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journal homepage: www.elsevier.com/locate/seizureBeliefs and behaviors of patients' relatives towards childhood epilepsy in Turkey[☆]Selda Okuyaz^{a,*}, Rojan İpek^b, Oya Ögenler^a, Didem Dericı Yıldırım^c, Çetin Okuyaz^d^a Department of Medical History and Ethics, Faculty of Medicine, Mersin University, Mersin, Turkey^b Department of Pediatric Neurology, Adyaman University Training and Research Hospital, Adyaman, Turkey^c Department of Biostatistics and Medical Informatics, Faculty of Medicine, Mersin University, Mersin, Turkey^d Department of Pediatric Neurology, Faculty of Medicine, Mersin University, Mersin, Turkey

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ABSTRACT

Background/Aim: Beliefs about health-related problems throughout history are conveyed differently. Unsafe practices based on the superstitious beliefs of patients' relatives in situations requiring emergency medical attention, such as childhood epilepsy, or in the treatment of chronic diseases may be harmful to children's health. Our study aims to determine the superstitious beliefs, attitudes, and behaviours of the relatives of children with epilepsy.

Methods: A total of 252 relatives of patients diagnosed with childhood epilepsy were included in this cross-sectional study conducted between 15 September and 15 October 2019. The data collection form contained questions about the sociodemographic information of the participants and their beliefs and behaviours towards the disease.

The frequency (percentage) and mean were used to summarise the data obtained through the application of the questionnaire, and Student's *t*-test and correlation methods were used for group comparisons; $p < 0.05$ was considered statistically significant.

Results: In the study, 77.0% of the participants were women, 77.4% were mothers, 43.3% were primary school graduates, 71.8% were unemployed, 77.7% had a low income, 52% lived within a distance of less than 1 km, and 157 of them used folk medicine. There was no relationship between education, income, distance from health institutions, occupation, use of traditional methods, and superstitions. A relationship was found between the relatives of patients with resistant epilepsy who stated that the cause of the disease was superstition ($p = 0.036$). There was also a correlation between the use of traditional methods ($p = 0.006$), presence of resistant epilepsy, indication of the cause of the disease as superstition ($p = 0.004$), and use of traditional methods ($p = 0.005$).

Conclusion: Our study shows that approximately four-fifths of the participants had superstitious beliefs about epilepsy and exhibited attitudes and behaviours suggestive of neglect that are unsafe for children. Whilst the individual characteristics of the participants did not affect negative attitudes and behaviours, the presence of resistant epilepsy in their children increased the negative attitude tendency.

1. Introduction

Throughout history, people have tried to find various solutions to health problems within their own beliefs, traditions, values, and geographical characteristics. In addition, the existing practices, knowledge, and experiences used to protect against and treat various diseases continue to be applied to the present day [1–4]. The information pertaining to solutions to problems transmitted orally or in writing in the

historical process can be evaluated as medical, religious, traditional, or superstitious beliefs [5]. This information continues to be used across generations because it is believed to be effective in medical conditions despite its accuracy or precision not being scientifically proven. Based on such information, related methods generally show continuity in local settings [6]. In Turkey, several studies have investigated the unsafe use of traditional medicine in patients with epilepsy [7–9]. In particular, the fear of losing loved ones, financial or moral suffering, and failure to meet

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expectations can pave the way for practices that are based on beliefs [10].

Survival takes effort, and people who are dependent on others need to be cared for from the moment they are born until they reach adulthood. Raising healthy individuals is one of the most important duties of parents [11]. When a child becomes ill, many factors, such as the parents' values and sociocultural structure, play an active role in the diagnosis and treatment process. When treating patients who are children under a holistic approach, physicians must have general knowledge of the characteristics of the parents [12–19]. There are approximately 50 million patients with epilepsy globally, and four-fifths of them live in low- and middle-income countries [20]. Three-quarters of the patients in low-income countries lack access to the treatment they need. Of the estimated 750,000 patients in Turkey, 400,000 have childhood epilepsy [9, 20]. The WHO Health Organization (WHO) suggests that 70% of patients with epilepsy can become seizure-free with appropriate anti-seizure medications. The WHO's prevention strategies include plans to educate healthcare providers to reduce the treatment gap and morbidity of patients with epilepsy [20].

In this context, this study aims to determine the beliefs, attitudes, and behaviours of the relatives of patients with epilepsy visiting a paediatric neurology outpatient clinic.

2. Methods

Mersin, where the study was carried out, is a port city in southern Turkey. It ranks 24th amongst the 81 provinces in Turkey in terms of socioeconomic development, and it is thus regarded to belong to the middle-upper segment. In terms of the provision of health services, Mersin has 24 hospitals, 12 of which are state hospitals, 1 is a university hospital, and 11 are private hospitals; the number of patients per doctor is 513 [21].

A total of 19,567 patients visited the paediatric neurology outpatient clinic of the Mersin University Faculty of Medicine in 2019. In the same year, 9611 patients were diagnosed with childhood epilepsy.

This cross-sectional study was conducted at the paediatric neurology outpatient clinic of the Mersin University Faculty of Medicine between 15 September 2019 and 15 December 2019. It was carried out through one-to-one interviews with the relatives of the patients diagnosed with epilepsy who agreed to participate in the study. Before starting the survey, the participants were informed of the survey, their consent was obtained, and they were told that they could refuse to answer the questions at any time. The researchers developed the questions in the data collection form by scanning the literature [13, 14]. The survey was conducted in three steps. In the first part, there were seven questions pertaining to the participants' sociodemographic information (age, gender, education, profession, income status, and distance of residence to the health institution). In the second part, there were seven questions about the patients' medical history (age, age at first seizure, number of years living with epilepsy, frequency of seizures/attacks, drug use, resistance to treatment, and additional disease status). In the third part, there were seven questions about beliefs and practices (what they did in the first intervention in the patient's first seizure; whether the participants used traditional methods, such as putting something in the patient's mouth, slapping, pinching, sniffing onions or insufflating, visiting shrines, pouring lead, eating recited food, wearing amulets, and making vows stated by the participants; and beliefs about the cause of the disease) [19, 22]. The survey comprised 21 questions in total.

2.1. Ethical issues

Ethics committee approval for the study was obtained from Mersin University Social and Human Sciences Ethics Committee on 31 July 2019 (decision number 024). The participants were informed following the Declaration of Helsinki standards, and their consent was obtained. Before the survey was administered to the participants, necessary

information about the study was provided, and permission was obtained to use their views on childhood epilepsy. They were also informed that they were free to refuse to answer any of the questions.

Grouping was performed according to the participants' answers to the questions on the data form. The data were grouped according to what they did in the first intervention in the patients' first seizure, whether they observed traditional practices for the patients, what they attributed to the patients' illness, and whether they had any traditional practices for them. These data were evaluated in comparison with the sociodemographic and medical information of the participants. In this study, statements pertaining to actions that are likely to harm a child were considered non-contemporary practice. Practices such as amulet wearing, insufflation, shrine visits, lead pouring, consumption of recite food, and statement of vows by the participants were considered beliefs. In modern practice, a child with seizures is transported to a health institution where they should receive first aid treatment. Other treatment methods were evaluated as unsafe folkloric- or belief-based applications. To determine the economic status of the participants, they were asked about their minimum wage, which refers to the lowest wage to be paid to an employee, as a determining factor whilst the distance to any health institution was regarded as a feature of rural areas [23].

The data obtained in this study were analysed by transferring them to a computer. The analyses was performed using the STATISTICA version 13.3 software (TIBCO Software Inc. CA, USA) [24]. Frequency (percentage) and mean \pm standard deviation were used to summarise the data, and the chi-square test was used to examine the relationships between categorical variables. A binary ratio comparison was made for R \times C tables with a significant relationship, and $p < 0.05$ was considered statistically significant.

3. Results

Of the 252 relatives of patients diagnosed with epilepsy who participated in this study, 194 (77.0%) were women whilst 58 (23.0%) were men. The sociodemographic characteristics of the participants are presented in Table 1. The mean age of the participants was 37 ± 7.88 (21–75).

When the participants' beliefs about the cause of the disease were questioned, 121 (48.0%) reported having beliefs, 99 (39.3%) had contemporary thoughts, 12 (4.8%) had both contemporary thoughts and beliefs, and 19 (7.5%) had no idea. A total of 43 (17.1%) participants stated that they practiced various folk methods and beliefs (Table 1).

There was no significant relationship between the participants' gender, education, profession, income status, distance of residence to the health institution, their beliefs as a cause of illness, whether they made any intervention in the first seizure, and the practice of folk methods and beliefs for themselves and their patients ($p > 0.05$) (Table 1). There were 28 paediatric patients who were not taken to the hospital by their parents during the first intervention. All 10 children who suffered epileptic seizures at school or in a teacher's presence were transferred to a health institution.

The participants stated that they performed the following during their patients' seizure: held water/poured water/poured water on the face (21 participants, 47.7%), attempted to open the contraction (19 participants, 43.1%), put something in the patient's mouth (16 participants, 36.3%), had the patient sniff cologne (2 participants, 4.0%), tried to stick out the patient's tongue (9 participants, 20.4%), positioned the patient on his/her side (5 participants, 11.3%), shook the patient (5 participants, 11.3%), had the patient sniff onions (4 participants, 09%), and slapped the patient (4 participants, 0.9%). Of the participants, 157 (62.3%) stated that they practiced various folk methods or beliefs for their patients. When the participants' folk methods of treatment were ranked from highest to lowest, 57 (36.3%) of the participants used amulets; 55 (35.0%) made vows; 55 (35.0%) practiced insufflation; 30 (19.1%) relied on the consumption of received food; 30 (19.1%) visited a shrine; 25 (15.9%) used lead pouring, 12 (7.6%) practiced reading

Table 1
Participants' use of traditional methods for themselves and their patients, their beliefs about the cause of the disease, and their first intervention.

Demographic Information		N(%)	Traditional method use			Traditional method use by parents for themselves			Hospitalization at first seizure			Beliefs about the cause of epilepsy				
			Yes	No	p-value	Yes (n-%)	No (n-%)	p-value	Yes	No	p-value	No idea (n-%)	Contemporary (n-%)	Belief (n-%)	Contemporary + Belief (n-%)	p-value
Gender	Female	194 (77.4)	124 (79.0)	70 (73.7)	0.357	34 (79.1)	160 (76.6)	0.843	172 (76.8)	22 (78.6)	1.000	14 (73.7)	78 (78.8)	92 (76.0)	10 (83.3)	0.905
	Male	58 (23.4)	33 (21.0)	25 (26.3)		9 (20.9)	49 (23.4)		52 (23.2)	6 (21.4)		5 (26.3)	21 (21.2)	29 (24.0)	2 (16.7)	
Education Status	Literate	38 (15.0)	25 (15.9)	13 (13.7)	0.708	8 (18.6)	30 (14.4)	0.304	36 (16.1)	2(7.1)	0.056	3 (15.8)	15 (15.2)	18 (14.9)	2 (16.7)	0.751
	Primary School	109 (43.3)	71 (45.2)	38 (40.0)		18 (41.9)	91 (43.5)		98 (43.8)	11 (39.3)		10 (52.6)	44 (44.4)	49 (40.5)	5 (41.7)	
	Secondary School	52 (22.6)	31 (19.7)	21 (22.1)		12 (27.9)	40 (19.1)		48 (21.4)	4 (14.3)		3 (15.8)	14 (14.1)	32 (26.4)	3 (25.0)	
	High School	42 (16.7)	25 (15.9)	17 (17.9)		5 (11.6)	37 (17.7)		35 (15.6)	7 (25.0)		2 (10.5)	21 (21.2)	17 (14.0)	2 (16.7)	
	University	11 (4.4)	5 (3.2)	6 (6.3)		0 (0.0)	11 (5.3)		7(3.1)	4 (14.3)		1 (5.3)	5 (5.1)	5 (4.1)	0 (0.0)	
Working Status	Working	71 (28.2)	40 (25.5)	31 (32.6)	0.249	10 (23.3)	61 (29.2)	0.464	61 (27.2)	10 (35.7)	0.375	6(31.6)	28(28.3)	34(28.1)	2(16.7)	0.834
	Not working	181 (71.8)	117 (74.5)	64 (67.4)		33 (76.7)	148 (70.8)		163 (72.8)	18 (64.3)		13(68.4)	71(71.7)	87(71.9)	10(83.3)	
Income Status*	Less than 1600	76 (30.2)	47 (29.9)	29 (30.5)	0.322	17 (39.5)	59 (28.2)	0.472	69 (30.8)	7 (25.0)	0.495	5 (26.3)	32 (32.3)	36 (29.8)	3 (25.0)	0.180
	1600–2000	120 (47.6)	78 (49.7)	42 (44.2)		19 (44.2)	101 (48.3)		106 (47.3)	14 (50.0)		6 (31.6)	43 (43.4)	66 (54.5)	5 (41.7)	
	2000–5000	53 (21.1)	29 (18.5)	24 (25.3)		7 (16.3)	46 (22.0)		47 (21.0)	6 (21.4)		7 (36.8)	23 (23.2)	18 (14.9)	4 (33.3)	
	>5000	3 (1.2)	3 (1.9)	0 (0.0)		0 (0.0)	3 (1.4)		2(0.9)	1(3.6)		1 (5.3)	1 (1.0)	1 (0.8)	0 (0.0)	
	<1 km	131 (52.0)	78 (49.7)	53 (55.8)	0.400	23 (53.5)	108 (51.7)	0.552	122 (54.5)	9 (32.1)	0.072	12 (63.2)	53 (53.5)	60 (49.6)	6 (50.0)	0.801
Distance to health institution	1–5 km	68 (27.0)	47 (29.9)	21 (22.1)		9 (20.9)	59 (28.2)		58 (25.9)	10 (35.7)		3 (15.8)	27 (27.3)	35 (28.9)	2 (16.7)	
	>5 km	53 (21.0)	32 (20.4)	21 (22.1)		11 (25.6)	42 (20.1)		44 (19.6)	9 (32.1)		4 (21.1)	19 (19.2)	26 (21.5)	4 (33.3)	
	Resistant Epilepsy	Yes	85 (33.7)	63 (40.1)	22 (23.2)	0.006	13 (30.2)	72 (34.4)	0.603	74 (33.0)	11 (39.3)	0.529	2 (10.5)	39 (39.4)	38 (31.4)	6 (50.0)
	No	167 (66.3)	94 (59.9)	73 (76.8)		30 (69.8)	137 (65.6)		150 (67.0)	17 (60.7)		17 (89.5)	60 (60.6)	83 (68.6)	6 (50.0)	

prayers; and 1 person each practiced distributing biscuits, reading the Qur'an, fasting, and writing on an iron plate. Of the participants who used such methods, 98 (62.4%) used more than one folk method. The distributions of the methods used are presented in Table 2. The medical treatment of the children of all the participants who used or did not use the methods continued under the supervision of a doctor.

A correlation was found between the participants' use of folk methods and the presence of children's resistant epilepsy ($p = 0.006$), those who stated the cause of the disease as belief ($p = 0.004$), and their own folk method use ($p = 0.005$) (Table 3).

The chi-square test was used to detect the relationship between the categorical variables (or Fisher's exact test for small sample sizes). If there was a significant relationship between groups, differences in ratios were considered significant for some or all of the group ratios. The Z-test was used for two-ratio comparisons.

The ratio of contemporary thinkers was significantly higher than that of those who did not use folk methods ($p = 0.008$). The proportion of those who had faith was higher than the proportion of those who used traditional methods ($p = 0.007$). There were no statistically significant differences amongst the other groups ($p > 0.05$).

Table 2
Distribution of the methods used.

Reason for Intervention	Method	One Methodn (%)	Used with more than one method × n (%)	Total n (%)
Methods used to treat the disease	Amulet	5(3.1)	52(33.1)	57 (36.3)
	Insufflation	5(3.1)	50(31.8)	55 (35.0)
	Shrine visit	4(2.5)	26(16.5)	30 (19.1)
	Pouring lead	3(1.9)	22(14.0)	25 (15.9)
	Recited food	3(1.9)	27(17.1)	30 (19.1)
	Making vows	26(16.5)	29(18.4)	55 (35.0)
	Praying	5(3.1)	7(4.4)	12 (7.6)
	Writing on iron plate	1(0.6)	–	1(0.6)
	Reading the Quran	–	1(0.06)	1(0.6)
	Distributing biscuits at school	–	1(0.6)	1(0.6)
Method used in the first epileptic seizure	Fasting	–	1(0.6)	1(0.6)
	Total folkloric intervention			
	Onion sniffing	1(2.2)	3(6.8)	4(9.0)
	Slapping	1(2.2)	3(6.8)	4 (9.0)
	Trying to open the contraction	12(27.2)	7(15.9)	19 (43.1)
	Put something in mouth	12(27.2)	4(9.0)	16 (36.3)
	Holding water/pouring water/pouring water on the face	2(4.5)	19(43.1)	21 (47.7)
	Sniffing cologne	1(2.2)	1(2.2)	2(4.5)
	Trying to stick out the tongue	–	9(20.4)	9 (20.4)
	Laying on side	2(4.5)	3(6.8)	5 (11.3)
	Shaking	1(2.2)	4(9.0)	5 (11.3)
Total folkloric intervention				

*Percentages were calculated according to the total folkloric intervention.

Table 3
Distribution of parents' use of traditional methods.

Demographic Information		Use of folk method		p-value
		Yes	No	
Resistant Epilepsy	Yes	63 (40.4)	22 (23,1)	0.006
	No	94 (59.8)	73 (76.8)	
Cause of illness	No idea (n-%)	9 (5.8)	10 (10.5)	0.004
	Contemporary-minded (n-%)	51 (32.7)	48 (50.5)	
	Have belief (n-%)	86 (55.1)	35 (36.8)	
	Contemporary thought and belief together (n-%)	10 (6.4)	2 (2.1)	
The parent uses a traditional method for himself/herself	No (n-%)	122 (77.7)	87 (91,5)	0.005
	Yes (n-%)	35 (22.2)	8 (8.4)	

4. Discussion

Our study determined that more than half of the patients' relatives who visited the paediatric neurology outpatient clinic of the Mersin University Faculty of Medicine had their own attitudes and behaviours, including folk methods, towards the treatment of epilepsy. Approximately one-fifth of them used folk methods during their patients' seizure, and this situation was not affected by sociodemographic variables. In addition, folk medicine practices were found to increase in the presence of resistant epilepsy. The data obtained in this study are generally similar to those in the literature on beliefs [8,9,25-33]. The practices stated by the participants, such as slapping, sniffing onions or insufflation, shrine visits, lead pouring, consumption of recited food, and making vows, prevent the practice of evidence-based medicine. As indicated in our study and in studies conducted in different regions and times in Turkey, some or all of the practices, such as sniffing onions, garlic, and cologne; sprinkling water on the face or body; attempting to open the patient's mouth; slapping; trying to open their contractions; and shaking, were performed during an epileptic seizure. The rates of applications varied; moreover, there are many different applications, such as screaming and smoking [25,26,34-39]. As for the treatment, practices such as going on a pilgrimage (hodja), drinking recited water, writing amulets, drinking healing water, pouring lead, visiting a shrine, eating recited food, praying, and making vows have been applied at different rates in studies carried out in Istanbul and in other provinces. In our study, the rate of folkloric practice of the participants was 62.3%; by contrast, in the study conducted by Tanrıverdi et al. in Çanakkale, half of the participants stated that they knew at least one traditional medicine for epilepsy in 26.4% ($n = 146$) of the patients [8]. In a study conducted by Karabulut, teachers stated that they would make the patient sniff onions (20%) and shout and make them move (13.7%) during a seizure [9]. Meanwhile, it is higher than the literature on beliefs about epilepsy [21, 22, 27]. In a study by Değirmenci et al., in which they compared the provinces of Yüksekova and Kütaahya, they stated that there were differences between the participants' folk method practices. For example, in Kütaahya, 32.1% of the participants stated that they would make the patient sniff onions during a seizure, whereas in Yüksekova, only approximately 8.5% of the participants stated that they would do the same. In the present study, the rate of onion sniffing was 9% [33]. In a study conducted by Şenol et al. in Istanbul, 40% of the participants used folk methods other than medical treatment [38]. In 2001, Lorenç et al. reported that all parents in England applied folk practices to their children [40].

In coping with chronic diseases, paediatric patients need to be

evaluated together with their parents [12–14]. In this study, no difference was noted between the participants in terms of gender, occupation, education, income status, and the rate of practising traditional methods and superstitions. In the study of Değirmenci et al. on beliefs and attitudes towards epilepsy in Turkey, education, occupation, and gender were found to have no effect on beliefs and attitudes, similar to current study [7]. According to some studies in the literature, superstitions are affected by demographic variables, such as gender, socioeconomic level in society, education, occupational status, being in a lower social class, not having a sufficient level of education, and being in a specific occupational class [5,7,16,17,27,41,42].

In our study, one-tenth of the participants stated that they did not take their patients to the hospital during their first seizure. Epilepsy is a neurological disease independent of sociodemographic factors [29, 42–44]. Being far from a health institution is considered a feature of rural areas [23]. In our study, eight out of every ten people lived less than 5 km from a health institution and could thus easily reach the health institution when needed. The results also showed that 67.8% of those who did not take their patients to a health institution lived closer than 5 km from the health institution, and 75% had fixed income. Moreover, the region and economic status of a patient's parents did not affect the patient's admission to a health institution.

The location where the study was conducted (Mersin) is a city at sea level on the shore of the Mediterranean, with a highly developed transportation network and active emergency ambulance service free of charge. As reported in the literature, 97.1% of teachers in Iğdır in Karabulut's study; 76.6% of individuals visiting the hospital in Konya in Kartal's and Akyıldız's study; and 58.5% and 43.4% of patients and their relatives in Yüksekova and Kütahta, respectively, in the study of Değirmenci et al. stated that they would call an ambulance [9, 33, 37]. It can be argued that Iğdır and Yüksekova, Konya, Kütahta, and the provinces where our study was conducted are similar in terms of sociocultural characteristics. In our study, the individual characteristics of the participants did not affect their ability to take the patients to the hospital. Meanwhile, the studies conducted in Turkey show that sociocultural characteristics are unable to explain why patients are not taken to health institutions when necessary. In our study, opinions were obtained only from the parents of paediatric patients who were admitted to the outpatient clinic. When patients are unable to decide about their future, decision makers are expected to make the right decision for the patients' well-being. The fact that a child is not brought to a health institution during the treatment initiation process raises concerns about the benefit principle [45].

In our study, all patients with epilepsy who had their first seizure at school or in a teacher's presence were transported to the hospital. The attitude of teachers who are responsible for the safety and first aid of children who have seizures at school is important, particularly during a seizure. Teachers' attitudes were positive in our study and in the study conducted in Iğdır [9]. In a study conducted in Istanbul to evaluate and develop teachers' current awareness, knowledge, and attitudes related to epilepsy, the results showed that their negative attitudes decreased and that their knowledge and awareness increased after the seminar [32].

Studies have shown that there are people who believe that patients with epilepsy will benefit only from traditional healers and those who hope for help from healers with contemporary treatment [28,30,46,47]. For example, in a study conducted in Congo, four-fifths of epilepsy patients benefited from Western medicine, and nearly half of them were directed to prayer or traditional healers [46]. In our study, all participants were relatives of patients who visited the paediatric neurology outpatient clinic of the Mersin University Faculty of Medicine; all continued their children's medical treatment under the supervision of a doctor. However, three-fifths of the patients' relatives stated that they had also applied folk practices as treatment. In Şenol's study on patients who visited a neurology outpatient clinic in Istanbul, approximately 20% of the patients turned to folk methods together with the prescribed

medical treatment [38].

The WHO defines 'child neglect' as a case in which the person responsible for a child does not meet or consider all the needs necessary for the development of the child [20]. In this context, it can be thought that the wrong attitude of a parent or the person responsible for a child's care causes a patient to be deprived of opportunities for evidence-based medicine. In a study conducted by Bilgen in Turkey, one-third of the mothers stated that they did not take their children to the physician even though they were sick [48].

The failure of the participants to take their sick children to a physician and their ignorance surrounding epilepsy can lead to situations with serious consequences. In our study, the practices stated by the participants, such as slapping, pinching, sniffing onions or insufflation, shrine visits, lead pouring, consumption of recited food, and making vows, prevent the practice of evidence-based medicine. It is also noteworthy that the participants engaged in behaviours that were likely to cause harm. Although the use of unproven substances by experimental methods does not cause direct harm, they may interact with the prescribed drugs and cause a change in the treatment procedure [25, 26, 34, 35]. In this context, one can argue that the erroneous behaviours of the participants stemmed from their lack of knowledge about the disease.

When people feel weak or sick or when they face chaos or distress in society, they may want to take shelter in a powerful entity [35, 49, 50]. The behaviours of a patient or a patient's relative towards becoming healthy and coping with disease can be affected by personal characteristics such as beliefs and emotions; the cultural and socioeconomic structure of the given period; the society at large; and the attitudes and behaviours of a patient's family, friends, and peers towards the disease [23]. In this context, one can argue that the level of knowledge of the individuals surrounding a patient and the society in which the patient lives are effective in gaining access to evidence-based medicine. In the history of medicine, spiritually supportive practices related to the cause and treatment of epilepsy, similar to those in our study, are remarkable [19, 51, 52].

The psychosocial and economic burden of a disease on families tends to increase, and the same is especially true in resistant epilepsy [12, 22, 35]. In our study, the fact that a child has resistant epilepsy was found to increase the negative emotions of the participants and the expectation of benefit from non-evidence-based interventions. If parents do not have enough personal knowledge to stand up against the non-modern beliefs of society about diseases, they may be affected by the beliefs they see in their environment [12, 22]. They may also those seek to improve their children's well-being through such beliefs without knowing the harmful consequences involved. However, our study showed that education, occupation, and income status were ineffective in the participants' statements. According to this prediction, we can say that the environment in which one lives affects this person's behaviour. Meanwhile, it may not be easy to replace the non-contemporary attitudes and behaviours of participants with contemporary practices [6, 12, 35].

The realisation of education following the biopsychosocial approach to childhood epilepsy is possible by increasing healthcare providers' awareness in terms of the characteristics of parents in relation to epilepsy, negative moods, beliefs, and non-contemporary attitudes and behaviours [19, 35, 53].

4.1. Limitation of the study

The area where the patients live lies in the same region; hence, it was not divided into rural and urban areas in our study. Mersin has a temperate climate, settles parallel to the seaside, and receives many immigrants. The lack of questions on sensitive issues (such as region, ethnicity, and religious belief) that may reveal personal data in the questionnaire can be considered a limitation of the study. Nevertheless, the answers given voluntarily by the relatives of the patients increased the reliability of the study.

5. Conclusion

In this study, the first-degree relatives of paediatric patients were optimistic regarding the treatment process and doctor–patient relationship.

The results showed that more than half of the participants had practices, attitudes, and behaviours based on their beliefs. In addition, when the disease in question was resistant, the tendency towards negative attitudes increased. The participants practiced folk medicine during seizures to contribute to recovery during the treatment process. These behaviours are independent of individual characteristics, such as occupation, education, and income, which we examined. Similar applications have been made in regions across Turkey with different sociocultural characteristics, but their rates are independent of sociocultural characteristics. Our study revealed anxiety in terms of the principle of parental benefit for patients with childhood epilepsy. This is also a cautionary study of child neglect. It is important to plan education to increase parents' knowledge about first aid and the treatment of epilepsy, the potential harm of wrong behaviours and attitudes, and the need to consider their child's well-being.

It is important to increase physicians' sensitivity to the tendency and beliefs of patients' relatives regarding non-contemporary practices. Given the tendency of patients' relatives to make mistakes, providing appropriate training in the biopsychosocial approach to the treatment process of epilepsy may change attitudes and behaviours based on such beliefs. Education is necessary to enable parents to cope with the problems they face during their children's epilepsy treatment. An increasing number of similar studies will help society benefit from contemporary evidence-based health services.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this study.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.seizure.2022.05.023](https://doi.org/10.1016/j.seizure.2022.05.023).

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