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Research Article

Are Nursing Students Ready to Provide Quality Care to Patients with Epilepsy? A Comparative Cross-Sectional Study

Zülfünaz Özer[1], Gülcan Bahçecioğlu Turan[2], Semra Köse[3]

[1]Department of Nursing, Istanbul Sabahattin Zaim University, Turkey

[2]Department of Nursing, Fırat University, Turkey

[3]Department of Nursing, Necmettin Erbakan University, Turkey

Abstract

Aim: This study was conducted to examine whether nursing students studying in three different regions of Turkey are sufficiently prepared to provide quality care to patients with epilepsy.

Methods: This descriptive, cross-sectional, and correlational study was conducted between January 3 and 28, 2022, with 516 (43% participation) nursing students studying in three different regions of Turkey (Central Anatolia Region, Western, and Eastern) and who answered online surveys. The data were collected using the Descriptive Information Form, Epilepsy Knowledge Scale (EKS), and Epilepsy Attitude Scale (EAS).

Results: The mean EAS score of the participants was 58.57 ± 8.88, while their mean ECS score was 9.32 ± 3.17. It was found that 80.4% of the students correctly responded that a patient's contraction should not be stopped during an epileptic seizure; 94.2% correctly responded that the tight clothes of a person having a seizure should be loosened; 87% correctly responded that nothing should be given from the mouth to a person having a seizure; 67% correctly responded that the hands and jaw of a person having a seizure should not be opened; 68% correctly responded that a person having a seizure should not be made to smell onion and garlic; and 81.8% correctly responded that cardiac massage and artificial respiration should be given to a person having an epileptic seizure. It was found that the EAS score of the students from Central Anatolia was higher compared to those of the students studying in the West and East regions. Additionally, it was found that the EAS and EKS scores of fourth-year students were higher than those of second- and third-year students. The EKS variable was found to have a positive and significant effect on the EAS score.

Conclusion: In this study, it was found that the epilepsy knowledge level of the participants was moderate. Their attitudes toward epilepsy were found to be positive and high. It was determined that there is a serious lack of knowledge regarding intervention procedures for epileptic seizures as well as that, as they passed to subsequent years of study, participants' attitudes and knowledge regarding epilepsy increased. Moreover, as the participants' knowledge about epilepsy increased, their positive attitudes also increased.

Keywords: Attitude; Epilepsy; Knowledge; Nursing student; Patient; Quality care

Introduction

Epilepsy is a disorder characterized by recurrent seizures that occur as a result of the abnormal sudden discharge of cortical neurons [1]. According to the World Health Organization (WHO), epilepsy is a brain disease featuring abnormal electrical activity that causes seizures or unusual behavior, sensations, and sometimes the loss of consciousness [2]. Epilepsy is the most common neurological disease in childhood and adolescence, while it is the second most common disease found in adults [3]. The prevalence and incidence rates of epilepsy vary according to age group, gender, socioeconomic class, cultural and religious background, educational level, and study setting [4]. It affects approximately 50 million people in the world, with more than 80% of these people living in developing countries [5]. It is an important public health problem in developing countries such as Turkey [6]. In a study conducted among Medicare users, the average annual prevalence and incidence rates were 15.2 per 1000 and 6.1 per 1000, respectively [7].

Epilepsy is a chronic condition that may require long-term treatment and follow-up. Although it is thought that individuals can achieve full control of their seizures and become seizure-free with antiepileptic drugs, it should also be noted that they may experience remission along with recurrent seizures [8-10]. These patients struggle throughout their lives and are highly dependent on their caregivers, families, and healthcare providers. Therefore, all individuals providing healthcare services should have sufficient knowledge and the skills to meet the needs of their patients with epilepsy by providing appropriate care and effective support-both physiologically and psychologically-for both them as well as their caregivers or families [4,11,12]. Epilepsy treatment usually suffers from insufficient knowledge and professional support [13]. It is thus essential to equip nurses with sufficient and accurate information in communicating with epilepsy patients and their families. When this is the case, nursing students should receive sufficient and correct information during their education in order

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***Corresponding author:** Gülcan Bahçecioğlu Turan, Department of Nursing, Faculty of Health Sciences, Fırat University, Turkey, Tel: +90-4422315794; E-mail: glcnbah@hotmail.com

to ensure the sustainability and continuity of this information [14]. Nursing students represent a part of the well-educated healthcare-provider group. In all health systems, nursing students are the workforce of the future in the field of nursing practice. For this reason, it is important for future nurses to acquire adequate knowledge and demonstrate appropriate care and attitudes toward the disease [6,11]. There have been results reported in the literature regarding healthcare professionals who do not provide adequate information or professional support to patients with epilepsy, their caregivers, or their families [6,11,15-17]. Such studies reveal the fact that nursing students should have a higher level of knowledge about epilepsy. Studies conducted have shown that the presence of healthcare professionals with a high level of knowledge about epilepsy positively affects the life quality of patients [18]. In a study conducted in Cameroon, it was found that providing nurses with a better education on epilepsy during the education process will increase the quality of care provided to epilepsy patients [19].

It is a known fact that epilepsy is an emergency picture that can often cause injury or life-threatening situations. As healthcare-professional candidates will spend a longer time with patients, it is of great importance for student nurses to have sufficient knowledge on this subject in their provision of both physiological and psychological care to their patients. Therefore, the present study was conducted to show whether nursing students are sufficiently prepared to provide quality care to patients with epilepsy.

Methods

Type of study

The present study was conducted as a descriptive, cross-sectional, and correlative study.

Place and time of study

The study was conducted between January 3 and 28, 2022, with students studying at nursing departments in Turkey's West (İstanbul), Central Anatolia (Konya), and East regions (Elazığ).

Population and sample

The study population consisted of students (N=1200) studying nursing in the West, Central Anatolia, and East regions between January 3 and 28, 2022. The sample consisted of 516 (43% participation) nursing students who met the inclusion criteria (older than 18 years of age; no cognitive problems; second-, third-, or fourth-year student; volunteered to participate in the study) and answered the surveys between these dates. In the post-hoc power analysis performed using the G-Power 3.1.9.4 program to determine the sample-size sufficiency, it was found that the effect size was 0.12 and the power was 0.80 at a 95% confidence interval and a significance level of 0.05.

Data collection tools

The data were collected using the Descriptive Information Form, Epilepsy Knowledge Scale (EKS), and Epilepsy Attitude Scale (EAS). The students were contacted through e-mail or social media accounts.

Descriptive information form

The data were collected with a 26-question survey prepared by the researchers using the relevant literature [6,16]. Questions regarding demographic characteristics (age, year of study, etc.) were included in the first part of the questionnaire. The second part of the questionnaire was prepared for first aid. It included questions aimed at evaluating students' knowledge about epilepsy and the interventions to be applied during an epilepsy attack.

Epilepsy attitude scale

The EAS was developed by [20] to determine the positive or negative attitudes of society towards epilepsy and individuals with epilepsy. It is a 5-point Likert scale with 14 items scored from 1 to 5 (1=totally agree; 5=totally disagree). The possible final scores for the scale vary from 14 to 70, with high scores indicating a more positive attitude toward epilepsy and individuals with epilepsy. The Cronbach's alpha coefficient was found to be 0.84 [20]. In the present study, the Cronbach's alpha coefficient was found to be 0.85.

Epilepsy knowledge scale

The EKS was developed by Aydemir in 2008 to measure the knowledge of Turkish society regarding epilepsy [20]. It is a 3-point Likert scale with 16 questions and the options "correct" (1 point), "incorrect" (0 points), and "don't know" (0 points). Possible final scores vary between 0 and 16, with higher scores indicating greater knowledge about epilepsy. The Cronbach's alpha coefficient of the EKS was found to be 0.72 [20]. In the present study, the Cronbach's alpha coefficient was 0.78.

Data collection

Data-collection forms prepared using Google Docs were sent electronically (e-mail, WhatsApp) to nursing students studying in three different regions of Turkey (Western, Central Anatolia, and Eastern regions) between January 3 and 28, 2022. Six hundred nursing students were reached between the specified dates. Eighty-four of the students declined participation in the study. In total, the study was completed with 516 students.

Data assessment

SPSS version 25.0 was used for data analysis. Percentage, mean, and standard-deviation descriptive statistics were used. The Kruskal-Wallis test was used to analyze the dependent variables of the study-EKS and EAS scores-according to more than two independent variables. The Kruskal-Wallis test and Bonferroni correction were used to determine the differences. A simple regression analysis was used to determine the effect of the ECS and EAS. The correlation between the scales was analyzed using Spearman's correlation test. The findings were evaluated at a 95% confidence interval and 5% significance level.

Ethical Considerations

Before starting the research, permission was obtained from the Ethics Committee of a university (date: 8/27/2021; number: 2021/08). Explanations regarding the purpose and method of the research were given in writing to the individuals included in the study, and their consent was obtained. The study was carried out in accordance with the ethical standards of the Declaration of Helsinki. Participants who volunteered were included in the study, and their personal identity information was kept confidential.

Results

The mean age of the participants was 21.19 ± 1.65; 36.3% were studying in Elazığ; 43.4% were in their second year; 76.6% were female; 98.1% were single; 65.5% were Anatolian high school graduates; and 60.7% were living in a city. Additionally, 92.4% of the participants did not have a chronic disease; 28.7% reported having an acquaintance with epilepsy; 64.7% had received education on epilepsy at university; 31% had previously witnessed an epileptic attack; 7% had intervened in an epileptic attack; and 76% had taken first-aid courses (Table 1).

Table 1: Data on Sociodemographic Characteristics of the Participants (n=516).

		Mean ± SD	Min-Max (Median)
Age		33.21 ± 12.5	11-90 (32)
Region where the university is located	Western region	154	29.8
	Central Anatolia	175	33.9
	Eastern region	187	36.3
Gender	Male	121	23.4
	Female	395	76.6
Year of study	2nd year	224	43.4
	3rd year	147	28.5
	4th year	145	28.1
Marital status	Married	10	1.9
	Single	506	98.1
Place of residence	City	313	60.7
	Town	152	29.5
	Village	51	9.8
Presence of chronic disease	Yes	39	7.6
	No	477	92.4
Having an acquaintance with epilepsy	Yes	148	28.7
	No	368	71.3
Relation of the person with epilepsy (n:148)	Family	15	10.1
	Relative	68	45.9
	Friend	65	44
The state of having previous education on epilepsy	Yes	334	64.7
	No	182	35.3
The state of having witnessed an epilepsy attack	Yes	160	31
	No	356	69
The state of having intervened an epilepsy attack	Yes	36	7
	No	480	93
The state of having received first-aid courses	Yes	392	76
	No	124	24

The mean EAS score of the participants was 58.57 ± 8.88, while their mean ECS score was 9.32 ± 3.17. Moreover, 80.4% of the students responded correctly to the statement "The patient's contraction should be stopped during an epileptic seizure"; 94.2% responded correctly to the statement "The tight clothes of a person having a seizure should be loosened"; 87.0% responded correctly to the statement "Something should be given from the mouth to a person having a seizure"; 67.0% responded correctly to the statement "The hands and jaw of a person having a seizure should be opened"; 68.0% responded correctly to the statement "A person having a seizure should be made to smell onion and garlic"; and 81.8% responded correctly to the statement "Cardiac massage and artificial respiration should be given to a person having an epileptic seizure" (Table 2).

The EAS results showed a statistically significant difference according to the city where the participants' universities were located (p=0.001). As a result of the Bonferroni advanced analysis-conducted to determine between which measurements the difference was identified- it was found that the EAS scores of the students studying in Central Anatolia were higher than those of the students studying in the West and East (p=0.001). The EKS results did not show a statistically significant difference according to the region where the participants' universities were located (p>0.05). The EAS results showed a statistically significant difference according to the participants' year of study (p=0.001). As a result of the Bonferroni advanced analysis it was found that the EAS scores of the fourth-year students were higher than those of the second- and third-year students (p=0.001). The EKS values showed a statistically significant difference according to the participants' year of study (p=0.013). As a result of the Bonferroni advanced analysis. It was found that the EKS scores of the fourth-year students were higher than those of the second- and third-year students (p=0.001) (Table 3).

Table 2: Means of epilepsy attitude scale, epilepsy knowledge scale, and knowledge of first aid in epilepsy (n=516).

		Mean ± Sd	Min-Max (Median)
Epilepsy Attitude Scale		58.57 ± 8.88	26-70 (61)
Epilepsy Knowledge Scale		9.32 ± 3.17	0-16 (10)
First Aid Knowledge of Nursing Students on Epilepsy		n	%
The patient's contraction should be stopped in epileptic seizures	Yes	43	8.3
	No*	415	80.4
	Don't know	58	11.2
Tight clothes of the person having a seizure should be loosened	Yes*	486	94.2
	No	8	1.6
	Don't know	22	4.3
Something should be given from the mouth to the person having a seizure	Yes	47	9.1
	No*	449	87
	Don't know	20	3.9
Hands and jaw of the person having a seizure should be opened	Yes	114	22.1
	No*	346	67
	Don't know	56	10.9
The person having a seizure should be made to smell onion and garlic	Yes	41	7.9
	No*	351	68
	Don't know	124	24
Cardiac Massage and Artificial Respiration should be given to the person in epileptic seizures	Yes	16	3.1
	No*	422	81.8
	Don't know	78	15.1

*Correct answer

In Table 4, it can be seen that the simple linear regression analysis performed to determine the effect of the EKS score on the EAS score was found to be statistically significant (F=10.632, p<0.01). When the regression coefficients are examined, it can be seen that the EKS (β=0.425, p<0.01) variable has a positive and significant effect on the EAS variable. The EKS variable in the model explains 18% of the EAS variance (p<0.01).

Discussion

This study was carried out to examine whether nursing students studying as future health professionals in three different regions of Turkey were sufficiently prepared to provide quality care to patients with epilepsy. The study results were discussed in line with the literature.

In the present study, it was found that the knowledge level of nursing students regarding epilepsy was moderate. It has also been stated in different studies that the knowledge of nursing students about epilepsy is at a moderate level [4,13,21]. Similarly, in a study conducted with the students of a health services department, it was found that the knowledge level of students was moderate [22]. However, in a study conducted by Yeni et al. [23] on students receiving education in the field of health (medicine, nursing, dentistry, physiotherapy, midwifery), a study by Turan et al. [24] conducted with nursing students, and a study by Durmaz et al. [25] conducted with students in a health management department found that students had a low level of knowledge. In a study conducted in 2018 by Souza et al. [26] on students who were in their last year in the health department of their universities in different countries (Brazil, United States, Portugal, Argentina, and South Africa), the students were reported to have a high level of knowledge. In studies conducted with medical students, it was determined that students' knowledge levels were high [27-29]. The results of the present study show both similarities and differences with the literature. Overall, it is indicated that formal education on epilepsy can be improved, and it can be ensured that such learning

Table 3: Comparison of epilepsy attitude scale and epilepsy knowledge scale measurements according to the city where the university is located and year of study.

		n	Mean ± Sd	Min-Max (Median)	p
Epilepsy Attitude Scale	West[a]	154	58.61 ± 8.97	26-70 (61)	0.001*
	Central Anatolia[b]	175	61.04 ± 7.99	32-70 (63)	b>a>c
	East[c]	187	56.25 ± 9.01	29-70 (57)	
Epilepsy Knowledge Scale	West	154	9.6 ± 3.26	0-16 (10)	0.101
	Central Anatolia	175	9.24 ± 2.56	0-16 (10)	
	East	187	9.16 ± 3.58	0-16 (10)	
Epilepsy Attitude Scale	2nd year[a]	224	57.53 ± 8.7	29-70 (58)	0.001*
	3rd year[b]	147	57.9 ± 9.51	26-70 (60)	c>b>a
	4th year[c]	145	60.88 ± 8.11	32-70 (63)	
Epilepsy Knowledge Scale	2nd year[a]	224	9.11 ± 3.3	0-16 (10)	0.013*
	3rd year[b]	147	9.05 ± 3.32	0-16 (10)	c>b>a
	4th year[c]	145	9.91 ± 2.7	0-14 (10)	

Kruskall Wallis Test *p<0.05

Table 4: Simple regression analysis for the prediction of epilepsy knowledge scale and attitude towards epilepsy scale.

		Univariable				
Model	Variables	B	S. Error	Standard (B)	t	p
1	Epilepsy Knowledge Scale	1.190	0.112	0.425	10.632	0.001
F=10.632 R= 0.134 R2= 0.018 p<0.05						

becomes permanent through the reinforcement of education given alongside clinical applications.

It was found that 80.4% of the students responded correctly by stating a patient's contraction should not be stopped during an epileptic seizure; 94.2% responded correctly by stating that the tight clothes of a person having a seizure should be loosened; 87% responded correctly by stating that nothing should be given from the mouth to a person having a seizure; 67% responded correctly by stating that the hands and jaw of a person having a seizure should not be opened; 68% responded correctly by stating that a person having a seizure should not be made to smell onion and garlic; and 81.1% responded correctly by stating that cardiac massage and artificial respiration should not be given to a person having an epileptic seizure. In a study conducted on nursing students, Aksoy and Büyükbayram [21] found that only 50.9% of the students knew that making a person having a seizure smell onion was unhelpful. In a study conducted with health experts, it was found that 67.2% of the participants did not know how to deal with someone having an epileptic seizure [30]. In a study conducted by Ünsar et al. [13] it was found that only 55.3% of the students answered correctly that someone having an epilepsy seizure should not be made to smell onion. In another study examining first-aid interventions during epilepsy seizures, it was found that 4.3% of nursing faculty students and approximately 15% of physiotherapy students considered making the patient smell an onion and/or drink water to be correct methods [31]. In another study, while 35.1% of the nursing students who participated in the study stated that the head of a patient having epileptic seizure should be kept in a fixed position, 32.1% believed they should attempt to open the jaw of a patient having epileptic seizure if their jaw was locked [14]. In another study conducted with home-care nurses, 29.8% of the nurses suggested putting something in the patient's mouth [32]. These differences in study results are probably due to the differences in the education levels of different countries. In line with the literature, although the rates of correct answers to questions regarding intervention procedures for epileptic seizures were promising among nursing students in this study, the rates of those who gave incorrect answers and those who gave the answer "I don't know" were also important, indicating a lack of information as well as incorrect information on this subject. In this respect, this study may be an important step to recognize such gaps in knowledge and subsequently close them.

In this study, it was found that nursing students' attitudes toward epilepsy were positive and high. In studies conducted by Turan et al. [24] and Aksoy and Büyükbayram [21] with nursing students, the students were found to have positive and high attitudes. In a study they conducted with students in the field of health, Yeni et al. [23] found that students' attitudes were positive and high. In different studies conducted in Turkey on clinical nurses [11], nursing students [13], and medical students [27], attitudes towards epilepsy were found to be positive. In a study conducted with nursing students in Palestine, it was found that students' attitudes towards epilepsy were generally positive [28]. However, in a study conducted with medical students in Nigeria, it was found that the students had a negative attitude towards epilepsy [33]. Similarly, in a study conducted with healthcare professionals in China, it was reported that there were negative attitudes towards epilepsy, especially regarding personal behaviors [34]. A reason for such differences between countries may be socio-cultural and religious factors. Our study's result may be due to the fact that Turkish society is culturally more tolerant toward individuals with special needs and that exhibiting a negative attitude towards any patient is considered disrespectful. At the same time, considering that prospective nurses must have a positive attitude toward patients with epilepsy in order to provide quality care, our present study's is promising.

In our study, it was found that the attitudes of nursing students studying in the Central Anatolia Region were more positive than students studying in the West and East. Turkey is a Muslim society, and, as in many different Muslim societies, the belief that diseases occur by God's decree and that God is an inclusive source of treatment is supported [35,36]. Cultural and religious beliefs are known to have a wide variety of effects on beliefs about illnesses and their cures. Religious beliefs can have positive effects on health by acting as a source of inspiration, while they can also have negative effects when linked to guilt and punishment. Religious beliefs can also lead to a sense of fatalism, a belief that someone or something is in control [37]. It is stated that religious belief affects one's attitude toward individuals with epilepsy either positively or negatively [38], and this religious belief may differ according to the region and even city within Turkey. Especially in the Central Anatolia region, great mystics and clergy wrote their works and developed their teachings [39]. The most important thing is that traces of Mevlana continue to live in Central

Anatolia. Considering these factors, it can be posited that it affects the view of the people living in this region regarding life and, thus, illness and health. It is expected for nursing students studying in Central Anatolia to have higher attitudes towards epilepsy than students in other regions.

In this study, it was found that, with progression through later years of study, the students' knowledge and attitudes towards epilepsy increased. Similar results were also found in other studies conducted with nursing students [4,13,21,24]. Previously conducted studies with health management [12] and medicine students [28] also found that students in later years of study had higher levels of knowledge. In addition, in a previously conducted study, it was found that third-year students had more positive attitudes than first-year students, stating that they felt more comfortable with someone with epilepsy and that they could date someone with epilepsy [25]. Our study results were found to show similar results with previous studies. Due to the abundance of materials used as a result of developing technology, the presence of simulation centers and laboratories, and the fact that active learning methods are increasingly used in the education process, it is expected that the knowledge and attitudes of the students will improve with each year of progression in the nursing education curriculum.

In this study, it was found that the level of knowledge about epilepsy positively affected the participants' attitude towards epilepsy. This result shows that, as students' knowledge level about epilepsy increases, their attitude scores regarding epilepsy improve. In other studies, it has also been found that, as the knowledge level of nursing students about epilepsy increases, their attitudes are affected positively [13,21]. Similar results have also been found in previous studies with medical students [4,20], clinical nurses [33], and the community. Overall, our study results were found to be compatible with previous study results. This may cause nursing students to have knowledge about epilepsy and to be an important protector against the negative attitude that is the biggest obstacle for epilepsy patients to receive optimal health care.

Limitations of the Study

This study has some limitations. First, the data were obtained using a cross-sectional design and came only from nursing students studying in three different regions of Turkey. Therefore, the results may not represent all Turkish student nurses. Secondly, the reliability of the data is limited by the accuracy of the answers given by the research participants. Finally, since the surveys were completed online, some students may have used online resources or textbooks, which may have influenced the authenticity of their answers, particularly those corresponding to questions related to the epilepsy knowledge scale.

Conclusion

In this study, it was found that the epilepsy knowledge level of the participants was moderate. Their attitudes toward epilepsy were found to be positive and high. Overall, it was determined that there is a serious lack of knowledge regarding the intervention procedures for epileptic seizures. It was also found that, with the progression to later years of study, attitudes and knowledge regarding epilepsy increased. Additionally, as the level of knowledge about epilepsy increased, the positive attitude increased. It can be said that theoretical and clinical practice should be further reinforced in nursing education curricula in order to improve special intervention procedures for patients who will require special care, such as epilepsy patients. In addition, social projects can be carried out to examine the knowledge and attitudes of nursing students studying in different regions of Turkey regarding epilepsy and epilepsy patients.

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