



# An evaluation of knowledge and attitudes toward epilepsy in Eastern Turkey



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## ABSTRACT

**Purpose:** This study was designed to determine the knowledge and attitudes regarding epilepsy among individuals in eastern Turkey.

**Method:** This descriptive study involved 530 healthy individuals who came to the Research and Application Hospital of Ataturk University in Erzurum, Turkey. A questionnaire and the epilepsy knowledge and attitude scale were administered to collect data. Mann–Whitney *U*, Kruskal–Wallis, and Spearman's correlation tests were used to analyze the data.

**Results:** The participants' epilepsy knowledge mean score was 6.34 (SD = 3.71), and their attitude mean score was 50.22 (SD = 11.17). There was a positive ( $r = 0.404$ ) correlation between the knowledge and the attitude scores ( $p < 0.001$ ), and negative correlations between age and the knowledge ( $p = 0.036$ ) and the attitude scores ( $p < 0.001$ ). The mean knowledge and attitude scores were higher for the participants who were high school and university graduates, had expenses equal to income, and lived in nuclear families and in the city center ( $p < 0.001$ ). Civil servants and housewives had significantly higher mean knowledge scores, and students had significantly higher mean attitude scores ( $p < 0.001$ ). Significantly higher knowledge and attitude mean scores were also found for those who knew patients with epilepsy, had witnessed epileptic seizures, obtained information from healthcare personnel, and did not believe that epilepsy was associated with religion ( $p < 0.001$ ).

**Conclusions:** The study participants had low knowledge about epilepsy but displayed positive attitudes toward it. Higher knowledge positively affected attitude, and younger individuals had greater knowledge and, thus, more positive attitudes. Women, civil servants, and housewives had higher knowledge, whereas singles and students had better attitudes. The participants who had high educational levels and expenses equal to income and lived in nuclear families and the city center had more knowledge and displayed more positive attitudes. Greater knowledge and more positive attitudes were also found among the participants who knew patients with epilepsy, had witnessed epileptic seizures, obtained the information from healthcare personnel, and did not believe that epilepsy was associated with religion.

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## 1. Introduction

Epilepsy is the second most common chronic neurological disease globally, after stroke. Due to the threatening characteristics of the condition, such as its uncertain nature, the repetition of seizures, and the fear of social exclusion, individuals with epilepsy experience many psychosocial problems [1,2]. Repeated seizures can prevent patients from pursuing their education and career and establishing and developing marriage and social relations [3]. These problems negatively affect quality of life, causing anxiety, depression, and low self-esteem [1,2]. Inadequate knowledge and insufficient professional support are common challenges to those with epilepsy [4]. The key to successful coping with this lifelong illness is that the patient, the patient's relatives, and society know the characteristics of the disease well [5].

In almost all countries throughout the world, epilepsy appears to be interpreted with mystical concepts rather than to be understood as an illness [6–9]. In response, the Global Enlightenment in Epilepsy campaign was launched by the World Health Organization, International League against Epilepsy, and International Bureau for Epilepsy to increase professional awareness that epilepsy is a universal, treatable brain disease and to encourage governments to introduce the needs of individuals with epilepsy to the national and regional agenda of public opinion [10,11]. Attitudes, such as social prejudice, social stigma, and discrimination, cause serious harm to individuals with epilepsy [12,13]. Due to these negative attitudes, patients may avoid social situations [8,14]. Assessing community views regarding epilepsy will increase opportunities for those with the disease to fully participate in their communities and will improve their status and ability to function in society [15].

A limited number of studies have evaluated knowledge and attitudes regarding epilepsy in several regions in Turkey, but none have

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investigated eastern Turkey. Therefore, this study was designed to describe the knowledge and attitudes regarding epilepsy among individuals in eastern Turkey.

## 2. Materials and methods

### 2.1. Study design and sample

This descriptive study was conducted with 530 healthy individuals who came to Atatürk University's Research and Application Hospital in Erzurum Province from October 31, 2016, to January 10, 2017. This hospital is the largest in the Eastern Anatolia Region, so the patients and healthy individuals at the hospital were from many cities throughout the region. Relatives or close friends accompanied most patients seeking care at the hospital. Healthy individuals older than 18 years who had had no illnesses and accompanied patients to outpatient clinics were invited to participate in the study. Data were collected through face-to-face interviews with patients' relatives waiting in line at all the hospital's outpatient clinics, except for pediatric outpatient clinics. The target study population was not clear, so the minimum sample size was calculated to be 384 using the sample-selection method formula [ $n = t^2 \cdot p \cdot q/d^2$ ],  $t$ : table  $t$  value = 1.96,  $p$ : prevalence = 0.5,  $q = 1 - p$ ,  $d$ : significance level = 0.05] with unknown populations. It was planned to include replacements of 40% (538), but the study was completed with 530 participants because eight patients were excluded for various reasons.

### 2.2. Data collection

A questionnaire and the epilepsy knowledge and attitude scale were used to collect data.

#### 2.2.1. Questionnaire

The questionnaire consisted of 13 questions covering the participants' age, gender, marital status, educational level, income status, family type, occupation, and location of residence. The participants were also asked whether they knew patients with epilepsy, had seen epileptic seizures, had knowledge of epilepsy, and believed that epilepsy was associated with religion. They were also asked to share their information sources.

#### 2.2.2. Epilepsy knowledge scale

The epilepsy information scale was developed to measure knowledge of epilepsy in the Turkish population [16]. The scale consisted of 16 questions using a Likert-type scale (1 = "right", 0 = "wrong", and "I do not know"). The total score for the scale ranged from 0 to 16, and higher scores indicated higher epilepsy knowledge. In this study, the Cronbach's alpha of the scale was found to be 0.798.

#### 2.2.3. Epilepsy attitude scale

This scale was developed to describe attitudes toward epilepsy in Turkish society and consisted of 14 questions ranked on a five-point Likert-type scale (1 = "I strongly disagree", 2 = "I disagree", 3 = "no idea", 4 = "I agree", 5 = "I strongly agree"). The total score for the scale ranged from 14 to 70, and higher scores indicated more positive attitudes toward epilepsy [16]. In this study, the scale had a Cronbach's alpha value of 0.843.

### 2.3. Data analysis

The study data were analyzed by using the SPSS 16.5 program. Nonparametric tests were used because the scores for the epilepsy knowledge and attitude scale did not have a normal distribution. Mann-Whitney  $U$  test was performed to compare binary variables (e.g., gender, marital status, family type) with epilepsy knowledge and attitude scores. Kruskal-Wallis test was used to compare the

epilepsy knowledge and attitude scale scores with multiple variables (e.g., educational level, income status, occupation). The scores of the epilepsy knowledge and attitude scales and the correlations between age and the scale scores were assessed with Spearman's correlation tests.

### 2.4. Ethical issues

Before the study was conducted, approval was received from the Ethics Committee of Atatürk University Health Sciences Faculty (No: 2016/10/01). The participants were informed about the study, and their verbal consent was obtained.

## 3. Results

### 3.1. Participants' characteristics

The participants' age ranged from 18 to 69, with an average of 33.49 years ( $SD = 12.83$ ). Of the participants, 54.9% were female, 59.1% were single, 41.9% were high school graduates, 45.7% had expenses equal to income, 76% had nuclear families, 62.6% lived in the city center, and 35.1% were civil servants. As well, 31.5% knew a person with epilepsy, 46.8% had seen epileptic seizures, 28.5% had no knowledge about epilepsy, and 24.3% had knowledge of epilepsy which they gained from the people close to them. Regarding religion, 8.1% of the participants believed that epilepsy was associated with religion, 41.9% were undecided, and 50% did not believe that epilepsy was associated with religion (Table 1).

### 3.2. Participants' epilepsy knowledge scores and associated factors

The participants' epilepsy knowledge scores ranged from 0 to 14, with a mean of 6.34 ( $SD = 3.71$ ). The female participants had a significantly higher epilepsy knowledge mean score than male participants ( $p = 0.020$ ). There was no significant difference in the participants' knowledge mean scores by marital status ( $p = 0.668$ ), but there was by educational level ( $p < 0.001$ ). The advanced statistics analysis showed that high school and university graduates had higher knowledge mean scores than literate participants. The advanced statistics analysis also showed significant differences in the participants' knowledge mean scores by income; those who had income equal to expenses had higher scores than those with low income ( $p < 0.001$ ).

The knowledge mean score of the participants living in nuclear families was significantly higher than those living in extended families ( $p < 0.001$ ). The difference between the participants' knowledge mean scores by location of residence was statistically significant ( $p < 0.001$ ). The advanced statistical analysis showed that those living in the city center had higher mean scores than those living in the districts and villages.

In addition, the difference in the participants' knowledge mean scores by profession was statistically significant ( $p < 0.001$ ). The advanced statistical analysis determined that civil servants and housewives had higher mean scores than farmers, and than retired and unemployed people. The participants who knew those with epilepsy had higher knowledge mean scores than those who did not ( $p < 0.001$ ). Similarly, those who had seen epileptic seizures had higher knowledge mean scores than those who had not ( $p < 0.001$ ).

The advanced analysis indicated significant differences in knowledge mean scores by information source. The participants who obtained information from healthcare personnel had higher mean scores than those who obtained information from newspapers/magazines, the Internet, television, or people close to them ( $p < 0.001$ ).

A statistically significant difference in knowledge mean scores based on the belief that epilepsy was associated with religion was found ( $p < 0.001$ ). In the advanced statistical analysis, the participants who did not believe that epilepsy was associated with religion had

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