Archives of Epilepsy

Original Article

The Relationship Between the Knowledge and Attitudes of Patients with epilepsy Regarding Disease and Self-management: A Sample from Northeastern Türkiye

Neşe İşcan Ayyıldız

Trabzon University, Tonya Vocational School, Department of Health Care Services, Trabzon, Türkiye

Neşe İşcan Ayyıldız Asst. Prof.,

Cite this article as: İşcan Ayyıldız N. The relationship between the knowledge and attitudes of patients with epilepsy regarding disease and self-management: a sample from Northeastern Türkiye. *Arch Epilepsy*. [Epub Ahead of Print]

Corresponding Author: Neşe İşcan Ayyıldız, Asst. Prof., Trabzon University, Tonya Vocational School, Department of Health Care Services, Trabzon, Türkiye, **E-mail:** ayyildiz2861@gmail.com

Received: 03.01.2026 **Accepted:** 22.06.2026 **Epub:** 20.07.2026

DOI: 10.4274/ArchEpilepsy.2026.26234

Abstract

Objective: The study was conducted to determine the relationship between the knowledge and attitudes of patients with epilepsy regarding their illness self-management, focusing on the potential impact of these factors on their ability to self-manage.

Methods: This study, using a descriptive cross-sectional design, was conducted between May and October 2025 and included 111 patients with epilepsy who presented to a Neurology Outpatient Clinic in Northeastern Türkiye. Data were gathered through the introductory information form, the Epilepsy Knowledge and Attitude Scale, and the Epilepsy Self-management Scale and analyzed using multivariate analysis of variance, Tukey's test, Games-Howell test, and Pearson's product-moment correlation test.

Results: The average age of the participants was 43.34±13.38 years, and the mean duration of epilepsy diagnosis was 19.41±10.75 years. The average score of the individuals on the Epilepsy Knowledge Scale was 8.23±3.44, which was within the average score. The average score obtained from the Epilepsy Attitude Scale was 47.43±5.64, which was above the average score that could be obtained from the scale. The average score of the individuals on the Epilepsy Self-management Scale was found to be 124.50±11.54, which is above the average score that can be obtained from the scale.

Conclusion: Results indicate that patients with epilepsy have moderate knowledge and attitude levels regarding their illness, and that individuals with high knowledge and attitude levels also have high levels of epilepsy self-management. The results also suggest that knowledge plays a significant role in both the development of positive attitudes and the strengthening of self-management among patients with epilepsy. Social support must be strengthened through educational programs and counseling interventions for patients with epilepsy and their family members, enabling them to manage their disease more effectively.

Keywords: Epilepsy, knowledge, attitude, self-management

INTRODUCTION

Epilepsy, one of the most common chronic neurological diseases worldwide, is characterized by the recurrent unprovoked seizures. It is particularly prevalent among older adults and children, with a worldwide prevalence of 0.7-1.0%.[1] The disease poses numerous challenges for both patients and family members.[2] The key characteristics that distinguish epilepsy from other chronic diseases are the persistent risk of seizures and the associated loss of consciousness and convulsions during seizures.[3] The sudden and visually frightening seizures associated with epilepsy give rise to cultural prejudices and misconceptions in society, which may lead individuals and their families to conceal their diagnosis.[4] Such a tendency can lead patients with epilepsy to hesitate to seek care and treatment services, pursue alternative treatment options, and experience delays in the treatment process.[5-7] Historically, religious beliefs have played an active role in the evaluation of epilepsy by both individuals and society. In many countries, epilepsy has been associated with mystical concepts rather than perceived as a disease.[8-10] Historically, people with epilepsy were believed to possess special powers.[8,11] In the past, epileptic seizures were considered a punishment from God in Jewish, Christian, and Islamic societies, and this belief led to social isolation and prejudice against patients with epilepsy.[12,13] This negative approach remains influential today and can lead to social isolation among patients with epilepsy.[13,14]

Living with unpredictable seizures and being exposed to societal prejudices and family overprotection can lead to anger and hopelessness in patients with epilepsy, negatively affecting their disease self-management.[15] Inadequate self-management of epilepsy can lead to more frequent seizures and physical injuries caused by trauma.[16] Physical impairments observed in patients with epilepsy also affect their psychosocial well-being, increase stigma, and cause difficulties in basic life activities such as continuing their education, finding employment, and establishing marital relationships.[17] These negative impacts at the physiological, psychological, and social levels can

significantly reduce patients' quality of life.[18-20] In contrast, situations where self-management is strong contribute to individuals developing a positive attitude towards their disease, reducing depressive symptoms, decreasing seizure anxiety, improving compliance with treatment, and improving disease management.[15] Self-management of epilepsy involves lifestyle changes such as regular use of antiepileptic medications, reducing seizure triggers, implementing safety measures to prevent injury during seizures, obtaining adequate rest, maintaining a balanced diet, and coping with stress.[16,21] To control the disease, individuals with epilepsy must adopt effective self-care behaviors; the first step is to assess their self-care or self-management behaviors.[22,23] Assessing the knowledge and attitudes of patients with epilepsy toward their disease will support their full participation in social life, increase their opportunities, and strengthen their position and functioning within society. Studies in the literature generally examine knowledge, attitudes, and self-management separately in patients with epilepsy.[24-27] However, the limited number of studies addressing the relationship between these variables indicates that further research is needed. We believe that assessing the knowledge and attitudes of patients with epilepsy will enable the design of appropriate interventions to improve knowledge and correct negative attitudes. Given the paucity of studies globally and in Türkiye on knowledge and attitudes regarding epilepsy, and the importance of individuals' self-management in controlling epileptic seizures, the present study is expected to contribute to the field and to patients' self-management and compliance. Therefore, this study was designed to examine the relationship between knowledge and attitudes regarding epilepsy and self-management among patients with epilepsy living in northeastern Türkiye.

METHODS

Participants

The study included patients with epilepsy who had been followed for at least six months at the neurology outpatient clinic of a training and research hospital in Northeastern Türkiye.

Inclusion Criteria

- Having no communication problems.
- Being able to answer the questions in the interview form.
- Volunteering to participate in the study.
- Being between the ages of 18 and 75.
- Being an epilepsy patient referred to the neurology outpatient clinic between May and October 2025.

MAIN POINTS

- Higher levels of knowledge about epilepsy among patients increase their self-management of the disease.
- A positive attitude towards epilepsy strengthens individuals' self-management skills.
- The self-management among people with epilepsy is influenced by sociodemographic characteristics (e.g., education level and financial status) and clinical factors (e.g., seizure frequency and number of medications).
- With appropriate nursing support in epilepsy management, changes in individuals' knowledge and attitudes can strengthen their disease self-management.

Because of the self-report nature of the study's data collection, individuals with psychiatric comorbidities and cognitive impairment were excluded. Individuals with cognitive impairment and psychiatric symptoms could affect the understanding and accurate answering of scale questions, and were therefore excluded to maintain data quality.

Individuals with epilepsy who met the inclusion criteria were selected sequentially from those who visited the outpatient clinic during the data collection period. Participation in the study was entirely voluntary. Six patients with epilepsy who refused to participate were excluded, and a total of 111 patients with epilepsy were interviewed. The study included a heterogeneous sample with respect to epilepsy type and seizure frequency to reflect real-life clinical diversity.

Data Collection

A questionnaire, the Epilepsy Knowledge Scale (EKS), and the Epilepsy Attitude Scale (EAS) were used to collect the study data.

Epilepsy Knowledge Scale: Developed by Aydemir,[28] the EKS is a 16-item scale that measures knowledge about the etiology of epilepsy, treatment options, seizure triggers, social restrictions, and appropriate seizure management. The total score on the scale ranges from 0 to 16. A higher score indicates greater knowledge of epilepsy. Responses to the scale items consist of true, false, and "I don't know." Factor analysis of the knowledge scale revealed three distinct factors. Factor 1 represents knowledge about the cognitive-behavioral characteristics of patients with epilepsy; Factor 2 represents knowledge about the causes and treatment of epilepsy and of epileptic syndromes; and Factor 3 represents knowledge about seizure symptoms and appropriate seizure intervention. The reliability of the knowledge scale in the original study was 0.72. Cronbach's alpha was determined to be 0.70 in this study.

Epilepsy Attitude Scale: The EAS, which was developed by Aydemir,[28] consists of 14 items that measure participants' positive or negative attitudes towards epilepsy/patients with epilepsy and the severity of these attitudes. Response options for the attitude scale are 5-point Likert-type items. Possible scores range from 14 to 70, with higher scores indicating a more positive attitude towards epilepsy and patients with epilepsy. Factor analysis for the attitude scale indicates a two-factor structure. The first comprises personal fear, social avoidance, and stigma; the second is a positive attitude towards epilepsy. In the original study of the scale, the reliability of the Attitude scale was α=0.84, and Cronbach's alpha in the present study was 0.80.

Epilepsy Self-management Scale (ESMS): Turkish validity-reliability study of the scale was conducted by Yeni et al.[23] The scale, which evaluates medication use (10 items), knowledge level (8 items), safe behaviors (8 items), seizure control (6 items), and lifestyle practices (6 items) in patients with epilepsy, consists of 38 items and five subdimensions. Responses are evaluated on a 5-point Likert scale and scored from 1 to 5. Scores range from 38 to 190; higher scores indicate more frequent engagement in self-management behaviors. The Cronbach's alpha for the ESMS was α=0.74. In this study, the Cronbach's alpha of the scale was α=0.87.

Statistical Analysis

The IBM SPSS 27 software was used to analyze the study data. The fact that the scores of patients with epilepsy on the Epilepsy Knowledge and Attitude Scale and the ESMS were within ±1 indicates a normal distribution.[29] The significance level was set at 0.05. Comparisons of the scores obtained from the scales by patients with epilepsy, according to descriptive information, were made using the multivariate analysis of variance. For multiple comparisons, the Tukey's test was used for homogeneous distributions and the Games-Howell test for non-homogeneous distributions. The Skewness and Kurtosis coefficients of the scale scores were examined, along with their histograms and box plots, to determine whether the distributions were normal. The scale scores were normally distributed. Pearson product-moment correlation test was used to determine the relationships between scale scores, and hierarchical regression analysis was used to predict the scale scores of the predicted variable from predictor variables.

Ethical Issues

Approval for the study was obtained from Trabzon University Social and Human Sciences Scientific Research and Publication Ethics Committee (approval no: 2025-3/2.15, date: 28.03.2025). Institutional approval was also obtained from the hospital where the study was conducted. Patients were informed prior to data collection, and their verbal and written consent was obtained.

RESULTS

Knowledge, Attitudes, Self-management, and Related Factors Regarding the Disease in Individuals with Epilepsy

Table 1 presents statistical information for the scores obtained on the scales. The average score of the epilepsy patients on the EKS was 8.23±3.44, which is within the average score that can be obtained from the scale. The average score of the EAS was 47.43±5.64, which is above the average score that can be obtained from the scale. The average score obtained on the ESMS was 124.50±11.54, which is above the average score that can be obtained from the scale, but close to the average score (Table 1).

Table 2 presents a comparison of the average scores of epilepsy patients on the epilepsy questionnaire and the ESMS according to introductory information.

Participants' Characteristics

Tables 2 and 3 compare the mean scores obtained by epilepsy patients from the Epilepsy Knowledge and Attitude Questionnaire and the ESMS, based on the demographic information included in the model.

Among the demographic factors considered, sex, educational status, and seizure frequency have an effect.

Table 2 gives that the average age of patients with epilepsy was

Table 1. Statistical information regarding the scores of epilepsy patients on the Epilepsy Knowledge and Attitude Scale and the ESMS (n=111)

Scale	Possible score from the scale			Epilepsy patients' score			
	Min	Max	Mean	Min	Max	$\bar{x}$	SD
EKS	0	16	8	2	15	8.23	3.44
Epilepsy Attitude Scale	14	70	42	31	59	47.43	5.64
ESMS	38	190	114	78	136	124.50	11.54

EKS: Epilepsy Knowledge Scale, ESMS: Epilepsy Self-management Scale, Min: Minimum, Max: Maximum, SD: Standard deviation

Table 2. Main effects of combined descriptive information on the model

Introductory data	Statistical value	F	SD	p	η_p^2
Sex	0.13[1]	4.50	3	**0.005**	0.13
Marital status	0.93[2]	2.33	3	0.079	0.07
Educational status	0.87[2]	2.23	6	**0.044**	0.07
Income level	0.92[2]	1.28	6	0.266	0.04
Seizure frequency	0.15[1]	2.53	6	**0.022**	0.08
Shift type	0.96[2]	0.61	6	0.722	0.02
Understanding the shift	0.99[2]	0.42	3	0.738	0.01
Drug use	0.10[1]	1.55	6	0.163	0.05
Read about epilepsy	0.93[2]	2.36	3	0.077	0.07

	Min	Max	$\bar{x}$	SD
Age	21	71	43.34	13.38
Epilepsy diagnosis (year)	5	47	19.41	10.75

[1]Pillai's Trace, [2]Wilks' λ, SD: Standard deviation, Min: Minimum, Max: Maximum

43.34±13.38 years, the mean year of diagnosis was 19.41±10.75 years.

52.3% of the participants were female; 62.2% had a high school degree; 40.5% were housewives; 55.9% had an income equal to their expenses; 64% had a seizure frequency of once every 1-3 months; 91% did not realize they were about to have a seizure; and 68.5% were using two medications. The results indicate that 64.9% of participants had not read any material on epilepsy (Table 3).

Men scored higher, on average, on the EAS than women. Average scores on the Epilepsy Knowledge and Attitude Scale increase from primary school graduates to those with associate's and bachelor's degrees. Graduates with associate's and bachelor's degrees have higher average scores on the ESMS than primary- and high-school graduates (Table 3).

As income increases from below expenses to above expenses, mean EKS scores increase. Those whose income exceeds their expenses have higher mean scores on the EAS than those whose income is less than their expenses. Individuals whose income is greater than or equal to their expenses have higher mean ESMS scores than individuals whose income is less than their expenses.

Those with a seizure frequency of once every 3-6 months or once a year had higher mean EKS and ESMS scores than those with a seizure frequency of once every 1-3 months. Those using one medication had higher mean EKS scores than those using two or more medications. Mean ESMS scores were lower in those using three or more medications than in those using one medication. Those who had read about epilepsy from any source had higher mean Epilepsy Knowledge and Attitude scores than those who had not.

The relationships among age, epilepsy diagnosis, Epilepsy Knowledge and Attitude Scale scores, and ESMS scores are given in Table 4.

A weak but significant positive correlation was detected between age and ESMS scores (r=0.209, p<0.05). There are moderate, positive, and significant correlations between EKS scores and EAS scores (r=0.461, p<0.001) and ESMS scores (r=0.550, p<0.001).

Table 3. Comparison of the average scores of epilepsy patients on the Epilepsy Knowledge and Attitude Scale and the ESMS according to introductory information (n=111)

Introductory information		**n**	**EKS**		**EAS**		**ESMS**	
			x̄	**SD**	**x̄**	**SD**	**x̄**	**SD**
Sex	Female	58	7.71	3.02	45.48	5.84	123.64	10.96
	Male	53	8.79	3.80	49.57	4.59	125.43	12.18
	Significance		F=2.80, p=0.097		F=16.54, **p<0.001**		F=0.67, p=0.415	
Educational status	1. Primary education	21	5.81	2.82	43.57	5.08	121.24	9.13
	2. High school	69	7.83	2.92	47.19	5.23	122.35	10.43
	3. Associate degree-undergraduate	21	11.95	2.64	52.10	4.19	134.81	11.87
	Significance		F=26.15, **p<0.001**		F=15.31, **p<0.001**		F=12.62, **p<0.001**	
	Multiple comparison		3>2>1		3>2>1		3>2,1	
Income level	1. Income is less than expenses	36	6.17	2.30	45.69	4.96	118.44	11.03
	2. Income equals expense	62	8.58	2.82	47.63	6.00	126.19	10.04
	3. Income exceeds expenses	13	12.23	2.52	51.31	3.43	133.15	12.18
	Significance		F=21.32, **p<0.001**		F=5.18, **p=0.007**		F=10.96, p<0.001	
	Multiple comparison		-		-		-	
Seizure frequency	1. Once every 1-3 months	71	7.14	3.14	46.42	5.85	120.79	10.43
	2. Once every 3-6 months	26	10.27	3.52	48.92	4.97	129.46	11.67
	3. Once a year	14	9.93	2.34	49.79	4.66	134.07	7.54
	Significance		F=11.74, **p<0.001**		F=3.40, p=0.037		F=13.33, **p<0.001**	
	Multiple comparison		2, 3>1		-		2, 3>1	
Number of medications used	1. 1	19	10.79	2.42	49.63	4.31	130.74	10.19
	2. 2	76	8.01	3.29	47.36	5.84	124.26	10.93
	3. 3 and above	16	6.19	3.56	45.19	5.42	118.19	12.78
	Significance		F=9.49, p<0.001		F=2.81, p=0.065		F=5.62, **p=0.005**	
	Multiple comparison		-		-		-	
Reading about epilepsy	Yes	39	9.79	3.38	50.08	4.67	126.33	12.02
	No	72	7.38	3.19	46.00	5.63	123.50	11.20
	Significance		F=13.98, **p<0.001**		F=14.87, **p<0.001**		F=1.53, p=0.218	

Tukey's test. N.B. For intergroup comparisons of the 3 dependent variables, the Bonferroni correction (0.05/3) was used, resulting in a p-value of 0.017. EKS: Epilepsy Knowledge Scale, ESMS: Epilepsy Self-management Scale, SD: Standard deviation, EAS: Epilepsy Attitude Scale

Table 4. Correlation analysis (n=111)

	1	2	3	4	5
1. Age	-				
2. Epilepsy diagnosis (year)	r=0.662 **p<0.001**	-			
3. EKS	r=-0.024 p= 0.806	r=-0.140 p=0.143	-		
4. EAS	r=0.161 p=0.091	r=0.020 p=0.833	r=0.461 **p<0.001**	-	
5. ESMS	r=0.209 p=**0.027**	r=0.066 p=0.489	r=0.550 **p<0.001**	r=0.404 **p<0.001**	-

EKS: Epilepsy Knowledge Scale, ESMS: Epilepsy Self-management Scale, EAS: Epilepsy Attitude Scale

A moderate, positive, and statistically significant correlation was observed between Epilepsy Attitude Questionnaire scores and ESMS scores (r=0.404, p<0.001) (Table 4).

The VIF values for the predictor variables are within the acceptable range (<5) in both models, indicating no significant multicollinearity. Durbin-Watson values are close to 1, indicating a weak positive autocorrelation. This indicates that the error terms follow each other in the same direction. No observations had a Cook's distance >1. These results show that the models are generally reliable, except for the Durbin-Watson values, which, although close to 1, indicate a weak level of positive autocorrelation.

The first regression model constructed is significant (p<0.001), with the predictor variables explaining 32% of the variance in the predicted variable. Scores on the EKS (β=0.46, t=5.22, p<0.001) and on the EAS (β=0.19, t=2.15, p<0.05) were positive and significant predictors of the ESMS scores. The second regression model was also significant (p<0.001), with the predictor variables explaining 39% of the variance in the predicted variable. The EKS and seizure frequency were significant predictors. Scores on the EKS were positive and significant predictors of scores on the

Table 5. Hierarchic regression analysis results (n=111)

Model		B	SE	β	t	p	VIF
1	Constant	93.26	7.84	-	11.90	**<0.001**	-
	EKS	1.55	0.30	0.46	5.22	**<0.001**	1.27
	Epilepsy Attitude Scale	0.39	0.18	0.19	2.15	**0.034**	1.27
	$R=0.58$, $R^2=0.32$, $F_{(2, 108)}=26.8$, **p<0.001**						
	Cook distance: $\bar{x}\pm SD=0.01\pm0.02$, Min=$4.32.10^{-8,}$ Max=0.08; Durbin-Watson=1.09						
Model		**B**	**SE**	**β**	**t**	**p**	**VIF**
2	Constant	91.22	10.28	-	8.88	**<0.001**	-
	EKS	1.00	0.37	0.30	2.71	**0.008**	1.47
	Epilepsy Attitude Scale	0.29	0.22	0.14	1.32	0.190	1.43
	Sex (RC: Female)						1.33
	Male	-0.48	2.29	-0.04	-0.21	0.835	
	Marital status (RC: Married)						1.55
	Single	-2.22	2.82	-0.19	-0.79	0.432	
	Educational status (RC: Primary education)						1.35
	High school	-3.02	2.74	-0.26	-1.10	0.274	
	Front Bachelor's degree-undergraduate	2.12	4.69	0.18	0.45	0.652	
	Residential location (RC: Province)						1.15
	District	-3.02	2.21	-0.26	-1.37	0.174	
	Bay	-2.81	3.47	-0.24	-0.81	0.419	
	Income status (RC: Income less than the expense)						1.24
	Income to the expense equal	2.62	2.33	0.23	1.13	0.262	
	Income from the expense more	2.25	3.95	0.20	0.57	0.570	
	Watch frequency (RC: Once every 1-3 months)						1.25
	Once every 3-6 months	4.19	2.49	0.36	1.68	0.096	
	Once a year	10.18	3.67	0.88	2.77	**0.007**	
	Seizure type (RC: Generalize tonic-clonic)						1.10
	Partial	1.82	3.64	0.16	0.50	0.618	
	Unidentified	1.26	1.97	0.11	0.64	0.524	

Table 5. Continued

Model		B	SE	β	t	p	VIF
2	**The shift understanding (RC: Yes)**						1.16
	No	1.85	3.48	0.16	0.53	0.597	
	Medicine usage (RC: 1)						1.36
	2	3.43	3.19	0.30	1.08	0.285	
	3 and on top of it	5.11	4.52	0.44	1.13	0.262	
	Epilepsy with Related Reading (RC: Yes)						1.39
	No	1.21	2.50	0.11	0.49	0.629	
	Age	0.13	0.13	0.15	1.00	0.322	2.01
	Epilepsy diagnosis (year)	-0.05	0.13	-0.05	-0.39	0.698	1.58
	$R=0.71$, $R^2=0.39$, $F_{(20, 90)}=4.47$, **$p<0.001$**						
	Cook distance: $\bar{x}\pm SD=0.01\pm0.02$, Min=$1.24.10^{-7,}$ Max=0.08; Durbin-Watson=1.44						

SE: Standard error, VIF: Variance inflation factor, EKS: Epilepsy Knowledge Scale, SD: Standard deviation, RC: Reference category

ESMS (β=0.30, t=2.71, p<0.01). The effect on ESMS scores was positive when comparing individuals experiencing seizures once every 1-3 months with those experiencing seizures once a year (β=0.88, t=2.77, p<0.01) (Table 5).

DISCUSSION

Epilepsy is associated with high mortality and morbidity rates and is characterized by widespread misconceptions and attitudes among both the general public and patients with epilepsy. Lack of knowledge about epilepsy can lead to misconceptions and negative attitudes. The study aimed to assess patients' knowledge and attitudes regarding epilepsy and to examine the potential impact of this knowledge and these attitudes on the self-management of the disease.

The average scores obtained by patients with epilepsy on the EKS appear to be at the average possible score on the scale. Similarly, the average scores on the knowledge and attitude scales in Aydemir et al.'s[27] study were above the scale mean. However, the results obtained in this study are lower than those of Aydemir et al.,[27] possibly because of participants' educational level, the limited sustainability of educational programs offered at diagnosis, and the absence of effective periodic feedback processes.

Patients with epilepsy had moderate attitudes toward epilepsy. A similar study by Aydemir et al.[27] noted that the epilepsy group's attitude scores were above the moderate level. Studies involving healthcare professionals, healthcare students, and the general public reveal both more positive[26,28,30,31] and more negative[32] attitudes. This may be explained by the numerous negative experiences that patients with epilepsy have regarding their illness, which negatively impact their attitudes toward epilepsy.

The average score on the ESMS was below the average score obtainable on the scale. This result suggests that patients with epilepsy may have inadequate self-management practices. The self-management levels of the patients with epilepsy in our study were lower than those in similar studies in the literature,[23,33-35] which may be explained by the fact that individuals' moderate knowledge and attitude regarding epilepsy affected self-management to the same extent. Individuals' self-management levels may be influenced by variables such as their health literacy, education level, seizure control, and social support. These results highlight the need to expand education and counseling programs to strengthen self-management behaviors among patients with epilepsy.

Men had a significantly higher average score on the EAS than women. Similar results were reported in studies conducted with community groups.[35,36] This could be explained by men's more active social roles and greater acceptance of epilepsy. It could also be explained by women's more cautious, lower-scoring statements regarding their attitudes toward epilepsy, as they may be more sensitive to the stigma associated with a chronic illness. The results of the present study suggest that sex must be considered an important variable in public awareness studies of epilepsy.

A significant association was observed between individuals' educational status and the average scores on the Epilepsy Knowledge and Attitude Scale and on the ESMS. Accordingly, as education level increases, average scores on the Epilepsy Knowledge and Attitude Scale and the ESMS increase. As expected, this result demonstrates that the level of education has a decisive effect on epilepsy-related knowledge, attitudes, and self-management skills. Similarly, a study by Kayar and Şahin[35] reported that epilepsy knowledge and attitude scores were statistically significantly correlated with the level of education of individuals, with those with higher levels of education having more positive attitude scores. A study by Duran and Öz[33] emphasized that education plays an important role among the factors affecting epilepsy self-management and that individuals with higher levels of education have better self-management of epilepsy. The literature appears to support the results of this study in this respect.

It has been observed that, as income increases, individuals' knowledge of epilepsy and their attitudes toward epilepsy become more positive. Individuals with higher incomes had higher levels of epilepsy self-management than other income groups. The positive relationship between income level and epilepsy knowledge, attitudes, and self-management is frequently reported in the literature. Higher-income individuals are expected to have better access to health education and health services and generally have higher literacy and education levels, which, in turn, increase their ability to acquire accurate information about epilepsy, cope with stigma, and manage the disease. These relationships were supported by community-based and clinical studies conducted in various countries.[37,38] Income and socioeconomic status broaden social networks and employment opportunities, and strengthen

coping strategies against perceived stigma. Increased social support enhances patients' self-confidence and motivation for self-management.[39] This result, consistent with the literature, suggests that targeted education and improvements in access for low-income groups must be prioritized.

As individuals experience fewer seizures, their epilepsy-related knowledge and self-management levels appear to increase. This result may be explained by the fact that individuals who experience fewer seizures have a greater sense of self-efficacy in controlling their disease, and consequently, both their motivation to seek information and their adherence to treatment are higher. On the other hand, frequent seizures have been reported to lead to anxiety and hopelessness in individuals, causing feelings of loss of control over the disease and negatively affecting self-management.[40] These data indicate that the direction of the relationship between seizure frequency and self-management should be carefully evaluated. The decrease in seizure frequency may be a result of self-management behaviors, such as avoiding trigger factors and adhering to medication, or it may be related to the fact that individuals with better control of their epilepsy naturally experience fewer seizures and a lower treatment burden. Although high self-management is expected to result in fewer seizures, the findings do not demonstrate a causal relationship. Longitudinal studies are needed to clarify the direction of the relationship between these two variables.

As the number of medications used increases, individuals' epilepsy knowledge and self-management levels appear to decrease. T he use of multiple antiepileptic drugs (polytherapy), might be associated with increased drug burden, risk of side effects, drug interactions, and costs for patients. Multidrug regimens complicate treatment adherence, and poor medication adherence can lead patients to feel "out of control" and to withdraw from self-management behaviors. Both qualitative and quantitative studies have reported this association.[41-44] The relationship between the number of medications used and self-management should be carefully evaluated. The use of multiple medications may be necessary when the disease is more severe or more difficult to control. For this reason, these data indicate that the study does not establish causality, and longitudinal studies are needed to determine the directionality and possible mechanisms underlying the relationship between the variables.

Those who had read about epilepsy from any source had higher average scores on the Epilepsy Knowledge and Attitude Scale than those who had not read about epilepsy, which suggests that access to information about epilepsy and health literacy improves both knowledge and attitudes toward epilepsy. The literature has shown that actively acquiring information about epilepsy (reading, education, Internet research, reviewing brochures, and similar activities) significantly increases individuals' awareness of the disease, their ability to correct misconceptions, and their likelihood of developing positive attitudes.[45-47] Positive correlations are observed between individuals' knowledge, attitudes, and self-management status. This suggests that knowledge is related to both linear and behavioral outcomes. The moderate correlation obtained in the study suggests that knowledge alone is not sufficient to explain all changes, but it plays a significant and clinically important role in both the formation of positive attitudes and the adoption of self-management behaviors. This finding is consistent with previous studies.[30,48,49] While the positive relationship between individuals' attitudes regarding epilepsy and self-management was an expected result, individuals with positive attitudes are more likely to acquire and maintain self-management behaviors (such as medication management, seizure management, and avoidance of triggering factors). This correlational finding emphasizes that educational interventions supporting self-management must not only convey information but also target individuals' attitudes toward their illness.

Study Limitations

The present study, which focused on determining the relationship between knowledge and attitudes regarding illness and self-management among patients with epilepsy, was limited to individuals presenting to the neurology clinic of a hospital in a city in northeastern Türkiye. The study's single-center design and inclusion of only 111 individuals significantly limited its generalizability. Also, assessing individuals' knowledge, attitudes, and self-management levels by questionnaire could have influenced the generalizability of the results. The cross-sectional design of the study prevented causal inference. Variables such as seizure control status, drug resistance, psychiatric comorbidities, cognitive status, and side effects of antiepileptic drugs were not included in the study. The inability to comprehensively evaluate these variables in our study may limit the interpretation of the findings. Future studies that address these clinical characteristics in more detail will contribute to a deeper understanding of the factors influencing self-management and attitudes towards the disease in individuals with epilepsy.

The lack of homogeneity among participants with respect to epilepsy (i.e., syndrome and seizure frequency) limited the interpretation and generalizability of the results. In this context, despite sample heterogeneity, we believe that the study provides clinically significant and applicable findings regarding the relationship between disease knowledge and attitudes toward self-management among individuals with epilepsy. Future studies with more homogeneous samples (e.g., specific epilepsy syndromes or groups with similar seizure frequencies) are recommended to examine the relationship between disease knowledge and self-management in greater detail and to facilitate comparative analyses. In spite of these limitations, the study fills a gap in the literature and offers important insights into the impact of individuals' knowledge and attitudes about their illness on their self-management.

CONCLUSION

People with epilepsy demonstrated moderate levels of knowledge and attitudes regarding their illness; those with high levels of knowledge and attitudes also had high levels of epilepsy self-management. The study's results demonstrate that patients' knowledge levels play a significant role in both fostering positive attitudes and strengthening self-management. Social support must be strengthened through educational programs and counseling interventions for patients with epilepsy and their family members, empowering them to self-manage their illness more effectively. It is recommended that educational materials (simple brochures, social media content, infographics) be widely disseminated on epilepsy. Studies must also be conducted to identify groups who read less and lack access to information by addressing the "willingness to read/willingness to obtain information" questions during screenings of patients with epilepsy, and to develop targeted educational strategies.

Ethics

Ethics Committee Approval: Approval for the study was obtained from Trabzon University Social and Human Sciences Scientific Research and Publication Ethics Committee (approval no: 2025-3/2.15, date: 28.03.2025).

Informed Consent: Patients were informed prior to data collection, and their verbal and written consent was obtained.

Footnotes

Financial Disclosure: The author declared that this study received no financial support.

REFERENCES

1. Zack M, Kobau R. Letter re: prevalence and incidence of epilepsy: asystematic review and meta-analysis of international studies. *Neurology.* 2017;89(6):641. **[Crossref]**
2. Mula M, Sander JW. Psychosocial aspects of epilepsy: a wider approach. *BJPsych Open.* 2016;2(4):270-274. **[Crossref]**
3. Bilgen Sivri B, Özpulat F. Knowledge, attitudes and behaviors of the teachers teaching at primary schools about epilepsy. *Epilepsi*. 2013;19(2):71-78. **[Crossref]**
4. Etemadifar S, Heidari M, Jivad N, Masoudi R. Effects of family-centered empowerment intervention on stress, anxiety, and depression among family caregivers of patients with epilepsy. *Epilepsy Behav.* 2018;88:106-112. **[Crossref]**
5. Herrmann LK, Welter E, Berg AT, Perzynski AT, Van Doren JR, Sajatovic M. Epilepsy misconceptions and stigma reduction: current status in Western countries. *Epilepsy Behav.* 2016;60:165-173. **[Crossref]**
6. Tan M, Kavurmaci M. Complementary and alternative medicine use in Turkish patients with epilepsy. *Altern Ther Health Med.* 2021;27(4):19-23. **[Crossref]**
7. Şahin Z, Parlak AG, Aydın Ş. Attitudes towards epilepsy patients and opinion on stigma for epilepsy among university students. *J Samsun Health Sci*. 2022;7(3):731-742. **[Crossref]**
8. Jacoby A. Stigma, epilepsy, and quality of life. *Epilepsy Behav*. 2002;3(6S2):10-20. **[Crossref]**
9. Kiyak E, Dayapoglu N. An evaluation of knowledge and attitudes toward epilepsy in Eastern Turkey. *Epilepsy Behav.* 2017;75:241-245. **[Crossref]**
10. DiIorio C, Osborne Shafer P, Letz R, Henry T, Schomer DL, Yeager K; Project EASE Study Group. The association of stigma with self-management and perceptions of health care among adults with epilepsy. *Epilepsy Behav.* 2003;4(3):259-267. **[Crossref]**
11. Kaculini CM, Tate-Looney AJ, Seifi A. The history of epilepsy: from ancient mystery to modern misconception. *Cureus*. 2021;13(3):e13953. **[Crossref]**
12. Rougier C, Gushue GV. Cultural values, religiosity, and spirituality as predictors of professional psychological help-seeking behavior of Black adults in the United States. Doctoral dissertation. Columbia University; 2011. ProQuest Dissertations & Theses; No. 3478897. **[Crossref]**
13. Devinsky O, Lai G. Spirituality and religion in epilepsy. *Epilepsy Behav.* 2008;12(4):636-643. **[Crossref]**
14. Atadzhanov M, Chomba E, Haworth A, Mbewe E, Birbeck GL. Knowledge, attitudes, behaviors, and practices regarding epilepsy among Zambian clerics. *Epilepsy Behav.* 2006;9(1):83-88. **[Crossref]**
15. Tutar Güven Ş, Işler A. Validity and reliability of the seizure self-efficacy scale for children with epilepsy. *Noro Psikiyatr Ars*. 2015;52(1):47-53. **[Crossref]**
16. Adadıoğlu Ö, Oğuz S. Epilepsy and self-management. *Epilepsi.* 2016;22(1):1-4. **[Crossref]**
17. Whatley AD, DiIorio CK, Yeager K. Examining the relationships of depressive symptoms, stigma, social support and regimen-specific support on quality of life in adult patients with epilepsy. *Health Educ Res.* 2010;25(4):575-584. **[Crossref]**
18. Fraser RT, Johnson EK, Miller JW, et al. Managing epilepsy well: self-management needs assessment. *Epilepsy Behav.* 2011;20(2):291-298. **[Crossref]**
19. McLaughlin DP, Pachana NA, McFarland K. Stigma, seizure frequency and quality of life: the impact of epilepsy in late adulthood. *Seizure.* 2008;17(3):281-287. **[Crossref]**
20. Johnson EK, Fraser RT, Miller JW, et al. A comparison of epilepsy self-management needs: provider and patient perspectives. *Epilepsy Behav.* 2012;25(2):150-155. **[Crossref]**
21. Walker SP, Permezel M, Berkovic SF. The management of epilepsy in pregnancy. *BJOG*. 2009;116(6):758-767. **[Crossref]**
22. Grady PA, Gough LL. Self-management: a comprehensive approach to management of chronic conditions. *Am J Public Health.* 2014;104(8):e25-e31. **[Crossref]**
23. Yeni K, Tülek Z, Bebek N. Validity and reliability study of epilepsy self-management scale. *Epilepsi.* 2020;26(1):12-19. **[Crossref]**
24. Dayapoğlu N, Tan M. Clinical nurses' knowledge and attitudes toward patients with epilepsy. *Epilepsy Behav.* 2016;61:206-209. **[Crossref]**
25. Yıldız E, Saraç E. Investigation of knowledge and attitudes of military nurses about epilepsy. *Epilepsy Behav.* 2020;102:106680. **[Crossref]**
26. Bingöl N, Yıldız E, Yağcı Karamanlı, Üstündağ Ş. Investigation of nurses' fatalist beliefs in health and attitudes towards epilepsy. *Lokman Hekim J.* 2024;14(3):638-646. **[Crossref]**
27. Aydemir N, Ünsal P, Özkara Ç. Level of knowledge about and attitude toward, and sources of information about epilepsy. *Epilepsi.* 2011;17(3):90-96. **[Crossref]**
28. Aydemir N. Developing two different measures for assessing knowledge of and attitudes toward epilepsy for the Turkish population. *Epilepsy Behav*. 2008;12(1):84-89. **[Crossref]**
29. Hair JF, Black WC, Babin BJ, Anderson RE. Multivariate data analysis [Internet]. 7th ed. Harlow (UK): Pearson Education Limited; 2013. **[Crossref]**
30. Erkal E. The relationship between attitudes toward epilepsy and health literacy in Turkey: the mediating role of epilepsy knowledge. *Seizure.* 2025;125:186-191. **[Crossref]**
31. Şahin Yıldız Y, Kasapoğlu ES, Dülger H. An evaluation of the knowledge and attitudes that health care services department students have about epilepsy. *Epilepsy Behav.* 2022;134:108840. **[Crossref]**
32. Gündüz Oruç F, Atan G. The effect of epilepsy awareness on attitudes toward individuals with epilepsy in Turkish society: a case study from Northern Turkey. *Epilepsia Open.* 2025;10(4):1167-1175. **[Crossref]**
33. Duran S, Öz YC. Self-management, spousal support, and related factors among individuals diagnosed with epilepsy. *Arch Epilepsy.* 2024;30(3):78-83. **[Crossref]**
34. Tian W, Yin X, Pan W, et al. Factors influencing self-management in patients with epilepsy: a systematic review and meta-analysis. *BMC Nurs*. 2025;24(1):447. **[Crossref]**
35. Kayar V, Şahin MK. Adults' knowledge levels of and attitudes toward epilepsy: a cross-sectional study in Samsun, Türkiye. *Neurology Asia.* 2024;29(1):87-96. **[Crossref]**
36. Ghearing GR, Briggs F, Cassidy K, et al. A randomized controlled trial of self-management for people with epilepsy and a history of negative health events (SMART) targeting rural and underserved people with epilepsy: a methodologic report. *Trials.* 2021;22:821. **[Crossref]**
37. Wubetu AD, Admasu Basha E, Alemnew Engidaw N. Public knowledge and attitude towards epilepsy and its associated factors: community-based cross-sectional study, Ethiopia, 2019. *J Environ Public Health.* 2020;2020:6801979. **[Crossref]**
38. Shawahna R. Epilepsy knowledge and attitudes: a large observational study among the Palestinian general public. *Heliyon.* 2023;10:e23707. **[Crossref]**
39. Hohmann L, Berger J, Kastell SU, Holtkamp M. Perceived epilepsy-related stigma is linked to the socioeconomic status of the residence. *Front Public Health.* 2022;10:952585. **[Crossref]**
40. Helmers SL, Kobau R, Sajatovic M, et al.; Centers for Disease Control and Prevention Managing Epilepsy Well Network. Self-management in

epilepsy: why and how you should incorporate self-management in your practice. *Epilepsy Behav.* 2017;68:220-224. **[Crossref]**

41. Mohammed H, Lemnuro K, Mekonnen T, Melaku T. Adherence to anti-seizure medications and associated factors among children with epilepsy at tertiary Hospital in Southwest Ethiopia: a cross-sectional study. *BMC Neurol.* 2022;22(1):310. **[Crossref]**
42. Samanta D, Elumalai V, Leigh Hoyt M, Modi AC, Sajatovic M. A qualitative study of epilepsy self-management barriers and facilitators in Black children and caregivers in Arkansas. *Epilepsy Behav.* 2022;126:108491. **[Crossref]**
43. Babaei K, Khatiban M, Khazaei M, Tapak L, Shamsaei F. Self-management and its predictors in adult patients with epilepsy: a cross-sectional study. *Ethiop J Health Sci.* 2023;33(3):507-514. **[Crossref]**
44. Lozano-García A, González-Bono E, Cano-López I. Impact of interaction among antiseizure medication polytherapy, clinical, sociodemographic and psychological factors on quality of life in patients with epilepsy: a systematic review. *Epilepsy Behav.* 2025;162:110170. **[Crossref]**
45. Negussie AS, Dehan MF, Mekonnen SA, Zelleke TG. Knowledge, attitudes, and practices of caregivers with children diagnosed with epilepsy attending a pediatric outpatient clinic: a descriptive, cross-sectional, questionnaire-based study in Addis Ababa, Ethiopia. *BMC Neurol.* 2024;24(1):252. **[Crossref]**
46. Shihata SS, Abdullah TS, Alfaidi AM, et al. Knowledge, perception and attitudes toward epilepsy among medical students at King Abdulaziz University. *SAGE Open Med.* 2021;9:2050312121991248. **[Crossref]**
47. Ndou AE, Makhado L, Netshisaulu OP. Assessing knowledge, attitudes, and misconceptions about epilepsy among University of Venda students: a call for enhanced education and awareness. *Epilepsy Behav Rep.* 2025;32:100807. **[Crossref]**
48. Abuhamdah SMA, Naser AY, Abualshaar MAR. Knowledge of and attitude towards epilepsy among the Jordanian community. *Healthcare (Basel).* 2022;10(8):1567. **[Crossref]**
49. İlgezdi Kaya İ, Çavuşoğlu A, Elmalı AD, Bebek N. The impact of epilepsy education on knowledge, self-management, and stigma in individuals with epilepsy. *J Neurosci Nurs*. 2025;57(4):158-164. **[Crossref]**