

Epilepsy-related knowledge and attitudes of nursing students

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Abstract

Objective: This study aimed to determine the epilepsy-related knowledge and attitudes of nursing students. **Method:** The descriptive and cross-sectional study was conducted on 986 nursing students from the nursing faculty of a state university in eastern Türkiye. Data were collected using a sociodemographic information form, the Epilepsy Knowledge Scale, and the Epilepsy Attitudes Scale. Descriptive statistics, t-tests, one-way ANOVA, linear regression analysis, and Cronbach's alpha internal consistency coefficient were used for data analysis. **Results:** The average age of participants was 21.18±1.79 years, with 67.2% being female, 27.5% 4th-year students, and 89.5% did not have a family member with epilepsy. The mean scores for the Epilepsy Knowledge Scale and the Epilepsy Attitudes Scale were 9.65±4.04 and 57.16±7.85, respectively. Gender, academic year, source of information, personal experience witnessing an epileptic seizure, providing care to an epilepsy patient, and the location of witnessing a seizure were significant predictors of epilepsy-related knowledge. Gender and knowledge about epilepsy were significant predictors of attitudes towards epilepsy. **Conclusion:** The study revealed that nursing students had moderate levels of knowledge about epilepsy and positive attitudes towards the condition.

Keywords: Epilepsy knowledge, epilepsy attitudes, nursing student

INTRODUCTION

Epilepsy is one of the most common neurological disorders, affecting approximately 50 million people worldwide, with 3.5 million new diagnoses each year.¹ Its prevalence ranges from 6 per 1,000 in developed countries to 18.5 per 1,000 in developing countries, and in Türkiye it is estimated at 6.1–10.2 per 1,000.^{2,3} Despite advancements in diagnosis and treatment, inadequate knowledge, misconceptions, and stigma surrounding epilepsy persist globally and continue to influence health behaviors and social attitudes.⁴⁻⁸

Limited awareness contributes significantly to social exclusion, discrimination, and reduced quality of life among individuals with epilepsy.⁹⁻¹⁴ Prior research indicates that higher education is associated with more accurate knowledge and positive attitudes toward epilepsy.^{15,16} As future healthcare professionals, nursing students play a crucial role in patient education, community awareness, and reducing stigma related to

epilepsy.¹⁷⁻²⁴

Given the ongoing challenges and the importance of nurses in epilepsy care, more research is needed to understand the knowledge and attitudes of nursing students in Türkiye. Epilepsy, despite being a potentially life-threatening condition, is less prevalent in nursing curricula. Therefore, this study aimed to assess epilepsy-related knowledge and attitudes among nursing students.

METHODS

This is a descriptive, cross-sectional study. The population of the study consisted of 1200 nursing students at the Faculty of Nursing at a state university in eastern Türkiye. No sampling method was used, and the aim was to include the entire population. The inclusion criteria were having no communication problems, being able to answer questions, voluntarily agreeing to participate in the study, and being 18 years old or older. The

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study excluded 82 students, who did not attend school during the data collection process, 57 students who filled out the data collection forms incompletely, and 75 students who were unwilling to participate. The study was completed with a total of 986 students.

Data collection

The data for the study were collected by the researchers using the face-to-face interview method between March and May 2022. Data were collected in classrooms just before classes began. Both instructors and students were informed about the study before data collection. The questionnaire was completed by the participants under the supervision of the researchers to improve clarity and limit response bias. Data were collected by a single researcher. This prevented students from relying on online resources or textbooks for support. Each interview lasted about 15-20 minutes.

Data collection tools

An information form regarding the sociodemographic characteristics of the participants, the Epilepsy Knowledge Scale (EKS), and the Epilepsy Attitude Scale (EAS) were used to collect data.

Information form

The form included 6 questions on the sociodemographic characteristics of the participants (age, gender, class year, economic status, marital status, and place of residence) and 6 questions on their epilepsy-related characteristics (presence of relatives with epilepsy, knowledge about epilepsy, sources of information, taking part in the care of a patient with epilepsy in practices, having witnessed somebody experiencing a seizure, and the place where someone was witnessed having an epileptic seizure), constituting a total of 12 questions.

Epilepsy Knowledge Scale

This scale was developed by Aydemir to determine the knowledge of epilepsy in Turkish society.²⁵ The responses to the items on the knowledge scale are “True,” “False,” and “Do not know.” The scale consists of 16 items. The lowest score to be obtained from the scale is 0, and the maximum possible score is 16. Higher scores obtained from the scale indicate higher levels of knowledge. The Cronbach’s alpha (α) value for the scale was

identified as 0.72.²⁵ The α value for EKS in this study was found to be 0.83.

Epilepsy Attitude Scale

The Epilepsy Attitude Scale was developed by Aydemir to determine the attitudes of the Turkish population toward epilepsy and individuals with epilepsy.²⁵ The items in the Epilepsy Attitude Scale (EAS) were formed to determine the degree of positive and negative attitudes toward epilepsy and individuals with epilepsy. The scale consists of 14 items. The response options are “Completely agree,” “Agree,” “No opinion,” “Disagree,” and “Completely disagree.” The total scores range from 14 to 70, and a high score indicates a more positive attitude toward epilepsy. The Cronbach’s α value for the scale was found to be 0.84.²⁵ The α value for EAS in this study was found to be 0.84.

Data analysis

SPSS 22.0 (Statistical Package for the Social Sciences) statistical software was used to evaluate the data obtained in the study. The data had a normal distribution, according to the Kolmogorov-Smirnov normality test, and the variances were homogeneous, according to Levene’s test result ($p>0.05$). The data were analyzed using descriptive statistics, independent-samples t-test, one-way ANOVA, linear regression, and Cronbach’s alpha reliability analyses. A value of $p<0.05$ was considered statistically significant.

Ethical issues

This study was approved by the university ethics committee (Ethics Committee Approval Number: 2022/3186). Verbal information was provided to all participants in accordance with the principles of the Declaration of Helsinki. Informed consent and verbal approvals of the nursing students were obtained by explaining the purpose, duration, and procedures to be carried out during the research.

RESULTS

The mean age of the participants was 21.18 ± 1.79 years. Among them, 67.2% were female, 27.5% 4th-year students, and 71.3% were of middle-class economic status. Additionally, 98.1% were single, 50.1% were staying in student dormitories, and 89.5% did not have epilepsy patients in their families. A total of 88.9% knew about epilepsy, with 72.9% of those having received information about it in their university classes. Furthermore, 62% had not provided care to an epilepsy patient

before, 51.7% had not witnessed a person having an epileptic seizure, and 63.3% had witnessed a seizure (Table 1).

The results of the linear regression analysis with the variables related to the EKS scores of the participants are shown in Table 2. These variables explained 25% of the total variance in their knowledge levels regarding epilepsy (R: 0.505, R²: 0.255, p<0.001). It was determined that gender, class year, sources of information, having witnessed someone having an epileptic seizure, having provided care to an epilepsy patient in practice, and the place of witnessing an epileptic seizure were significant predictors of epilepsy-related knowledge.

The results of the linear regression analysis with the variables related to the EAS scores of the participants are shown in Table 3. These variables explained only 7% of the total variance in their attitudes toward epilepsy (R: 0.266, R²: 0.071, p<0.001). Gender and knowledge of epilepsy were significant predictors of epilepsy-related attitudes.

DISCUSSION

Although epilepsy has been recognized for a long time, inaccurate information and negative attitudes about the condition continue to persist in society.^{10,26} This misinformation contributes to the exclusion of individuals with epilepsy and adversely affects their quality of life. The knowledge and attitudes of nurses and nursing students, who play a crucial role in shaping public perceptions, are particularly important in this context.^{27,28} Identifying gaps in the knowledge and attitudes of nursing students can help provide them with accurate information and enhance their awareness, which, in turn, will positively influence other groups in society.

In this study, the participants' knowledge levels regarding epilepsy were found to be moderate. Similar results were reported by Unsar *et al.*²⁹ and Aksoy and Büyükbayram,³⁰ while the knowledge levels reported by Vodougnon *et al.*³¹ and Yıldız *et al.*³² were comparable to ours but slightly lower. Our findings corroborate the information presented in the relevant literature

According to the regression analysis results of this study, both gender and class year were significant variables associated with the participants' levels of epilepsy-related knowledge. Unsar *et al.*²⁹ and Turan *et al.*³³ also identified gender and class year as significant factors influencing the epilepsy-related knowledge of nursing students. Our findings align with those

reported in the existing literature.

In our study, participants who had taken courses or university classes on epilepsy demonstrated higher levels of epilepsy-related knowledge and exhibited more positive attitudes toward the condition. Durmaz *et al.*³⁴ reported similar findings in their research involving health administration students, noting that participants who had read books about epilepsy possessed greater knowledge. Shawahna and Jaber³⁵ also found that taking courses or classes about epilepsy was a significant predictor of epilepsy-related knowledge levels among nursing students. These results underscore the importance of incorporating epilepsy as a topic in the curricula of health-related disciplines.

Additionally, our study found that participating in the care of an epilepsy patient was a significant predictor of epilepsy-related knowledge levels. Aksoy and Büyükbayram³⁰ found that nursing students who had been involved in the care of an epilepsy patient scored higher on epilepsy knowledge. Our results support these findings, indicating that being involved in the care of epilepsy patients enhances relevant experience and knowledge retention.

We also found that witnessing a person having an epileptic seizure was a significant predictor of epilepsy-related knowledge levels. This finding is consistent with studies conducted by Shawahna and Jaber³⁵ with Palestinian nursing students, as well as by Aksoy and Büyükbayram³⁰ and Unsar *et al.*²⁹ with Turkish nursing students, all of which reported higher levels of epilepsy-related knowledge among students who had witnessed an epileptic seizure.

Participants in our study showed positive attitudes toward epilepsy. Similar positive attitudes were reported by Unsar *et al.*²⁹, Aksoy and Büyükbayram³⁰, and Turan *et al.*³³ among nursing students. Our findings align with the literature, indicating a positive trend where students in a leading health-related profession hold positive attitudes toward epilepsy.

Gender was identified as a significant predictor of epilepsy-related attitudes in our study. Consistent with our results, Unsar *et al.*²⁹, Turan *et al.*³³, and Aksoy and Büyükbayram³⁰ reported significant differences in epilepsy-related attitudes based on gender. However, Shawahna and Jaber³⁵ and Dayapoğlu and Tan³⁶ did not find a significant relationship between gender and attitudes toward epilepsy. It is believed that the more positive attitudes shown by female students may be linked to higher levels of emotional

Table 1: Sociodemographic and academic characteristics of the nursing students

	n	%
Gender		
Female	663	67.2
Male	323	32.2
Class		
1st	212	21.5
2nd	251	25.5
3rd	252	25.6
4th	271	27.5
Economic status		
Poor	163	16.5
Middle-class	703	71.3
Good	120	12.3
Marital status		
Single	967	98.1
Married	19	1.9
Living place		
Student hostel	494	50.1
With family	453	45.9
With friends	39	4.0
Presence of relatives with epilepsy		
Yes	104	10.5
No	882	89.5
Knowledge about epilepsy		
Yes	877	88.9
No	109	11.1
Source of information		
Course/lecture in university	640	72.9
Friend/family	121	13.7
Television/internet	101	11.5
Book/magazine	15	1.9
Taking part in the care of patient with epilepsy in practices		
Yes	175	17.7
No	811	62.3
Witnessed somebody experiencing a seizure		
Yes	476	48.3
No	510	51.7
Place where someone is witnessed having an epileptic seizure		
House	104	21.8
School	71	19.9
Outside	301	63.3
	Mean±SD	min-max
Mean Age (years)	21.18±1.79	18-31
EKS	9.65±4.04	0.00-16.00
EAS	57.16±7.85	26.00-70.00

intelligence, empathy skills, or caregiving tendencies influenced by gender roles. Indeed, several studies have shown that women tend to

display higher levels of empathy compared to men.^{37,38} Furthermore, emotional intelligence has been identified as a key factor influencing nursing

Table 2: EKS-related risk factors of nursing students

EKS risk factors	EKS total				
	B	SE	β	t	p
Age	-.066	.097	-.034	-.681	.496
Gender (referent; female)	-1.510	.307	-.203	-4.914	.000
Class (referent; 1st class)	.475	.171	.143	2.773	.000
Economic status (referent; middle-class)	-.163	.267	-.027	-.611	.408
Presence of relatives with epilepsy (referent; no)	-1.540	.490	-.171	-3.140	.541
Source of information (referent; Course/lecture in university)	-3.276	.617	-.230	-5.312	.002
Taking part in the care of patient with epilepsy in practices (referent; no)	-1.933	.328	-.252	-5.890	.000
Witnessed somebody experiencing a seizure (referent; no)	-1.177	.710	-.071	-1.657	.000
Place where someone is witnessed having an epileptic seizure (referent; outside)	.560	.246	.128	2.277	.025
	F	P	R	R ²	Adjusted R ²
	16.711	.000	.505	.255	.24

students' attitudes and behaviors toward patient care.³⁹ Considering these findings, integrating approaches that promote empathy development, enhance emotional awareness, and incorporate gender sensitivity into nursing curricula is crucial.

Participants in this study who were knowledgeable about epilepsy had more positive attitudes toward the condition. Consistent with our findings, Yıldız *et al.*³² found that healthcare students with knowledge of epilepsy exhibited

more positive attitudes toward it. It is expected that students who understand epilepsy would have more positive attitudes toward the disease, as they are familiar with its symptoms and treatment, leading to a better understanding.

Nursing students were observed to have moderate levels of knowledge about epilepsy and positive attitudes toward it. Gender, class year, sources of information, witnessing an epileptic seizure, providing care to an epilepsy patient in

Table 3: EAS-related risk factors of nursing students

EAS risk factors	EAS total				
	B	SE	β	t	p
Gender (referent; female)	-2.589	.741	-.157	-3.494	.001
Class (referent; 2nd)	.155	.351	.021	.441	.659
Economic status (referent; poor)	-.904	.653	-.067	-1.385	.167
Knowledge about epilepsy (referent; yes)	-4.437	1.518	-.141	-2.923	.004
Taking part in the care of patient with epilepsy in practices (referent; yes)	-.822	.805	-.048	-1.02	.308
Witnessed somebody experiencing a seizure (referent; no)	-.968	1.712	-.026	-.565	.572
Place where someone is witnessed having an epileptic seizure (referent; outside)	.65	.443	.067	1.385	.167
	F	P	R	R ²	Adjusted R ²
	4.654	.000	.266	.071	.055

practice, and the location of witnessing a seizure were significant predictors of epilepsy-related knowledge. Gender and knowledge of epilepsy were significant predictors of epilepsy-related attitudes.

Regression analyses in this study indicated that the model explained 25% of the variance in epilepsy-related knowledge levels and only 7% of the variance in attitudes. These results suggest that factors not considered in the model may have influenced participants' knowledge and attitudes. Psychosocial factors such as individual belief systems, cultural norms, personal experiences, social influences, and media information are believed to play a significant role in this context. Moreover, the measurement tools used in the study assessed knowledge and attitudes at a single time point, without considering potential temporal changes. Future research incorporating these additional factors could enhance the model's explanatory power and provide a more comprehensive understanding of epilepsy-related knowledge and attitudes.

Given these findings, it is recommended that epilepsy be integrated into undergraduate nursing curricula in a comprehensive and structured manner. Standardized educational content on epilepsy should be developed and implemented across all nursing programs. Additionally, offering nursing students opportunities to care for epilepsy patients can reinforce their knowledge and attitudes through experiential learning. To improve public awareness of epilepsy and promote greater sensitivity toward individuals with epilepsy, it is crucial to incorporate multidisciplinary, culturally sensitive, and evidence-based approaches into nursing education.

The study has limitations, including the restricted responses provided by participants, the cross-sectional nature of the data collection, and the exclusive focus on nursing students at a single university in Türkiye. Therefore, the results may not be generalizable to all Turkish nursing students.

DISCLOSURE

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