğunluğu jeneralize tonik klonik nöbetleri tanıyabilmesine rağmen diğer nöbet çeşitleri hakkında bilgilerinin yetersiz olduğu saptandı. Epilepsi Tutum Ölçeği ortalaması 60.2±6.4 (range: 30–70) olarak bulundu. Tutum puanının cinsiyete göre farklılaşmadığı saptandı ($p=0.732$). Ancak ailesinde epilepsi hastası olan ($p=0.004$), nöbete tanık olan ($p=0.05$) ve üst sınıftaki öğrencilerin tutumlarının daha iyi olduğu belirlendi ($p=0.004$).

Sonuç: Epilepsiye karşı tutumları orta-iyi düzeyde olduğu saptanan sağlık öğrencilerinin hala bazı konularda yetersiz bilgiye sahip olduğu görüldü. Epilepsi konusundaki bilgi yetersizliğini gidermek için her fakültenin müfredat programını gözden geçirmesi gerekmektedir.

Anahtar sözcükler: Tutum; epilepsi; sağlık meslek; bilgi; öğrenci.

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Introduction

Although epilepsy, which affects 50 million individuals worldwide, may be controlled through medical treatment, incorrect beliefs and insufficient knowledge on the disease increase the stigma level of the patients.^[1] Incorrect beliefs about the disease are not limited to the general population; it has been demonstrated that misinformation and negative attitudes are common among health providers as well. In Saudi Arabia, 10.5% of the health workers believe that epilepsy is related to supernatural events, 7.4% do not let children play with those with the disease, and 67.2% oppose the marriage of their family members with individuals with epilepsy.^[2] It has been reported in a study conducted in Georgia that 20% of health workers believe that epilepsy is a psychiatric disease, 82% oppose marriage of their family members with individuals that have epilepsy, and 13% do not let their children play with children having this disease.^[3] In Nigeria, the attitudes of health workers and the general population toward patients with epilepsy were evaluated, and no significant difference was observed between the groups; the study revealed similarly high rates of negative attitudes.^[4]

The possibility of meeting patients with epilepsy is higher among health workers or candidates/students compared to other individuals of the population. Therefore, health workers' knowledge and attitudes toward patients with epilepsy would alter the extent of the professional care and the social support they provide. Naturally, sufficient knowledge and a positive attitude of health workers are extremely important to provide the best care for the patients, to avoid any tendency toward unproven methods that may harm their health, and to reduce stigma.^[5-7] With this point of view, studies should be conducted to evaluate the knowledge, attitude, and behavior of health workers or students in any field of health.

The literature search indicates that knowledge, attitude, and behaviors toward epilepsy have mostly been studied in teachers, patients and patients' relatives in the society.^[8-18] The number of studies about the knowledge and attitude of students of the health occupations is limited.^[5,19-21] The aim of this study was to evaluate the knowledge, attitude, and behavior of students involved in different fields of health toward epilepsy.

Materials and Methods

Data collection

This descriptive study was conducted on students of

health-related faculties (medicine, nursing, dentistry, midwifery, and physiotherapy) of Istanbul University between February and June 2016. Among 3147 students that constituted the universe of the study, the study sample size was calculated using the stratified sampling method, and a total of 544 students were included in the study. Before the data collection, ethical approval was obtained from the ethical board of the university. The students were accessed during the lectures and the aim of the study was explained. Consents of the participating students were obtained.

Data collection tools

To measure the knowledge and awareness of the students regarding epilepsy, a question pool was formed through literature search, and the questionnaire was reviewed by an expert panel comprising an epilepsy neurologists, neurology nurses, and a public health specialist experienced in measurement and evaluation. The questionnaire was applied on 20 students for pilot testing. The first part of the questionnaire included the sociodemographic characteristics of the students; the second part included questions on their experience and awareness as well as their knowledge on medical issues, and the last part comprised questions on the knowledge of the social impacts of epilepsy. The students were asked to choose from options that were given in the survey form.

To determine the attitudes of the students toward epilepsy, the Epilepsy Attitude Scale developed by Aydemir was used. This 14-item-Likert type scale evaluates the attitude toward epilepsy. The scores obtained from the scale vary between 14 and 70, and high scores indicate positive attitudes. The validity and reliability of the scale were confirmed with a Cronbach's alpha value of 0.84.^[22]

Data analysis

The data analysis was carried out using the SPSS (version 21.0, IBM SPSS Inc, Armonk, NY) program. To define the tests to be used in the comparisons, the normality distribution was carried out using the Kolmogorov-Smirnov Test. Non-parametric tests were used since the data were not fit for the normal distribution. Descriptive statistics (mean, standard deviation, range, numbers, and percentages), the Mann-Whitney U-test, and the Kruskal-Wallis test were used for analysis of the study data.

Results

The mean age was 21.7 (± 1.57) years; 59.6% were female

and 58.6% were students of the medical faculty. Approximately, half of the students had attended a course on neurology and epilepsy (48.3%); however, the vast majority had no internship in the neurology clinics (73.2%). The rate of students having a patient with epilepsy in the family/surrounding was 17.5%, the rate of those who had encountered an epileptic seizure previously was 38.1% and the rate of those who had intervened a seizure was <7.0%. The rate of students who had felt competent for intervening a seizure was 21.9% (Table 1).

When the clinical features of various types of seizures were given, and the students were asked to recognize whether it was an epileptic seizure or not, a high rate of students recognized the tonic-clonic seizures (95.8%), whereas a low rate recognized focal seizures (38.1%). Some of the students had stated that epilepsy was related to being overfrightened in the past (38.6%), depression (32.2%), or psychosis (39.7%). With regard to intervening the seizure, they reported making patients smell substances such as onion, garlic or cologne (8.1%), drink water (4.4%), and open the hands and arms of the patients (7.7%). For the questions on factors that trigger epilepsy, many students answered this as situations such as stress (93.9%), insomnia and fatigue (83.5%), and irregular use of the drugs (96.7%). A low rate of students suggested the menstrual cycle as a factor for trigger (42.3%). The rate of students that believed epilepsy was a psychiatric problem was 7.7%, whereas one-third of the students (34.2%) believed that epilepsy impaired cognitive functions even when seizures were under control (Table 2).

The students were asked what the proper occupation for patients with epilepsy was and the vast majority answered the question as an accountant (91.7%) and teacher (82.7%); the rates of students who suggested medical secretary or family physician as the proper occupation were 48.3% and 49.4%, respectively. Although motor car driving is forbidden for these patients in Turkey, the rate of those who reported that it was not a legal obstacle was 52.4% (Table 3).

The scores for the attitudes of the students toward epilepsy were observed to be nearly good (60.2±6.4, range 30–70). The score obtained from the scale showed no difference between genders (p=0.732). Significantly higher scores were observed among students having a patient with epilepsy

Table 1. Sociodemographic characteristics and experiences related to epilepsy of students

Characteristics	n	%
Age, Mean±SD (Range)	21.7±1.57	(19–31)
Gender		
Male	220	40.4
Female	324	59.6
Faculty		
Medicine	321	58.6
Nursing	85	15.6
Dentistry	72	13.2
Midwifery	31	5.7
Physiotherapy	37	6.8
Class		
2 nd	90	16.5
3 rd	191	35.1
4 th	63	11.6
5 th	200	36.8
Attending a course about epilepsy		
Yes	263	48.3
No	281	51.7
Internship in the neurology clinic		
Yes	146	26.8
No	398	73.2
Having patient with epilepsy in family/surrounding		
Yes	95	17.5
No	449	82.5
Witnessing a seizure		
Yes	207	38.1
No	337	61.9
Experience of first aid for a seizure		
Yes	38	7.0
No	506	93.0
Feeling self-competent in first aid for seizure		
Yes	119	21.9
No	425	78.1

SD: Standard deviation.

in the family/surrounding (p=0.004) compared to the students without, and in students who had encountered an epileptic seizure previously (p=0.052) compared to the ones who had not. Higher scores were obtained by students joining an educational activity (such as seminar and class) on epilepsy compared to those who did not (p=0.009) and by students attending higher classes compared to those who did not (p=0.004) (Table 4).

Table 2. Students' knowledge of epilepsy

Characteristics	n	%	Characteristics	n	%
Able to recognize types of seizure			Which of the following are necessary for follow-up of a patient with epilepsy?		
Tonic-clonic seizures	521	95.8	Blood levels of antiepileptics quarterly	360	66.2
Absence seizures	288	52.9	Seizure diary	432	79.4
Myoclonic seizures	303	55.7	Electroencephalography monthly	298	54.8
Atonic seizures	354	65.1	Biochemistry twice a year	314	57.7
Focal seizures	207	38.1	Epilepsy is a mental health problem		
Etiologic factors of epilepsy			Yes	42	7.7
Head trauma	379	69.7	No	502	92.3
Cranial tumors	370	68.0	Epilepsy is a contagious disease		
Cerebrovascular diseases	309	56.8	Yes	4	0.7
Genetic	422	77.6	No	540	99.3
Depression	175	32.2	Epilepsy can be controlled with treatment		
Very afraid of something	210	38.6	Yes	502	92.3
Psychosis	216	39.7	No	42	7.7
Factors that trigger seizures			Epilepsy patients (except at the moment of seizures) are responsible for the crimes they committed		
Stress	511	93.9	Yes	366	67.3
Insomnia and fatigue	454	83.5	No	178	32.7
Menstrual period	230	42.3	Epilepsy, impairs cognitive function, even if it is under controlled		
Irregular use of drugs	526	96.7	Yes	186	34.2
Use of any additional medication (antibiotics, etc.)	359	66.0	No	358	65.8
What can be done for seizure first aid?			Epilepsy treatment should be interrupted during pregnancy until birth		
Preventing head trauma	474	87.1	Yes	155	28.5
Checking the consciousness	529	97.2	No	389	71.5
Turning head to one side	446	82.0			
Trying to open jaw	248	45.6			
Elevating the foot	165	30.3			
Having patient sniff onions, garlic, cologne, etc	44	8.1			
Having patient drink water	24	4.4			
Trying to open the arm	42	7.7			

Discussion

The aim of this study conducted on students of different fields of health was to investigate their knowledge, attitude, and behavior toward epilepsy. Among these, 38.1% reported that they had encountered a seizure and only 7% had intervened the seizure. Witnessing an epileptic seizure may affect the attitude and behavior toward this disease. 21.9% of the students had reported that they felt competent to intervene a seizure; hence, a low rate of intervention is an expected situation. However, considering the fact that half of the students had attended courses on epilepsy and one-fourth of them had gone through an internship in the neurology clinics, it is a matter of concern that they did not feel competent to intervene a seizure. It was reported in a

study investigating the knowledge and attitudes of nursing students in Turkey that 43% had felt incompetency and 35% had felt fear when witnessing an epileptic seizure, although 62.5% had attended courses on the subject.^[20] With this point of view, it is important to reconsider the content and duration of education on epilepsy in the curriculum.

The students were asked to define different types of seizures; almost all (95.8%) could recognize tonic-clonic seizures, however, the rate of recognizing focal seizures was really low (38.1%). In different studies, students have defined epilepsy as generalized tonic-clonic convulsions and loss of consciousness.^[3,5,20] In this respect, it was concluded that the students had insufficient knowledge of the types of seizures, which should be improved.

Table 3. Students' knowledge of the impact of epilepsy on social life

Characteristics	n	%	Characteristics	n	%
What kind of sport is suitable for patients with epilepsy?			Patient with epilepsy can be successful in school life		
Walking	525	96.5	Yes	536	98.5
Yoga	529	97.2	No	8	1.5
Climbing	123	22.6	Patient with epilepsy can live alone if their seizures are under controlled		
Diving	30	5.5	Yes	418	76.8
Parachute jump	36	6.6	No	126	23.2
Which professions would be appropriate for patients with epilepsy?			In our country, there is no legal obstacle for the use of motor vehicles by a patient with epilepsy		
Teacher	450	82.7	Yes	285	52.4
Accountant	499	91.7	No	259	47.6
Medical secretary	263	48.3	Which of the following disease would you prefer to have if you have to choose one?		
Family physician	269	49.4	Epilepsy	108	19.9
The crane operator	71	13.1	Diabetes mellitus	259	49.0
Surgeon	58	10.7	Major depression	117	22.1
Nightwatchman	171	31.4	Chronic respiratory problems	22	4.2
Carpenter	142	26.1	Chronic cardiac problems	23	4.3
Electrical technician	112	20.6	Other (specify): None	15	2.8
Children with epilepsy should go to the school providing special education					
Yes	94	17.3			
No	450	82.7			

Table 4. Epilepsy attitude scale and associated factors

Factors	Mean±SD	Z/ χ^2 , p
Epilepsy attitude scale score	60.2±6.4	30–70
Gender		
Female	60.4±6.07	Z=-0.343
Male	60.0±6.86	p=0.732
Having patient with epilepsy in family/surrounding		
Yes	61.8±5.98	Z=-2.890
No	59.9±6.44	p=0.004
Witnessing the epileptic seizure		
Yes	60.9±6.05	Z=-1.944
No	59.8±6.57	p=0.052
Attending a course about epilepsy		
Yes	61.0±6.06	Z=2.597
No	59.5±6.63	p=0.009
Class		
2 nd	58.0±7.24	$\chi^2=13.110$
3 rd	60.2±6.22	p=0.004
4 th	60.6±5.37	
5 th	61.1±6.27	

In the Turkish society, different beliefs (e.g., being over-frightened in the past is believed to trigger the disease) and folk practices (making the patient smell onion or garlic during the seizure) may be observed on epilepsy and first aid of seizures. In our study, we observed that these wrong beliefs and behaviors were not limited to the general society only and that the students of health were also involved. In particular, making the patient smell odors to stop the seizure was observed to be continued by health-care-givers as well, although at a low rate (5%), as reported in the study of Yaşar et al.^[23] Wrong beliefs and behaviors toward the disease are not limited to these, and efforts are being made to open the jaw of the patient or to stop involuntary contractions. In this study, 45.6% of the students had mentioned that they found the effort to open the jaw correctly. It has been observed in different studies conducted on students of medical fields that incorrect practices in intervening the seizures still exist.^[19–21,24] It may be concluded that not only students but also the health-care personnel and all individuals of the society should be informed about the subject.

In a recent study, the attitudes of students that are well-informed about the causes and treatment of epilepsy

were found to be more favorable.^[5] In this respect, a small percentage of students in our study had (7.7%) defined epilepsy as a psychological disorder, and a very small percentage (0.7%) defined it as an infectious disease, whereas almost all (92.3%) had reported that epilepsy was a treatable disease. Although it is pleasing that epilepsy was not defined as a psychiatric or infectious disease in our study, studies have demonstrated that many students or workers of the medical field believe that it is so.^[2,5,19]

Students were asked about the factors that trigger epileptic seizures and many of them answered the questions as situations such as stress, insomnia, fatigue, and irregular use of drugs. Small number of students suggested the menstrual cycle as a triggering factor. Due to hormonal change, the menstrual period has been reported as a seizure triggering factor among women, which has been expressed as catamenial epilepsy in the literature;^[25] however, students' knowledge about this subject is limited. Students who will be involved in the treatment and care of patients with epilepsy in the future should be carefully informed about the topic.

In addition to the medical knowledge of the students, the questions on the impact of epilepsy on social life were asked. Many of the students believed that being a teacher (82.7%) or accountant (91.7%) was appropriate for patients with epilepsy, whereas they disagreed on being a medical secretary (48.3%) or a family physician (49.4%). Another study on college students have reported that students have positive attitudes toward epilepsy in general but when the issue is work-life attitudes changed to negative.^[26] Authors concluded that this finding might be resulted from students' concerns regarding safety issues rather than an intention to discriminate patients.

About 17% of the students stated that patients with epilepsy should be educated in special training schools. Although it has been reported that factors such as frequent seizures, medications, and comorbidity affect the academic life of the individuals,^[27,28] this does not necessarily mean they would be unsuccessful in their academic lives and that they should be specially trained. These kinds of incorrect beliefs would affect the attitudes toward the patients as well. Therefore, informing students on the subject are crucial. Likewise, although it is forbidden for patients with epilepsy to drive in Turkey,^[29] it was observed that almost

half of the students (52.4%) were not aware of this and that they had insufficient knowledge on the medical as well as social aspects of epilepsy.

Insufficient information, wrong beliefs, and attitudes on epilepsy bring along prejudgments. For example, in a study evaluating the stigma toward different chronic diseases such as epilepsy and diabetes, prejudgment toward epilepsy was reported to be higher compared to diabetes, and this was related to incorrect beliefs.^[30] In our study, the students were asked: "Which disease would you prefer if you were going to have one in the future?" They preferred diabetes to epilepsy, which is similar to the results of the study above.

In this study evaluating the attitude in addition to the knowledge and awareness on epilepsy, the attitudes of students toward epilepsy were different compared to public or patients with epilepsy (when compared to data of study by Aydemir et al.).^[31] It is noticeable that even after a decade; the younger and more educated population can have similar attitudes. Results show how difficult attitudes can change, especially toward stigmatizing diseases. It was observed that students who had encountered an epileptic seizure previously or those who had an epilepsy patient in the family or relatives had better attitudes. In another study conducted on students of the medical fields, it was observed that the attitudes of students who had encountered epilepsy cases previously were more favorable.^[5] It was also observed that students who had attended lectures on epilepsy in their curriculum programs had better attitudes. A higher level of knowledge and experience about patients with epilepsy, face-to-face observation of patients in clinical internships and thereby being familiar with the patients positively affect the attitudes of students.

Conclusion

The attitudes of students being educated in different fields of health sciences toward epilepsy were comparable with the general population and students still had insufficiencies in some of the issues. When it is considered that this insufficient information and wrong beliefs affect the attitudes towards the patients, it is important to emphasize that curriculum programs should be revised, and all individuals of the society, not only students of the medical fields, should be informed on epilepsy using the mass media.

Ethics Committee Approval

Ethics committee approved.

Peer-review

Externally peer-reviewed.

Conflict of interest

The authors declare that they have no conflict of interest.

Authorship Contributions

Concept: Z.T., K.Y.; Design: Z.T., K.Y., N.B., E.Ö.; Supervision: N.B., B.B., C.G., A.G., N.Y.; Data collection &/or processing: K.Y., A.Ç., H.G., N.Ş., A.Y., M.K.; Analysis and/or interpretation: Z.T., K.Y., E.Ö.; Literature search: K.Y., Z.T., A.Ç.; Writing: K.Y., Z.T., N.B., B.B., C.G.; Critical review: A.G., G.A., N.B.

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