

EVALUATION FOR MOTHERS' PRACTICES TOWARDS CARING FOR THEIR CHILDREN WITH EPILEPSY

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Abstract: Background: Epilepsy is classified as a neurological condition impacting the nervous system, characterized by spontaneous seizures that occur on a regular basis with varying occurrence and severity. The study aimed to assess the level of mother's practices regarding epileptic among children in Babylon province.

Materials and methods: This descriptive and analytical cross-sectional study was conducted at Babil Teaching Hospital for Maternity and Children's EEG unit, emergency wards, and neurological consultation ward. A purposive sample of 100 mothers was selected. Closed-ended questions were asked to each woman in direct interviews. The study was conducted for period from November 2023 to February 2024 is the study period.

Results: The results found that 35.0% of mothers belonging to age group (29-34 years). The results found that the highest percentage was 71% of those with moderate practice, followed by 17% with poor practice, and 12% with good practice. Also, the results report that the mothers whom were sufficient family income, live in urban and have higher education level, were with the better practices score (P. value <0.05).

Conclusion: The study concluded that the majority of mothers in Babil Governorate have moderate practices of epilepsy. The results also revealed that sufficient family income, mothers living in urban areas, and higher education were associated with a good degree of practices. Educating the public about epilepsy through the mass media could go a long way in reducing the morbidity and mortality associated with this problem

Keywords: Epilepsy, Children, Evaluation, Practices



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Introduction

Epilepsy is classified as a neurological condition impacting the nervous system, with varying occurrence and severity. When an individual experiences two or more episodes of symptoms unrelated to medical issues, such as alcohol withdrawal or low blood sugar, a diagnosis is made. An arrhythmia brought on by elevated brain loading is epilepsy. This secretion results in recurring episodes that are active and frequent [1]. Epilepsy a neurological condition, is regarded as a global issue and one of the most serious threats to

human life. According to World Health Organization (WHO) statistics, around 50 million people worldwide suffer with epilepsy, making it the most widely known global neurological condition [2]. A child may predispose to epilepsy by many factors as head trauma, or brain tumor, circulatory disorders and stroke, metabolic disorders such as hypoglycemia, hypocalcaemia or cerebral anoxia. Some medicines, alcohol intoxication, and infection are also possible causes[3]. Patients with epilepsy who have rare seizures die suddenly as a result of status epilepticus, physical injuries, or drowning. However, for individuals who have drug-resistant epilepsy (DRE) and have not controlled their regular seizures, the risk increases 15-fold (18/1000) [4]. Almost 80% of epileptics reside in low- and middle-income nations. It is estimated that over 75% of epileptic patients in low- and middle-income nations do not receive adequate therapy [5]. In high-income countries, the lifetime prevalence ranges from 2.3 to 15.9 per 1,000 people, while in low-income ones it ranges from 3.6 to 15.4 per 1,000 people [3].

It has been highlighted that parental engagement in pediatric epilepsy care in terms of communication and shared decision-making represents a crucial factor in the management of this neurological disorder. Still, many children and their parents believe that therapeutically management of epilepsy is the only priority in a health-care setting. Research has demonstrated that parents may properly perceive and characterize difficulties that their children encounter also they can describe and discriminate between seizure types and their feature [6].

Aims of the study:

1. To evaluate the level of mother's practices regarding epileptic among children in Babylon province.
2. To find out the relationship between the overall practices score about epileptic among their children and demographic variables of mother.

Methods

Study design and setting:

This descriptive and analytical cross-sectional study was conducted at Babil Teaching Hospital for Maternity and Children's EEG unit, emergency wards, and neurological consultation ward. A purposive sample of 100 mothers was selected. The study was conducted for period from November 2023 to February 2024 is the study period.

Sample Size

The sample was determined by using the Epi info program version 7.2 based on population size in Babylon province (1700,000), expected rate of 5 % according to WHO [7], the confidence interval of 95% margin of error (0.05). The estimated sample size was 73 mothers. We selected 100 mothers to strengthen the study.

Selection criteria:

Inclusion and exclusion criteria:

The study included all mothers with epileptic children attending Babylon Maternity and Children's Teaching Hospital in the EEG unit, emergency departments, and neurological consultation room. While mothers who refuse or provide incomplete information were excluded from the study. In addition, mothers residing outside Babylon Governorate were excluded from the study. Finally, mothers of children less than 1 year or over 12 years old were excluded.

Sampling techniques:

A purposive sampling of 100 mothers was chosen using a non-probability sampling method. participants are included in the study thanks to the fact that they happen to be at the correct place at the right time. Researchers simply add respondents who are available to participate in the study until they have reached the necessary number of participants in the sample. The mother is determined by the diagnosis made by the doctor who meets the criteria for epilepsy in her children.

Data collection technique:

Every woman was interviewed directly after translating the questionnaire to Arabic and asking closed-ended questions. After explaining the study's goals and promising to keep data confidential. Data were collected through participant interviews using a structured questionnaire filled out by the researcher and asked in clear Arabic. Each interview lasted 15-20 minutes.

Variables and measurement:

- Dependent variable: The total practices score of mothers.
- Independent variables: sociodemographic variables— age, education level, occupation, family income, and residence.

Rating scoring:

The rating and scoring of items are three points Likert scale applied for rating practices. In positive phrases, the three-point type Likert scales scored as (3) for Always, (2) for sometimes and (1) for never. In negative phrases, the three-point type Likert scales scored as (1) for Always, (2) for sometimes and (3) for never. The questions regarding assessment of practices” so the Minimum of mean Score= 1, Maximum of mean Score= 3, and the Median for mean Score = 2. A score of more than 75% was considered good (>2.5 MS), 50-75% moderate (2-2.5 MS), and less than 50% was taken as poor (<2 score). The questions regarding practices about epileptic” were 43 questions so the Minimum Score= 43, Maximum Score= 129, and the Median Score = 86. A score of more than 75% was considered good (>107 score), 50-74% acceptable/fair (86-107 score), and less than 50% was taken as poor (<86 score) [8].

Statistical Analysis:

The information obtained from the questionnaire was translated to code sheets for each question, input into a personal computer, and then subjected to statistical analysis using IBM's SPSS-27 software package. Simple metrics of frequency, percentage, mean, standard deviation, and range (lowest and highest values) were used to display the data. Using the Pearson Chi-square test (X²-test), the significance of the difference for various percentages (qualitative data) was examined. The P-value was considered statistically significant when it was equal to or less than 0.05.

Result and Discussion**Socio-demographic characteristics of participants**

In table 1, the current results reveal that mother's range in age from 17 to 57, with most between 29 and 34 which accounting 35.0%. The average age of mother is 31.8±7.9 years. The majority of mothers are housewives (85%), while 15% employed. 57% have relatively adequate family income, 23% sufficient, and 20% insufficient. Family types are similarly split between extended (44%) and nuclear (56%) households, and residency is rural (53%) and urban (47%). Mothers' educational backgrounds vary from 15% not read or write, 41% primary or less, 22% secondary, and 22% institute-level or above.

Table (1): The distribution of the mothers according to Socio-demographic characteristics

Socio-demographic variables (For mothers)		o.	N	Perc ent
Age groups	17-22 years	1	1	11.0
	23-28 years	0	2	20.0
	29-34 years	5	3	35.0
	35-40 years	4	2	24.0
	41-46 years		6	6.0
	47-52 years		1	1.0
	≥53 years		3	3.0
	Mean± SD (Range)		31.8±7.9 (17-57)	
Occupational status	Employment	5	1	15.0
	Housewife	5	8	85.0
Family income	Sufficient	3	2	23.0
	Insufficient	0	2	20.0
	Somewhat sufficient		5	57.0

		7		
Family type	Extended	4	4	44.0
	Nuclear	6	5	56.0
Residence	Rural	3	5	53.0
	Urban	7	4	47.0
Educational level	Not read or write	5	1	15.0
	Primary and less	1	4	41.0
	Secondary	2	2	22.0
	Institute & above	2	2	22.0

Practices of mothers about epilepsy:

The results show that a mean score of 2.53 to 2.87 indicates that mothers' practices are "Good." They monitor their children's play, prohibit them from using sharp and cutting tools, keep doors open and don't leave them alone in dangerous places like the pool or bathroom. Taking precautions to keep the child from leaving the house shows a responsible approach to child safety. However, there are issues. Monitoring and giving suppositories when the baby's temperature rises received moderate mean scores (2.35 and 2.31, respectively). The biggest concerns are seizure recognition and response. Mothers had poor practices, scoring 1.09–1.14. Seizure symptoms were poorly understood. Medicine adherence is generally good among mothers. Mothers provided medications correctly (2.73, "Good"). Attending regular medical checkups (2.65, "Good"). By avoiding alternative drugs without medical advice, mothers show high awareness (2.93, "Good"). Seeing multiple doctors at once (2.53, "Good"). Asking traditional healers and clairvoyants for advice (2.35). Mothers' knowledge and medical adherence improve when epileptic seizures decrease. Mothers scored well in following doctor's orders (2.75, "Good"). Consult the doctor to reduce the dose (2.74, "Good") and avoid self-adjustment (2.76, "Good"). However, a low score for stopping drugs independently (2.83, "Good"). In managing drug side effects, mothers scored well in giving the right dose at the right time (2.95, "Good") and decreasing the dose following the doctor's order (2.93, "Good"). However, stopping the drug independently (1.03, "Poor") scored poorly. Assessing mothers' drug side effect management shows good medication adherence. Mothers scored "Good" in giving the right dose at the right time (2.95). Additionally, the knowledge of doctor-ordered dose reduction (2.93, "Good"). A poor score for stopping the drug independently (1.03, "Poor"). The evaluation of mothers' epileptic seizure practices shows both good and poor. Mothers showed excellent understanding and responsiveness by staying with the child during the seizure and helping restore consciousness (3.0, "Good"). They also removed nearby objects (2.52, "Good") and prevented tongue biting (2.76, "Good"). Poor scores in putting the child on the side, using soft padding, staying calm, and recording seizure duration indicate room for improvement. Mothers' post-seizure care for their children is positive and attentive. Mothers are careful to clean their children's mouths of thick saliva (2.96, "Good") and note their awareness (2.98, "Good"). Areas for improvement include monitoring the child's vital signs, such as respiration, temperature, pulse, and blood pressure, which score lower (<2 MS, categorized as "Poor"). As explain in table 2.

Table (2): The distribution of mother's answers according to them practices about epilepsy

Practices	Always		Sometimes		Never		MS	Ass.
	No.	%	No.	%	No.	%		
Safety precaution								
Prevent the child from dealing with sharp and cutting tools.	84	84.0	14	14.0	2	2.0	2.82	Good

Practices	Always		Sometimes		Never		MS	Ass.
	No.	%	No.	%	No.	%		
Prevent the child from playing without monitoring	58	58.0	37	37.0	5	5.0	2.53	Good
Preventing the child from closing the door of the room or bathroom from the inside	89	89.0	9	9.0	2	2.0	2.87	Good
Do not leave the child alone in the pool or bathroom	67	67.0	21	21.0	12	12.0	2.55	Good
Preventing the child from leaving the house alone	68	68.0	27	27.0	5	5.0	2.63	Good
Monitor baby's temperature	42	42.0	51	51.0	7	7.0	2.35	Moderate
Giving suppositories when the child's temperature rises.	39	39.0	53	53.0	8	8.0	2.31	Moderate
Monitor for signs of a seizure	1	1.0	12	12.0	87	87.0	1.14	Poor
Stay with the child when seeing symptoms of a seizure.	1	1.0	12	12.0	87	87.0	1.14	Poor
Place the child on his side on the floor when symptoms of a seizure appear	0	.0	9	9.0	91	91.0	1.09	Poor
Drug management								
Giving medications according to the instructions	76	76.0	21	21.0	3	3.0	2.73	Good
Continue to see your doctor regularly	69	69.0	27	27.0	4	4.0	2.65	Good
Don't give alternative drugs without doctor consultation	95	95.0	3	3.0	2	2.0	2.93	Good
Seeing more than one doctor in the same period	6	6.0	35	35.0	59	59.0	2.53	Good
Going to the traditional healers and clairvoyants.	13	13.0	39	39.0	48	48.0	2.35	Moderate
Management when epileptic seizures decreased								
Continue to give treatment according to doctor order.	79	79.0	17	17.0	4	4.0	2.75	Good
Consult doctor to reduce dose	80	80.0	14	14.0	6	6.0	2.74	Good
Decrease dose by herself.	3	3.0	18	18.0	79	79.0	2.76	Good
Stop drugs by herself	4	4.0	9	9.0	87	87.0	2.83	Good
Management of drugs side effects								
Continue to give the right dose at right time	95	95.0	5	5.0	0	.0	2.95	Good
Decrease the dose according to doctor order	93	93.0	7	7.0	0	.0	2.93	Good
stop drug by herself	97	97.0	3	3.0	0	.0	1.03	Poor
Practice of the mother during an epileptic seizure								
Stay with the child until the seizure ends and restore his consciousness	100	100.0	0	.0	0	.0	3.00	Good
Remove near objects around the child	62	62.0	28	28.0	10	10.0	2.52	Good
Loosen tight clothing around the neck and chest	36	36.0	46	46.0	18	18.0	2.18	Moderate
Put the child on his side	27	27.0	31	31.0	42	42.0	1.85	Poor

Practices	Always		Sometimes		Never		MS	Ass.
	No.	%	No.	%	No.	%		
Put something soft under the head	21	21.0	36	36.0	43	43.0	1.78	Poor
Keep Calm	1	1.0	72	72.0	27	27.0	1.74	Poor
Spraying the face with water	38	38.0	27	27.0	35	35.0	1.97	Poor
Put anything solid Like a spoon or tongue depressor inside the mouth to prevent biting the tongue	1	1.0	22	22.0	77	77.0	2.76	Good
Restrain child's movement	29	29.0	34	34.0	37	37.0	2.08	Moderate
Giving an enema	2	2.0	3	3.0	95	95.0	1.07	Poor
Record seizure duration	0	.0	91	91.0	9	9.0	1.91	Poor
Video recording	1	1.0	16	16.0	83	83.0	1.18	Poor
Take the child to the nearest health facility if the seizure lasts more than five minutes	13	13.0	76	76.0	11	11.0	2.02	Moderate
Practice of the mother after an epileptic seizure								
Clean the child's mouth from thick saliva	97	97.0	2	2.0	1	1.0	2.96	Good
Note the level of awareness of the child	98	98.0	2	2.0	0	.0	2.98	Good
Note the child's vital signs (respiration, temperature, pulse, blood pressure).	0	.0	68	68.0	32	32.0	1.68	Poor
Note involuntary urination or defecation	51	51.0	2	2.0	47	47.0	2.04	Moderate
Examine the child for any wound or injuries	8	8.0	26	26.0	66	66.0	1.42	Poor
Delay serving food and drink until the child regains full consciousness	51	51.0	46	46.0	3	3.0	2.48	Moderate
Refer to the health institution or doctor	17	17.0	82	82.0	1	1.0	2.16	Moderate
Record Time of seizure in (date- day –time)	0	.0	0	.0	100	100.0	1.00	Poor

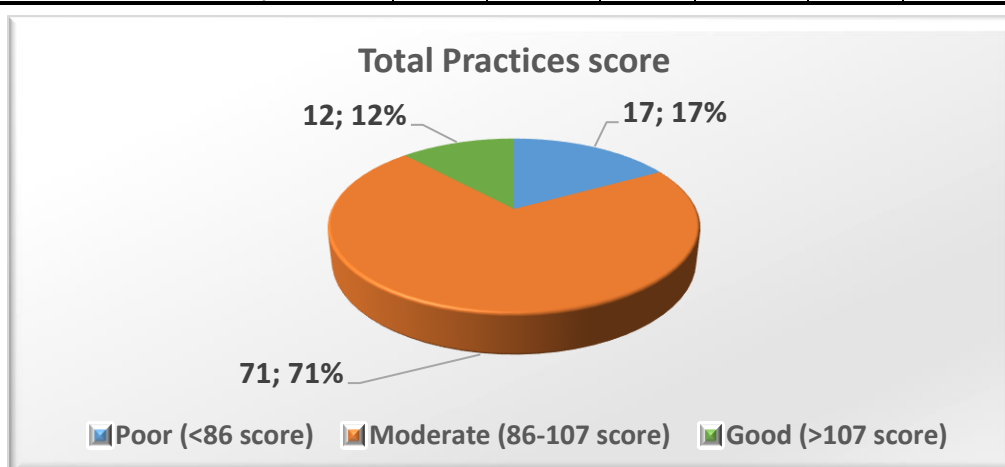


Figure (1): The total practices score of mothers about epileptic

Figure 1 indicates the overall practices assessment of the participants. The results showed that the highest percentage was 71% of those with moderate practice, followed by 17% with poor practice, and 12% with good practice.

Table 3 represents that the relationship between total practices scores and socio-demographic factors illuminates epilepsy mothers' practices. Those with sufficient family income had better practices ($p = 0.001$). Also, mother educational level ($p < 0.001$) significantly influenced caregiving practices, indicating that higher education leads to more informed and effective caregiving. A significant association between urban residence

and better practices ($p < 0.001$).

Table (3): The association between total practices score and socio-demographic characteristics of mothers

		Total Practices score						P. value
		Poor (<86 score)		Moderate (86-107 score)		Good (>107 score)		
		No.	%	No.	%	No.	%	
Age groups	17-22 years	1	9.1	7	63.6	3	27.3	0.149
	23-28 years	5	25.0	11	55.0	4	20.0	
	29-34 years	2	5.7	30	85.7	3	8.6	
	35-40 years	6	25.0	16	66.7	2	8.3	
	41-46 years	1	16.7	5	83.3	0	.0	
	47-52 years	0	.0	1	100.0	0	.0	
	≥53 years	2	66.7	1	33.3	0	.0	
Occupational status	An employment	0	.0	12	80.0	3	20.0	0.126
	Housewife	17	20.0	59	69.4	9	10.6	
	Free jobs	-	-	-	-	-	-	
Family income	Sufficient	1	4.3	15	65.2	7	30.4	0.001
	Insufficient	8	40.0	11	55.0	1	5.0	
	Somewhat sufficient	8	14.0	45	78.9	4	7.0	
Family type	Extended	8	18.2	31	70.5	5	11.4	0.954
	Nuclear	9	16.1	40	71.4	7	12.5	
Residence	Rural	15	28.3	38	71.7	0	.0	<0.001
	Urban	2	4.3	33	70.2	12	25.5	
Educational level	Not read or write	8	53.3	5	33.3	2	13.3	<0.001
	Primary and less	9	22.0	32	78.0	0	.0	
	Secondary	0	.0	17	77.3	5	22.7	
	Institute & above	0	.0	17	77.3	5	22.7	

Discussion:

The present study results show that high percentage of mothers age between (29-34) years, this result may be due to this age in our community is acceptable age to get married and considered the most productive age to have child. this result agreed with the study done in south of India [9]. In addition, the study found that the majority of mothers are housewives (85%) and this finding agreement with the study done in Gorgan, Iran by [10].

The findings of the current research made it clear that 53% of the children with epilepsy who were evaluated lived in rural regions. The results may be explained by the fact that the data came from Babil Teaching Hospital for Maternity and Children, where the hospital treats patients for free and primarily from lower- and middle-class backgrounds, while upper socioeconomic class families send their children to private hospitals or even abroad. Alternatively, the percentage may be explained by rural social customs such as relative marriage, home births, restricted access to healthcare, and low health literacy among rural residents, which increase the risk of epilepsy. This result is consistent with a research by [12], who estimated the incidence of childhood epilepsy and found that it is greater in rural than in urban regions.

In addition, the socioeconomic status for family in the present study is sufficient to what limits (57%) this related to that most families come to the general hospital with low or moderate income, this result is in agreement with the study by [3] which found that same results.

In this study, when ask the mothers who to do and take care for their epileptic children as daily routine most mothers have moderate practice that regard with safety precaution such as Prevent the child from dealing with sharp and cutting tools, from playing without monitoring, from closing the door of the room or bathroom from the inside, from leaving the house alone, also Do not leave the child alone in the pool or bathroom, Monitor baby's temperature and Giving suppositories when the child's temperature rises. This result may due to that fear of mothers from occur attack at any time although it was difficult for apply all the safety precaution

for all time because the children wanted to play and enjoy as their peers, and this limitation of all these practices will decrease as the child's age decreases, so in our study this result was obtained because the most children in our study with age group less than 3 years for those mothers who have children at this age group have good practices than mothers with more older children, our results come in disagreement with the result in [13]. The minority of mothers mentioned that they prevented their children from closing the bathroom door from the inside, prevented their children from using computers and watching T.V. for long periods, this result is different from our result because the majority of the age group of children was 6-12 years so it is difficult to apply the safety precaution.

Regarding safety precautions that mothers should do at the onset of seizure as monitor for signs of a seizure, stay with the child when seeing symptoms of a seizure and place the child on his side on the floor when symptoms of a seizure appear, we found that most mothers don't do this and have poor practices. This result may be due to that seizure may occur without previous signs or symptoms and poor knowledge of mothers about aura. This result is in agreement with the result in [13] which found that most of the mothers didn't lie down the children on their side on the ground to prevent their injuries, this finding may be returned to the unpredictable nature of their children's epileptic seizures. This result may be due to that there is a gap in mothers' knowledge in relation to prediction of aura and taking safety measures accordingly.

As regards drug management, it was found that only a small percentage (13%) of mothers go to traditional healers, this finding may be due to that most mothers have misconceptions about epilepsy causes. This result is in agreement with the result in the study [14] which found that the majority of the participants reject traditional therapy as a part of epilepsy treatment.

In the present results, the majority of mothers were using AEDs as instructions, visit a doctor regularly, not see more than one doctor and not use any other drug without doctor consultation, this finding is in agreement with the study by [15] who found that the majority of the studied parents gave the AEDs for their children regularly and were adherent to the doctor's instruction.

These results reveal that the practices of mothers when seizure occurs decrease, most mothers have good grades. As so as in their management of the side effects of the drugs the mothers have moderate grades and continue to give drugs and return to doctor to give orders. This finding is in agreement with the study by [16] which found that the majority of mothers observed their children frequently for any of the side effects and most of them responded by consulting the physician.

Regarding the number and percentage distribution of mothers' according to their Care Practices during an epileptic seizure we found that all mothers (100%) stay with their child until seizure ends and restore his consciousness, more than half of them remove near harmful objects around child and loosen the tight clothing around neck and chest, this result is in agreement with the result in [17] study which found that most mothers knew what to do during the epileptic seizure, where all the mothers mentioned that they remove the hard objects that cause injury and majority of them try to loosen the tight clothes if there are any.

In this study, only a minority of mothers put the child on his side or put something soft under the head and only (1%) of mothers keep calm, this result is in agreement with the study by [18]. It was shown that only a few of parents put their children to lie on side and support their head with something soft.

The results found that some mothers performed harmful procedures such as spraying water on child's face or restrain his movement and only (1%) of mothers, but something solid inside the mouth, these misconceptions among mothers are due to that don't get enough information about dealing with fits also due to that mothers have some wrong beliefs that gain it from their family or relative especially in rural areas. This result is in agreement with more than one study, as study conducted by [19] in which they found that most of mothers knew what to do in an acute seizure situation; however, some of them have unnecessary procedures such as physically restrain the child and shaking or carrying the child around to help them to regain consciousness.

Also, the results report that only (2%) of mothers give an enema when the epileptic seizure occurs this is due to the poor knowledge of mothers about drug that use to stop the seizure at home this result is in agreement with [20] in which found that few of mothers were aware of an antiepileptic drug that could be used at home to stop prolonged seizures. This result may be due to their incomplete knowledge but also may reflect the management preferences of the treating physician.

In this study, when mothers asked about taking the child to hospital when the seizure lasts more than five minutes only (13%) of mothers do that and the other mothers don't do that because they get used to the illness of the chronic nature. This is in agreement with the study by [21] show that when mothers asked about if your child take emergency medicines the answer was only 17% yes and 83% No.

This study shows that all mothers not record the duration of seizure and only (1%) record video for their child, this finding may be due to that most mothers may be worried and confused about their child or they get used to the illness of the chronic nature, so they did not record, also may be due to that most mothers

ignore the importance of recording the video of the epileptic seizures in diagnosis and management of epilepsy where most of mothers explain the events inaccurate and that don't help in differentiate between type of epilepsy. This finding was supported by [22] study which shown the Smartphone recordings have been shown to be useful in this regard.

In regard to mothers' practices to ward their child after epileptic seizures it was clear that the mothers provide the care for visible sings as clean the child's mouth, note the level of awareness and involuntary urination or defecation and refer to the health institution or doctor but not provide care for hidden sings as note the child's vital signs, examine the child for any wound or injuries and record time of seizure in (date- day – time) so the total result of practices after seizure was moderate. This agreement with result in [13] in which they found that It is clear from these cares that mothers provide the care for visible signs and neglected the hidden ones.

The results of this study indicate that the total practices score in this study is moderate for most of mother (71%) this similar to the result in [23] study which found that the practice pattern was adequate among most of the subjects regarding helping epileptic subjects .

As regards mothers' practices scores according to their education, the current study revealed that there was statistically significant relation between mothers' practices and their education. It was found that the majority of the mothers who completed their secondary / institute and above education had "good" and "moderate" scores in their practices. This finding could be explained in the light of the fact that education might helped in providing better care, where they understanding of the most important of terms about epilepsy and how to do with their child before during and after the fits. This finding is supported by [24] which found that that the educational status of the parents/caregivers had a significant impact on their general understanding of the disease as well as the care they provide to their children.

There is significant relationship between the families' income and practices score, the result show that good practices score for those have sufficient income while poor and moderate scores for those with insufficient and moderate income this result may be because that patients' families needed more financial sources due to the high costs of care such as medicines, medical care and transportation. So the income and well-being of the family are likely to be affected, this result agree with the study of [25] Who found that spending on care increased among those who have epilepsy.

Conclusion

The study concluded that the majority of mothers in Babil Governorate have moderate practices of epilepsy. The results also revealed that sufficient family income, mothers living in urban areas, and higher education were associated with a good degree of practices. In addition, there are significant gaps between management when epileptic seizures decreased and practice of the mother during an epileptic seizure

Recommendations:

Mass media education about epilepsy could reduce morbidity and mortality. Based on needs assessment, mothers of epileptic children should receive continuous, repetitive health instruction and educational programs on epilepsy management.

Competing interests

The authors declare no competing interest.

Authors' contributions

All authors coordinated in the preparation of data, and participated in the preparation and writing of the manuscript. The author read and approved the final version of the manuscript.

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