Relation between Seizure Management and Anxiety level for Mothers of Children with Epilepsy

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Background: Mothers of children with epilepsy often possess inadequate knowledge about epilepsy and have incorrect practices toward seizure management so, they experience significant anxiety due to the unpredictable nature of seizures and fear of their affected children death at any time. **Aim**: This study aimed to assess the relationship between seizure management and anxiety level for mothers of children with epilepsy. **Research design:** A descriptive correlational research design was utilized to achieve the aim of the study. **Setting:** The study was conducted at the children outpatient clinics at Psychiatric and Mental Health Hospital and Addiction Treatment at Benha city, Qalubia governorate which is affiliated to General Secretariat of mental health. **Subject:** A purposive sample of (60) mothers of children with epilepsy was utilized in this study. **Tools:** Three tools were used for data collection: ***Tool (1): -*** A- structured interviewing questionnaire sheet consists of two socio- demographic data of studied mothers and socio- demographic and clinical data of the affected children ***Tool (2):-*** Mothers' reported practices checklist for seizure management & ***Tool (3):-*** Hamilton Anxiety Rating Scale. **Results:** The results of the present study revealed that more than three quarters of the studied mothers have unsatisfactory level of total reported practices regarding seizure management and two thirds of them have severe level of total anxiety. **Conclusion:** there is a highly significant statistical negative correlation between total mothers' anxiety score and total reported practices score regarding seizure management. **Recommendations:** Implementing psychoeducational programs in psychiatric hospitals to improve seizure management and alleviate anxiety level for mothers of children with epilepsy.

***Key words*:** Anxiety, Epilepsy, Seizure management.

Introduction:

Epilepsy is the most common neurological disorder in children that characterized by recurrent seizures and. These seizures are caused by abnormal electrical activity in a group of brain cells, which can lead to temporary changes in behaviour, awareness, sensation, or consciousness ***(Nationwide Children's, 2024)***. A Seizure is symptom of brain disease rather than a disease itself and it is the main symptoms of epilepsy ***(Abend et al., 2025).*** According to the World Health Organization, epilepsy is considered a public health problem in the context of its psychological, socioeconomic, and medical impact on patients and their families, especially those who have frequent reoccurrence of seizures which necessitates lifelong medication, regular check-ups and effective seizure management ***(Hajji et al., 2024).***

Seizure management refers to the strategies and interventions aimed at controlling and minimizing the impact of seizures on children who experience them. It encompasses a range of approaches, including medical treatment, lifestyle modifications, seizure response plans, monitoring and tracking, surgical interventions and support and education. Additionally, lifestyle modifications such as maintaining a regular sleep schedule, managing

stress, and avoiding seizure triggers and regular follow up play a vital role in helping these children with epilepsy to live normally and minimize the impact of seizures on daily activities ***(Lazaro et al., 2024)*** & ***(Biset et al., 2024).***

Understanding how to manage seizures promptly and correctly helps to minimize risks and supports the well-being of those affected. This emphasizing the importance of calmness, safety, and appropriate response measures. First aid management includes helping others cope with the situation. The most important task in this situation is to keep calm and help the affected children. There is evidence that seizures can be safely managed by the children and their mothers if they have the correct training ***(Sullivan & Rosenbaum, 2024).***

Epilepsy not only has physiological, social and emotional effects but also has psychological effects on the affected children which negatively affect every aspect of their mother's lives especially when these mothers possess inadequate knowledge about epilepsy and have wrong practices toward the condition ***(Arai et al., 2024).*** Studies have shown that the higher level of knowledge in children is associated with improving practices during the seizure toward epileptic children, improve their ability to care for children with epilepsy, good seizure management, positively change their attitudes and reduce anxiety ***(Turan & Yangöz, 2023).***

Maternal anxiety may arise from the psychological and physiological reactions of the mothers as they attempt to meet the challenges of caring for their sick child. Raising a child with epilepsy involved an often state of uncertainty, apprehension, and need for continued surveillance. Parents especially mothers need to learn to cope with special diets, medication, schooling challenges, repeated hospitalizations, behavioral problems, and much more. Diagnosis of epilepsy in a child brought with it a series of consequences for them, and most mothers got affected by it: the "loss of a perfect child" and the realization that the child might always be different from other children because of their illness (***Aghaie & Barzegar, 2024).***

In addition, mothers of children with epilepsy often afraid of having another child with epilepsy, fear of complications of medications, the unpredictability of seizures, potential emergencies, injuries during the seizure attacks and shortened life-expectancy. All these issues and problems are influential negatively in the psychological status and overall wellbeing of their mothers ***(Sirisha et al., 2025).*** Also, they often experience heightened anxiety and often exacerbated by the challenges of managing their child's condition which profoundly affects their mothers emotionally, practically, and socially. This can adversely affect their caregiving abilities for the child and practices of effective managing of seizures which potentially leading to poorer outcomes for children. ***(Winsor et al., 2024).***

Psychiatric and mental health nurse plays a vital role in supporting children with epilepsy and their mothers, particularly through education and training in epilepsy management. Giving comprehensive education for them empowers parents with the knowledge they need to confidently manage their child's condition, which in turn reduces their anxiety and enhances their ability to provide effective care. When a child with epilepsy experiences a seizure or a seizure-related crisis, psychiatric and mental health nurses are essential in providing immediate support and intervention. Their specialized training enables them to manage acute situations effectively, ensuring the child's safety and addressing any immediate needs that arise (***Grant & Collier, 2024).***

Significance of the study:

Epilepsy is among the most common chronic neurological disorders that affecting children and characterized by a permanent brain dysfunction ***(WHO, 2025).*** A World

Health Organization report indicated that the incidence of epilepsy is highest in children and older people ***(Yang et al., 2025).*** As its incidence and prevalence peak significantly during developmental years ***(Isik & Cebeci, 2025).*** Prevalence rates of children are about 3.2–5.5% and about 3.9–44% in developed and developing countries, respectively ***(Khalili et al., 2024).***

In Egypt, prevalence of childhood and adolescence epilepsy (children < 18 years) in Upper Egypt was 9.7/1000, with higher prevalence among children < 12 years (10.8/1000) than adolescents (7.2/1000) ***(Farghaly et al., 2018).*** The mothers play the most significant role in helping their Epileptic children adapt to their condition ***(Abd Elghfar et al., 2024).***

Caring for a child with epilepsy poses various psychological, physical and medical challenges; these can lead to burden and anxiety. Up to 50% of mothers of children with epilepsy report elevated level of anxiety as a result of lack knowledge about the nature of epilepsy and how to deal with their child during seizure ***(Karakis et al., 2024).*** Therefore, this study aimed to assess the relationship between seizure management and anxiety level for mothers of children with epilepsy.

Aim of the study:

The aim of this study was to assess the relationship between seizure management and anxiety level for mothers of children with epilepsy.

Research design: -

A descriptive research design was utilized to achieve the aim of the study.

Research setting: -

This study was conducted at the children outpatient clinics at Psychiatric and Mental Health Hospital and Addiction Treatment at Benha city, Qalubia governorate which is affiliated to General Secretariat of mental health. There are 2 doctors and 4 nurses working inside children outpatient clinics that working from (9 Am to 2 Pm) 6 days/week except Friday and holidays and specified 2 days (Monday and Thursday) for examination and following up the children with epilepsy.

Research subject:-

A purposive sample of (60) mothers of children with epilepsy who were attended at the above-mentioned setting.

The sample was taken according to the following inclusion and exclusion criteria:

Inclusion criteria:

- Mothers whose children diagnosed with epilepsy.
- Mothers whose children aged from 1 - 18 years.

Exclusion criteria:

- Mothers with history of psychiatric and neurological disorders.
- Mothers with visual or hearing impairment.

Tools of data collection:-

In order to fulfill the aim of the study, the data was collected by using the following tools.

Tool (1):- A Structured Interviewing Questionnaire Sheet:

The questionnaire was developed by the researcher based on scientific review of literature and consists of two parts:

Part (1): Socio-demographic data of the studied mothers such as age, marital status, educational level, residence, occupation and monthly income.

Part (2): Socio- demographic and clinical data of the affected children: -

A- Socio- demographic of the affected children such as age, sex, educational level, ordering of the affected child in the family and number of brothers and sisters.

B- Clinical data of the affected children such as child age at first seizure, duration of seizure, seizure frequency, previous hospitalization, causes of previous hospitalization and family history of epilepsy.

Tool (2): Mothers' reported practices checklist for seizure management: -

It was developed by ***Elshafie et al., (2021)*** and adapted by a researcher. The checklist was used to assess the mothers' management

practices before, during and after the Seizure. It was divided into **three dimensions:**

1) **First dimension:** The mothers' management practices **before** seizure attack. It included (2 items); preventing factors that triggers seizure and monitoring child behaviors.

2) **Second dimension:** The mothers' management practices **during** seizure attack. It included (12 items); putting the child on side lying position, providing safe environment, elevating the side rails, loosening the child clothes, maintaining patent airway, removing excessive salivation, avoiding restraining the child, avoiding giving any medication per mouth, avoiding anything per mouth, putting a tongue depressor or any clean tissue paper between child teeth, avoiding putting her fingers between the child teeth and recording time of seizure.

3) **Third dimension:** The mothers' management practices **after** seizure attack. It included (4 items); checking the child for any injury, putting the child in side lying position, maintaining comfortable environment free from any noise and providing psychological reassurance for the child.

Scoring system:

The checklist was contained of 18 items that have 2 answers which scored as follows 1 grade for "done" answer and zero grade for "not done" answer. The total scores of that checklist were ranged between (0-18) grades. These scores were summed up and converted into a percentage score. It was classified into 2 categories:

- **Unsatisfactory** if score <60% (0-10 grades).
- **Satisfactory** if score ≥ 60% (11-18 grades).

Tool (3): Hamilton Anxiety Rating Scale (HAM-A): -

The scale was originally developed by ***Maier et al., (1988)*** and adapted by the researcher to assess the level of anxiety for mothers of children with epilepsy. The scale contains questions about 14 parameters, each defined by a series of symptoms, and measures. It included 2 subscales; psychic anxiety subscale (Mental agitation and psychological distress) and somatic anxiety subscale (Physical complaints related to anxiety), all of which carry a 5-point range of responses, as follows: not present (0), mild (1), moderate (2), severe (3), very severe (4). Total score range of 0–56. These scores were summed and classified into 3 categories:

Mild if score ≤ 30.3% (0-17 grades)
Moderate if score 30.4%- 42.9% (18–24 grades).
Severe if score 43.0%- 100.0% 25–56 grades.

Methods of study

Field work:-

The present study was conducted in four phases.

1- Preparatory phase:-

This phase included reviewing of relevant literature and different studies related to the topic of research, using textbooks, articles, magazines, periodicals, and internet search was done to get a clear picture of all aspects related to the research topic to design the program.

Content validity of the tools:

- Arabic translation was done by researcher for mothers' reported practices checklist for seizure management and Hamilton Anxiety Rating scale and tested for their translation.
- Content validity of tools was done by jury of 5 experts in Psychiatric & Mental Health Nursing, who checked the relevancy, comprehensiveness, clarity and applicability of the questions. According to their opinions, modifications were done and the final form was developed.
- Modifications were made in the style and paraphrasing of questions that measure mothers' knowledge about epilepsy. These modifications were made with the objective of its accuracy and consistency.
- The researcher also, made rephrasing of some sentences in Arabic translation in both mothers' reported practices checklist for seizure management and Hamilton Anxiety Rating scale

to become easier and more understandable for all studied mothers of children with epilepsy.

Reliability of the tools:

Reliability of tools: The internal consistency of the tools was checked by Alpha Cronbach reliability analysis.

Tools	No. of items	Alpha Cronbach	Indicator
Mothers' reported practice checklist	18	0.902	strong reliability
Hamilton Anxiety Rating Scale	14	0.916	strong reliability

Ethical considerations:

- An approval from the ethical committee from faculty of nursing, Benha University (RES-PSYN-P 61) was obtained to conduct the study.
- The researcher assured voluntary participation for every selected mother involved in the sample and the purpose of the study was explained.
- An oral consent was obtained from all the studied mothers of children with epilepsy after informing them about the purpose of the study and they were informed about their right to withdraw from the study at any time without giving any reason.
- Data confidentiality and mothers' privacy were secured throughout the study.

A pilot study:

- Before starting data collection, a pilot study was conducted to assess the clarity and applicability of the study tools and identify the time needed to fill each tool. It was carried out on 10% of the study subjects, (6 mothers of children with epilepsy) who were excluded from the main study sample. After collecting pilot study, it was found that each mother took 45-50 minutes to fulfill tools of the study.

Field work:

- Data collection of this study was carried out at the children outpatient clinics at Psychiatric and Mental Health Hospital and Addiction Treatment at Benha city, Qalubia governorate. A comfortable place inside the children outpatient clinics was chosen for interviewing the studied mothers. The orientation of the studied mothers was done about the aim of the study.
- Each studied mother was interviewed individually to collect the necessary data in privacy using all study tools, (socio-demographic data of the studied mothers, socio- demographic and clinical data of the affected children, mothers' reported practices checklist for seizure management and Hamilton anxiety rating scale).
- Researcher began data collection by introducing herself to the studied mothers and they were informed about their rights to withdraw from the study at any time.
- The study was done 2 days/week (Monday & Thursday) at 9 A.M. to 2 P.M. While 5 women were interviewed per day during the period of (the beginning of May 2024 to the middle of June 2024). Each interview lasted for 45-50 minutes depending on the response of the interview.

Statistical analysis:

The collected data organized, tabulated and statistically analyzed using Statistical Package for Social Science (SPSS) version 25. Descriptive statistics were applied (e.g. frequency, percentages, mean and standard deviation). Test of significance, qualitative variables were compared using Chi square test ($\mathbf{X^2}$). Correlation coefficient test (r) was used to test the correlation between the studied variables.

Significance levels were considered as follows:

- Highly statistically significant $P < 0.01$**
- Statistically significant $P < 0.05$*
- Not significant $P \geq 0.05$

Results:

Table (1): Shows that, less than two thirds (63.3%) of the studied mothers are aged from 35 - < 45 years, and the Mean ± SD of age is 37.98±6.93 years. Regarding marital status, two thirds (66.7%) of them are married. Also, more than half (51.7%) of them have secondary education. As well as less than two thirds (63.3%) of them live in rural areas. As regard to occupation, more than two thirds (68.3%) of the studied mothers are unemployed. In addition, more than three quarters (86.7%) of the studied mothers mentioned that their income is not enough.

Table (2): Demonstrates that, more than three quarters (80.0%) of the studied children are aged < 6 years at first seizure. Also, more than one third of them have seizure lasting from 1 - < 3 minutes and reoccurs monthly (35.0% & 36.7% respectively). In addition, less than two thirds of the studied children have history of previous hospitalization and admitted to hospital once (61.7% ، 62.2%) respectively. Regarding causes of previous hospitalization, less than half (48.7%) of them admitted to hospital due to loss of consciousness for more than 10 minutes after seizure fit stop. Furthermore, two thirds (66.7%) of the studied children don't have a family history of seizure.

Figure (1): Shows that more than three quarters (80%) of the studied mothers' had unsatisfactory reported practices regarding seizure management while only one fifth (20.0%) of the studied mothers had satisfactory level of total reported practices regarding seizure management.

Figure (2): Shows that, two thirds (66.7%) of the studied mothers have severe level of total anxiety.

Table (3) Demonstrates that, there is a highly statistically significant relation between total level of mothers` reported practices regarding seizure management and their educational level at (P-value= < 0.01). While there is no statistically significant relation between total level of mothers` reported practices before, during and after seizure attack and their age, marital status, residence, occupation and monthly income at (P-value = > 0.05).

Table (4) Reveals that, there is a highly statistically significant relation between total mothers` anxiety level and their educational level at (P-value= < 0.01). While there is no statistically significant relation between total mothers` anxiety level and their age, marital status, residence, occupation and monthly income at (P-value = > 0.05).

Table (5): reveals that there is a highly statistically significant negative correlation between total reported practices regarding seizure management and total mothers' anxiety mean scores at $p < 0.01$.

Table (1): percentage distribution of the studied mothers according to their socio-demographic data **(n=60).**

Socio-demographic data of the studied mothers	Studied mothers (n=60)	
	No.	%
Age (years)		
18-<25	4	6.7
25-<35	10	16.7
35-<45	**38**	**63.3**
45-<55	6	10.0
≥55	2	3.3
Mean ± SD 37.98±6.93		
Marital status		
Married	**40**	**66.7**
Widowed	7	11.7
Divorced	9	15.0
Separated	4	6.6
Educational level		
Illiterate	3	5.0
Read and write	2	3.3
Primary education	2	3.3
Preparatory education	6	10.0
Secondary education "diplome"	**31**	**51.7**
University education	14	23.4
Postgraduate studies	2	3.3
Residence		
Rural	**38**	**63.3**
Urban	22	36.7
Occupation		
Yes	19	31.7
No	**41**	**68.3**
If yes, what is the type of work? (n=19)		
Employee at governmental sector	10	52.6
Employee at private sector	2	10.5
Free work	7	36.9
Monthly income		
Not enough	**52**	**86.7**
Enough	6	10.0
Enough and can be saved from it	2	3.3

Table (2): Percentage distribution of the studied children according to their clinical data **(n=60).**

Clinical data of the studied children	Studied children (n=60)	
	No.	%
Child age at first seizure (years)		
<6	**48**	**80.0**
6 - <12	9	15.0
12 – 18	3	5.0
Mean ± SD **5.11±3.66**		
Duration of seizure		
< 1 minute	20	33.3
1 - < 3 minutes	**21**	**35.0**
3 - < 5 minutes	8	13.3
5 - < 7 minutes	4	6.7
7 minutes and more	7	11.7
Seizure frequency		
Daily	12	20.0
Weekly	17	28.3
Monthly	**22**	**36.7**
More than month	9	15.0
Previous hospitalization		
Yes	**37**	**61.7**
No	23	38.3
If the answer is "yes", numbers of hospital admission (n=37)		
Once	**23**	**62.2**
Twice	6	16.2
Three times and more	8	21.6
Causes of previous hospitalization (n=37)		
Having a seizure that lasts more than 10-15 minutes	9	24.3
Having another seizure before recovering from the first seizure	10	27.0
Loss of consciousness for more than 10 minutes after seizure fit stop	**18**	**48.7**
Family history of epilepsy		
Yes	20	33.3
No	**40**	**66.7**
If yes, what is the degree of relationship? (n=20)		
First degree relatives	**11**	**55.0**
Second degree relatives	9	45.0

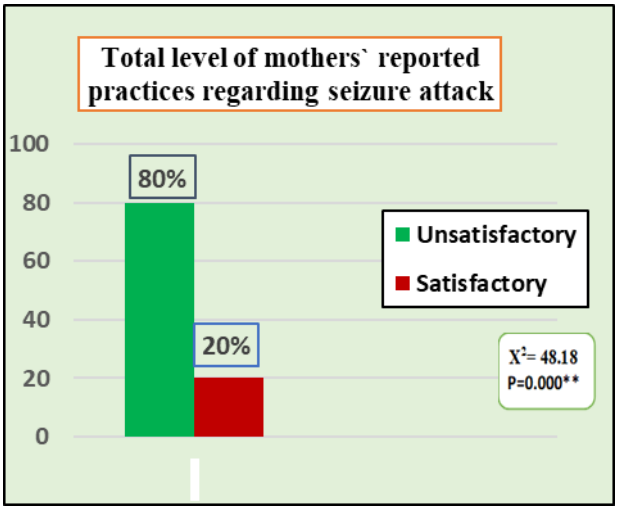

Figure (1) Total level of the studied mothers' reported practices regarding seizure management **(n=60).**

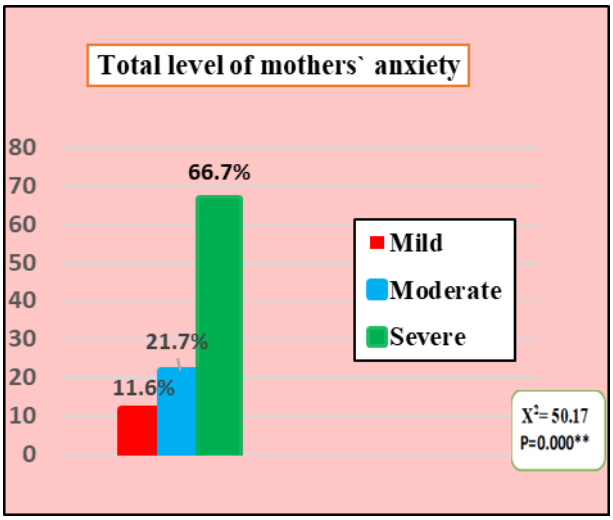

Figure (2): Total anxiety level among the studied mothers **(n=60).**

Table (3): Relationship between sociodemographic data and total level of reported practices regarding seizure management among the studied mothers **(n=60)**.

Socio-demographic data		Total level of mothers' reported practices				X^2	P-Value
		Unsatisfactory (n=48)		Satisfactory (n=12)			
		No.	%	No.	%		
Age (years)	18-<25	4	8.3	0	0.0	**3.94**	**>0.05**
	25-<35	7	14.6	3	25.0		
	35-<45	29	60.4	9	75.0		
	45-<55	6	12.5	0	0.0		
	≥55	2	40.2	0	0.0		
Marital status	Married	31	64.6	9	75.0	**1.92**	**>0.05**
	Widowed	5	10.4	2	16.7		
	Divorced	8	16.7	1	8.3		
	Separated	4	8.3	0	0.0		
Educational level	Illiterate	3	6.2	0	0.0	**13.70**	**<0.01****
	Read and write	2	4.2	0	0.0		
	Primary education	2	4.2	0	0.0		
	Preparatory education	6	12.5	0	0.0		
	Secondary education	26	54.2	5	41.7		
	University education	9	18.7	5	41.7		
	Postgraduate studies	0	0.0	2	16.6		
Residence	Rural	30	62.5	8	66.7	**0.07**	**>0.05**
	Urban	18	37.5	4	33.3		
Occupation	Yes	15	31.2	4	33.3	**0.01**	**>0.05**
	No	33	68.8	8	66.7		
Monthly income	Not enough	42	87.5	10	83.3	**9.51**	**>0.05**
	Enough	6	12.5	0	0.0		
	Enough and saved	0	0.0	2	16.7		

X^2: Chi-square test. No significant at p >0.05. **Highly significant at p ‹ 0.01.

Table (4): Relationship between sociodemographic data and total anxiety level among the studied mothers **(n=60)**.

Socio-demographic data		Total level of mothers' anxiety						X^2	P-Value
		Mild (n=7)		Moderate (n=13)		Severe (n=40)			
		No.	%	No.	%	No.	%		
Age (years)	18-<25	0	0.0	0	0.0	4	10.0	**7.99**	**>0.05**
	25-<35	2	28.6	3	23.1	5	12.5		
	35-<45	5	71.4	10	76.9	23	57.5		
	45-<55	0	0.0	0	0.0	6	15.0		
	≥55	0	0.0	0	0.0	2	5.0		
Marital status	Married	6	85.7	9	69.2	25	62.5	**3.49**	**>0.05**
	Widowed	1	14.3	2	15.4	4	10.0		
	Divorced	0	0.0	1	7.7	8	20.0		
	Separated	0	0.0	1	7.7	3	7.5		
Educational level	Illiterate	0	0.0	0	0.0	3	7.5	**41.46**	**<0.01****
	Read and write	0	0.0	0	0.0	2	5.0		
	Primary education	0	0.0	0	0.0	2	5.0		
	Preparatory education	0	0.0	0	0.0	6	15.0		
	Secondary education	0	0.0	13	100.0	18	45.0		
	University education	5	71.4	0	0.0	9	22.5		
	Postgraduate studies	2	28.6	0	0.0	0	0.0		
Residence	Rural	4	57.1	8	61.5	26	65.0	**0.18**	**>0.05**
	Urban	3	42.9	5	38.5	14	35.0		
Occupation	Yes	3	42.9	2	15.4	14	35.0	**2.20**	**>0.05**
	No	4	57.1	11	84.6	26	65.0		
Monthly income	Not enough	6	85.7	11	84.6	35	87.5	**5.62**	**>0.05**
	Enough	0	0.0	1	7.7	5	12.5		
	Enough and saved	1	14.3	1	7.7	0	0.0		

X^2: Chi-square test. No significant at p >0.05. **Highly significant at p ‹ 0.01.

Table (5): Correlation between total reported practices regarding seizure management and total anxiety mean scores among the studied mothers **(n=60)**.

Variables	Total mothers' reported practices regarding seizure management	
Total mothers' anxiety	**r** **p-value**	-0.953- 0.000**

r= correlation coefficient test. **highly significant at p ‹ 0.01.

Discussion:

Data emerging from the present study showed that, less than two thirds of the studied mothers were aged from 35 - < 45 years, and two thirds of the studied mothers were married. Furthermore, more than half of them have secondary education "diplome". From researchers' point of view this might be due to less than two thirds of the affected children aged between 12 - 18 years and this age was parallel with age of mothers under the study. In addition, less than two thirds of them living in rural communities where there is intensive fear of divorce stigma and according to rural culture many girls didn't have the interest to reach high level of education as secondary education may be seen as the most attainable level of education for girls.

This present study results illustrated that less than two thirds of the studied mothers were from rural areas and more than two thirds of the studied mothers weren't working. In addition, the majority of the studied mothers mentioned that their income is not enough. From the researcher's point of view, these results could be due to the sample taken from Psychiatric and Mental Health Hospital and Addiction Treatment at Benha city which serves many rural areas in which an increased percentage of unemployment and they preferred house works rather than employment. All of this contributes to not enough income especially in case of increasing in their daily living finance and the cost of treatment and follow-up for their children.

Regarding clinical data of the studied children, the result of the present study represented that more than three quarters of the studied children were aged <6 years at first seizure. From researcher's point of view, this could be due to many studies reported that epilepsy often manifests early in life particularly in the preschool or early school-age years and might be due to some common causes of epilepsy occur in children under the age of 6 years. This opinion was supported with studies done by ***(Alnaamani et al., 2023)*** and ***(Salisu et al., 2022)*** which indicated that more than three quarter of the studied children were aged <6 years at onset of seizures. In contrast, this current study was congruent with the study done by ***Ayoub et al., (2025)*** which illustrated that more than one third of the studied children were aged <6 years at seizure onset.

Regarding duration of seizure, more than one third of them have seizure from 1 - < 3 minutes. From researcher's point of view, this might be due to seizures lasting 1-3 minutes were relatively common in children with epilepsy, and this duration can be influenced by various factors, including the type of seizure, the presence of underlying conditions, and the effectiveness of treatment. As well as seizures usually last for 2 to 3 minutes and will almost always end on their own ***(American Academy of Pediatrics, 2025).***

This result was similar to the studies done by ***Liu et al., (2024)*** and ***Yücel et al., (2023)*** which reflected that, seizure duration among more than one third of his studied children was from 1 - < 3 minutes. In addition, this current study finding was in the same line with the study done by ***Okazaki et al., (2025)*** and mentioned that nearly two thirds of the studied children had seizure 1 - < 3 minutes. In contrast, this study was congruent with the study done by ***Barakat et al., (2024)*** and illustrated that the duration of seizures that occur to the majority of them are about 1-2 minutes.

Concerning the frequency of seizures, the result of the present study revealed that seizures occur monthly among more than one third of the studied children. The researcher attributed the result of this study due to the nature of epilepsy that is characterized by frequent seizures which occur most of time.

This result went in agreement with the studies done by ***Alashjaie et al., (2024) (Alnaamani et al., 2023)*** which reported that seizures occur monthly to more than one third of the studied children. On the other hand, this result was contradicted with the study done by ***Macdonald et al., (2024)*** and represented that, seizures occur monthly to the minority of children with epilepsy.

Concerning the previous hospitalization & numbers of hospital admission, this present result illustrated that less than two thirds of the studied children have history of previous hospitalization and less than two thirds of them admitted to hospital once. From the researcher point of view, this could be due to uncontrolled seizures or various complications are more likely to require frequent hospitalizations that necessitate emergency care and making hospital admission more common.

The result of this study was parallel with the study of ***(Alnaamani et al., 2023)*** and showed that, less than two thirds of the studied children have history of previous hospital admission. In contrast, this result was not in the same line with the study done by ***Ayar et al., (2024)*** and reported that less than three quarters of the children had not been hospitalized due to their illness.

Regarding causes for previous hospitalization of the affected children, less than half of them admitted to hospital due to loss of consciousness for more than 10 minutes after seizure fit stop. From the researcher's point of view, this could be due to loss of consciousness for long period of time especially after seizure attack is very dangerous and can cause severe complication for the affected children that require immediate hospitalization.

Furthermore, almost two thirds of the studied children didn't have family history of seizure. From the researcher's point of view attributed the result of this study suggests that there are many factors other than genetics can contribute to the development of epilepsy such as brain damage from trauma, certain brain infections, developmental brain abnormalities or complex environmental influences. This result was parallel with the studies done by ***Balcı et al., (2024)*** and ***Yang et al., (2025)*** which reported that more than two thirds of the studied children didn't have a family history of seizure. On the other hand, this result contradicted with the study of ***Mohamed et al., (2016)*** and revealed that, more than two third of the studied children had a family history of seizure.

As regard to mothers' reported practices regarding seizure management, these results showed that more than three quarters of the studied mothers have unsatisfactory level of total reported practices regarding seizure attack. From researcher's point of view, this result related to many mothers might not have sufficient knowledge about the correct steps of proper practices regarding seizure management which necessitate implementation of educational program for all mothers in all hospitals to provide them with sufficient knowledge about the disease, how to cope with it, importance of follow up and proper first aid practices regarding seizure management that enable them to save the life of their affected children.

This result went in agreement with the study done by ***Nashaat et al., (2022)*** and reported that majority of the studied mothers have inadequate practices before, during and after seizures fit. On the other hand, this result was not in the same line with the study done by ***Elmahey et al., (2024)*** and mentioned that less than two thirds of the studied mothers had inadequate practice regarding to prevent epileptic seizure.

Regarding anxiety level among the studied mothers of children with epilepsy,

this result clarified that, two thirds of the studied mothers have severe level of total anxiety. From the researcher's point of view, these results could be due to diagnosis of epilepsy in a child can cause uncertainty and fear of the future. Mothers may feel overwhelmed by the unpredictability of their child's seizures, which can lead to constant worry about their child's safety, wellbeing, the effectiveness of treatment and whether their child will be able to live a relatively normal life. In addition, many mothers may not have enough information or understanding about epilepsy, leading to fear of what might happen in the long term.

This result went in agreement with the study of ***Asghar et al., (2021)*** and showed that, two thirds of hid studied sample had severe anxiety level. Also, this result was parallel with a study of **Shasha *et al., (2022)*** conduct a study and reflected that, more than two thirds of the studied mothers of children with epilepsy had severe anxiety. On the other hand, this result was congruent with a study conducted by ***Dabilgou et al., (2022)*** and identified that the minority of the caregivers of children with epilepsy had severe anxiety.

Regarding, relationship between sociodemographic data of the studied mothers and total level of reported practices regarding seizure management, there is a highly statistically significant relation between total level of mothers` reported practices regarding seizure management and their education level. As more than half of the unsatisfactory levels of total reported practices were among mothers with secondary education. From the researcher's point of view this might be due to educational level that played a significant role in mothers' retention of information and their ability to implement effective seizure management practices.

This result was in the same line with ***Elmahey et al., (2024)*** in a study indicated that, there was highly statically significant relation between mothers' level of education and their total done practice. In addition to a study of ***Shahin & Hussien, (2021)*** revealed that, there is a highly statistically significant relation between mothers` reported practices scores and their educational level. On the other hand, this result was congruent with ***El-Amin et al., (2021)*** conduct a study reported that, there was no significant associations for educational level with practice scores.

As regard to, relationship between sociodemographic data of the studied mothers and total anxiety level. There is a highly statistically significant relation between total mothers` anxiety level and their education level. As less than half of the severe level of anxiety were among mothers with secondary education. From the researcher's point of view this might be due to the educational influence on anxiety as mothers with low educational level make them feel less confident in managing their child's epilepsy, may have less access to health-related information and face fewer resources or social support. This causes higher tendency to report high levels of anxiety due to inadequate understanding of coping strategies.

This result was supported by a study conducted by ***Tsehay et al., (2022)*** and explained that there was a significant association between the educational status of caregivers of children with epilepsy and anxiety.

In contrast this result was contradicted with ***Abdelnaem et al.***, ***(2020)*** in a study explained that there was a negative correlation between parental education and anxiety, but not statistically significant and lower parental education was associated with more distress and anxiety.

As regard to correlation between total reported practices regarding seizure management and total anxiety mean scores among the studied mothers, these results illustrated that, there is a highly statistically significant negative correlation between total mothers' anxiety and total reported practices regarding seizure management mean scores. As the mothers of children with epilepsy who had unsatisfactory reported practices had severe levels of anxiety. The researcher attributed these results due to inadequate knowledge about the complex condition of epilepsy and lack of understanding of how to manage seizures such as practicing the correct first aid measures can contribute to severe anxiety in mothers.

Finally, it can be said there is a great relationship between seizure management and anxiety level among the studied mothers as promoting practice among them leads to effective seizure management and reduce anxiety among them.

Conclusion:

Based on the results of the present study, the following conclusions were formulated:

There is a great relationship between seizure management and anxiety level among the studied mothers as more than three quarters of the studied mothers had an unsatisfactory level of total reported practices regarding seizure management and two thirds of the studied mothers had severe anxiety level. Also, there was a highly statistically significant negative correlation between total reported practices regarding seizure management and total anxiety mean scores among the studied mothers.

Recommendations:

Based on the findings of this study, the following recommendations are suggested:

1. Implementation of educational programs about epilepsy and its management toward epileptic children and their parents in all children outpatient clinics for better understanding of the disease.
2. Implementing psychoeducational programs in psychiatric hospitals to improve seizure management and alleviate anxiety level for mothers of children with epilepsy.
3. Application of the study using a larger sample in different correlational settings to generalize the results.

References:

Abd Elghfar, M., Bahgat, R., & Sharshour, S. (2024): Effect of Health Education on Mothers' Knowledge and Practice about Care of Children with Epilepsy and Administration of Antiepileptic Drugs. Tanta Scientific Nursing Journal, 32(1), pp 77-93.

Abdelnaem, M., Hassan, M. , & Hafeez, M. (2020): Controlled Study of Distress in Parents of Children with Epilepsy.

Abend, N., Wusthoff, C., Jensen, F. , Inder, T., & Volpe, J. (2025): Neonatal seizures. Volpe's Neurology of the Newborn, pp 381-448.

Aghaie, P., & Barzegar, M. (2024): Medication adherence and its relationship with stress, anxiety and depression in parents or caregivers of epileptic children. Epilepsy & Behavior, 161, 110090.

Alashjaie, R., Kerr, E., AlShoumer, A., Hawkins, C., Yau, I., Weiss, S., & Jain, P. (2024): Surgical outcomes in children with drug-resistant epilepsy and hippocampal sclerosis. Epilepsy Research, 203, 107367.

Alnaamani, A., Ahmad, F., Al-Saadoon, M., Rizvi, S., & Al-Futaisi, A. (2023): Assessment of quality of life in children with epilepsy in Oman. Journal of patient-reported outcomes, 7(1), pp 9.

***American Academy of Pediatrics, (2025)*:** Seizures and Epilepsy in Children, Available at: https://www.healthychildren.org/English/healthissues/conditions/seizures/Pages/Seizures-and-Epilepsy-in-Children.aspx, Retrieved on 1, February, 2025.

Arai, Y., Okanishi, T., Masumoto, T., Noma, H., Maegaki, Y., & Japan Environment and Children's Study Group. (2024): The impact of maternal prenatal psychological distress on the development of epilepsy in offspring: The Japan Environment and Children's Study. PloS one, 19(11), e0311666.

Asghar, R. , Siddiqa, A. & Firdos, U. (2021): Parental Anxiety in Childhood Epilepsy, European Academic Research, VIII, (9), pp 90-28

Ayar, D., Bektas, M., Ünalp, A., Yılmaz, Ü., Kos, F., Okur, T. & Yanar, S. (2024): The effect of illness-related fears of parents of children with epilepsy during the COVID-19 period on their children's seizure self-efficacy. Archives de Pédiatrie.

Ayoub, D., Al-Hajje, A., Salameh, P., Jost, J., Hmaimess, G., Jaafar, F., & Beydoun, A. (2025): Beyond Seizures: Psychiatric comorbidities in children with epilepsy. Epilepsy &

Balcı, T., Çakır Biçer, N., Gazeteci Tekin, H., & Edem, P. (2024): Evaluation of the Effect of Parenting Style and Parental Mealtime Actions on the Eating Behavior of Children with Epilepsy. Nutrients, 16(9), 1384.

Barakat, M., Mohamed, S., & Shams Eldin, F. (2024): Effect of Psychological Empowerment Program on Feeling of Burden and Self-efficacy among Mothers of Children with Epilepsy. International Egyptian Journal of Nursing Sciences and Research, 4(2), pp 159-178.

Biset, G., Abebaw, N., Gebeyehu, N., Estifanos, N., Birrie, E., & Tegegne, K. (2024): Prevalence, incidence, and trends of epilepsy among children and adolescents in Africa: a systematic review and meta-analysis. BMC Public Health, 24(1), pp 771.

Dabilgou, A., Dravé, A., Bague, B., Kyelem, J., Belem, Z., Napon, C., & Kaboré, J. (2022): Anxiety and Depression among Family Caregivers of Children with Epilepsy in Burkina Faso. International Journal of Epilepsy.

El-Amin, R., El-Sadig, S., & Mohamed, I. (2021): Knowledge, attitudes, and practices of caregivers of children with epilepsy in Sudan. Epilepsy & Behavior, 123, 108283.

Elmahey,S., Shafik,S. & Sabea, M. (2024): Mother's Awareness regarding Epileptic Children. Helwan International Journal for Nursing Research and Practice, 3(7), pp 189-200.

Elshafie, W., Elemam, F., Khalil, H., Abo Elsoud, M., Shalaby, S., & Sayed, H. (2021): Effect of Video Assisted Teaching Program on Mothers' First Aid Management of Convulsions for their Children. Egyptian Journal of Health Care, 12(4), pp 1781-1794.

Farghaly, W., Abd Elhamed, M., Hassan, E. M., Soliman, W. T., Yhia, M. A., & Hamdy, N. A. (2018): Prevalence of childhood and adolescence epilepsy in Upper Egypt (desert areas). The Egyptian journal of neurology, psychiatry and neurosurgery, 54, pp 1-7.

Grant, M., & Collier, E. (2024): Epilepsy: understanding its emotional and psychological effects and its relationship with mental illness. Mental Health Practice, 27(1).

Hajji, E., Traore, B., Hassoune, S., Bellakhdar, S., Salah, N., Rafai, M., & Lakhdar, A. (2024): Knowledge, attitudes and practices towards epilepsy in morocco: A cross-sectional study. Epilepsy & Behavior, 150, 109567

Isik, C., & Cebeci, D. (2025): Unveiling cognitive disengagement syndrome: A hidden challenge in children with epilepsy. Epilepsy & Behavior, 163, 110182.

Karakis, I., Flesler, S., Ghorpade, S., Pineda, R. , Joshi, K., Cooper, J., & Barnes, N. (2024): Caregiver burden and healthcare providers perspectives in epilepsy: An observational study in China, Taiwan, and

Argentina. Epilepsy & Behavior Reports, 100736.

Khalili, A., Cheraghi, F., Fayyazi, A., Soltanian, A., & Shamsaei, F. (2024): Parents care needs with epileptic children: a hybrid model concept analysis.

Lazaro, M., Alvaran, A., Yun, M., & Kim, S. (2024): Mobile health application for seizure management: A human-systems integration approach. Human Factors, 66(3), pp 744-769.

Liu, H., Zeng, S., Chen, Y., Yi, M., Tan, X., Xie, J., & Zhu, L. (2024). A simulation training of family management for parents of children with epilepsy: a randomized clinical trial. Italian Journal of Pediatrics, 50(1), pp 77.

Macdonald, K., Hooker, C., Loblein, H., Gaillard, W., Sepeta, L., & Berl, M. (2024): Reading and language profiles among children with epilepsy. Epilepsy & Behavior, 161, 110057.

Maier, W., Buller, R., Philipp, M., & Heuser, I. (1988): The Hamilton Anxiety Scale: reliability, validity and sensitivity to change in anxiety and depressive disorders. Journal of affective disorders, 14(1), pp 61-68.

Mohamed, H., Shehata, G., & Kotb, S. (2016): Knowledge's and Attitude of Parents about Epileptic Disease among Their Children at Assuit University Hospital. Assiut Scientific Nursing Journal, 4(7), pp 104-114.

Nashaat, N., El-Ghany, A., Mustafa, G., Mahmoud, S., El Sebaie, S., AbdelrhmanAlhanafy, S., & Mohamed, E. (2022): Effect of nursing intervention program on mothers' knowledge, practice and attitudes toward management of their children with epilepsy and intellectual disability. Tanta Scientific Nursing Journal, 25(2), pp 198-216.

Nationwide Children's, (2024): Epilepsy, Available at: Epilepsy: Causes, Symptoms, Diagnosis and Treatment (nationwidechildrens.org), Retrieved on 13 July 2024 at 1 PM.

Okazaki, S., Kumagai, T., Nishiuma, S., Iwasaki, K., Yamamoto, K., Kokubo, K., & Nakagawa, E. (2025): Risk factors affecting quality of life in children with epilepsy and their caregivers: A secondary analysis of a cross-sectional online survey in Japan. Epilepsy & Behavior, 163, 110227.

Salisu, M., Senbanjo, I., Oshikoya, K., Lamina, M., & Alaje, E. (2022): Parent's Knowledge, Attitude and Pattern of Care for Children with Epilepsy in Lagos, Nigeria. Annals of Health Research (The Journal of the Medical and Dental Consultants' Association of Nigeria, OOUTH, Sagamu, Nigeria), 8(2), pp 131-140.

Shahin, M., & Hussien, R. (2021): Knowledge, attitude, practice, and self-efficacy of caregivers of children with epilepsy: impact of a structured educational intervention program. Epilepsy & Seizure, 13(1), pp 1-16.

Shasha, H., Elbahnasawy, H., Elnagar, S., & Hassan, G. (2022): Effect of Simulation Training on Seizure Management and Anxiety level among Mothers of Children with Epilepsy. Menoufia Nursing Journal, 7(1), pp 395-412.

Sirisha, S., Jala, S., Vooturi, S., Patil, A., Somayajula, S., & Jayalakshmi, S. (2025): Association between behavioral problems and parental stress in children and adolescents with epilepsy. Epilepsy & Behavior, 163, 110229.

Sullivan, M., & Rosenbaum, J. (2024): "Guidelines for Emergency Management of Seizures: Identifying Critical Situations." Journal of Emergency Medicine, 66(2), pp 135-142.

Tsehay, M., Necho, M., Belete, A., & Srahbzu, M. (2022): Depression and anxiety and their associated factors among caregivers of children and adolescents with epilepsy in three selected hospitals in Amhara region, Ethiopia: a cross-sectional study. PloS one, 17(7), e0271885.

Turan, F., & Yangöz, Ş. (2023): Effect of educational interventions on level of epilepsy knowledge in children with epilepsy and parents: Systematic review and meta-analysis. Journal of Clinical Nursing, 32(7-8), pp 1381-1397.

WHO, (2025): **Epilepsy**, Available at: https://www.who.int/news-room/fact-sheets/detail/epilepsy, Retrieved on 1, February, 2025.

Winsor, A., Richards, C., Seri, S., Liew, A., & Bagshaw, A. (2024): Quality of life in children with epilepsy: The role of parental mental health and sleep disruption. Epilepsy & Behavior, 158, 109941.

Yang, C., Deng, W., Zeng, L., Tao, Q., & Zhang, L. (2025): Predicting medication adherence among children with epilepsy: Application of the protection motivation theory. Epilepsy & Behavior, 162, 110153.

Yücel, G., Arslan, A., Özgör, B., & Güngör, S. (2023): Sleep quality and depression in mothers of children with epilepsy and its relation to their children's sleep. Epilepsy & Behavior, 149, 109493.