

## Effect of Training Program on Mothers' Self Competence Regarding Caring for Their Epileptic Children

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### Abstract:

**Background:** Epilepsy is the most frequent neurological disorder in child-hood. Because epilepsy in childhood occurs in the setting of a cerebral structure characterized by quicker development and greater vulnerability than in adulthood, and it can lead to life- threatening or fatal results, making it crucial to detect and treat properly in its early stages. Aim of the study was to evaluate the effect of training program on mothers' self-competence regarding caring for their children with epileptic children. Settings: The study was conducted at pediatric outpatient clinic at Benha health insurance hospital and Nasar health insurance clinic in Shobra city affiliated to Egyptian Ministry of Health. Design: A quasi experimental design was utilized for conducting the current study. Sample: A convenient sample of mothers accompanying their epileptic children who were attending the above mentioned settings. Tools: Four tools were used for data collection; A structured interviewing questionnaire schedule, Reported practice checklist, Seizures Severity Scale and Parenting Sense of Competency Scale to assess mothers' self competence level. Results: There was a highly statistical significant differences in mothers' knowledge, and self 'competence level regarding care for their children with epilepsy throughout the program phases, additionally, mothers had a high self competence post program and follow up after 3 month compared with pre program. Conclusion : Based on the results of the present study, it can be concluded that, the research hypothesis is accepted, while it was found that the training program was highly effective method in improving the mothers' knowledge and practice regarding care for their children with epilepsy and reflected a highly self competence. Recommendation: The study recommended that, the continuous training and education should be provided to all mothers involved in care of children with epilepsy in order to update their knowledge and ensure sense of self competence level.

**Keywords:** Training Mothers, Self competence, Epileptic children

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### I. Introduction

Epilepsy is a chronic disorder of the brain that affects people worldwide. It characterized by recurrent seizures, which are brief episodes of involuntary movement that may involve a part of the body (partial) or the entire body (generalized). It is sometimes accompanied by loss of consciousness and control of bowel or bladder function. Children with seizures tend to have more physical problems such as fractures and bruising from injuries related to seizures, as well as higher rates of psychological conditions, including; anxiety and depression. Similarly, the risk of premature death with epilepsy is up to 3 times higher than the general population, with the highest rates found in low- and middle-income countries and rural versus urban areas. Moreover, there were a great proportion of the causes of death related to epilepsy in low- and middle-income countries are potentially preventable, such as falls, drowning, burns and prolonged seizures (WHO, 2018).

Incidence of epilepsy globally increased whereas, it affects about 65 million people worldwide have epilepsy. Nearly 80 percent of the people with epilepsy (PWE) live in developing countries, where annual new cases occur between 40 to 70 per 100,000 people in the general population. The estimated proportion of the general population with active epilepsy at a given time is between 4 to 10 per 1000 people. However, some of the studies from developing countries suggested that the proportion is between 6 to 10 per 1000, making it one of the most common neurological diseases globally (WHO, 2015).

Developing countries have higher prevalence due to the poorer perinatal care, standards of nutrition, public hygiene, the greater risk of brain injury, cerebral infection or other symptomatic cerebral conditions. However, it become problematic a common neurological disorder in childhood. As, the accompanied convulsions seriously affect infants and children more than any other age group. Epilepsy is about twice as common in children as in adults (about 700 per 100,000 in children under the age of 16 years compared to 330 per 100,000 in adults). The incidence of epileptic status in developed countries is between 17 and 23/100,000 with a higher incidence in younger children (Neville et al., 2018).

Epilepsy may be precipitate to many perinatal brain injury remains an important problem in developing countries and contributes significantly to the burden of epilepsy in the developing world. In addition to, predominant causes such as; perinatal asphyxia, neonatal hypoglycaemia, sepsis-meningitis, late haemorrhagic disease of the newborn and perinatal ischaemic arterial stroke, all of which can be preventable (Udani, 2016).

Epilepsy is unpredictable, whereas, convulsion can impact on family activities increasing the responsibilities of the parents adversely affecting the amount of time they can spend with other children and siblings. Children can recognize this deficit in attention towards them. Moreover, parents recognize that siblings of children with epilepsy are affected as they can experience restrictions in family activities. Also, this effect may spread to their sibling in which it can cause them stress, anxiety, suffering from behavioral and emotional problems. They can also feel responsible for their sibling with epilepsy, abdicating from their own activities to protect them and care for them during convulsion. Some children voiced being 'scared' or 'sad' about their siblings' predicament and that they were different from their peers, especially in cases of developmental delay (Chiou & Hsieh 2017).

The significant consequences of epilepsy signal the need to understand how children perceive and cope with the disease and treatment, as well as their concerns and needs. Most existing qualitative studies have a limited number of patients and are conducted in a single setting. A systematic review and synthesis of multiple qualitative studies can compare data from different populations and settings to provide more comprehensive information for health care providers (Tong et al., 2016).

Mothers play a key role in the process by which children with epilepsy come to understand and cope with their undesired difference. Mothers of children with epilepsy have their own individual set of concerns regarding care delivery, maintaining the health of their child with epilepsy, and ensuring the well-being of the caregiver and family unit. Challenging is best to care for a child with epilepsy in the home setting. As, being a mother is considered by many women as their most important role in life. Women's perceptions of their abilities to manage the demands of parenting and the parenting skills they possess are reflected by perceived maternal sense of competence level. (O'Toole et al., 2015)

Nurses have a vital role to interact with children and their families across the continuum of care, they are positioned to assess and develop an action plan to address caregiver strain using family-centered approaches. Nurses can improve the parental caregivers' ability to cope and educate caregivers in best practices of caring for a child with epilepsy, the well-being both caregiver and child can be improved. Since children with epilepsy face multiple developmental challenges over the continuum of their life. In addition to, the experience of their caregivers and the nature of their care differ from that of a child who require care only a child needs are well documented in the care-giving to develop intervention for competences level of care giver( Mary, 2013)

### **Significance of the study**

Epilepsy is a common neurological condition that associated with recurrent seizures and about 4-8 cases from 1000 children suffered from epilepsy in the developing countries (Almutairi et al., 2016). Epilepsy prevalence in Egypt was 6.98 / 1000 (Al-Zubaidi et al., 2017). Mothers' awareness about epilepsy would result in positive attitude toward the disease and practices competent care toward their epileptic children. Epilepsy often cause impairment of the child consciousness level which leaving him at risk of bodily harm and increase maternal fear about the child life also mothers worry about their abilities to provide effective seizure care and their epileptic children health. Epilepsy resulting in seizures that are caused by abnormal electrical discharges in the brain three hundred thousand people experience their initial seizure each year; 120,000 of them are under the age of 18 years. The statistics reveal that 75,000 to 100,000 children under the age of five years 'experience a first time seizure yearly (Epilepsy Foundation, 2012). In Egypt incidence rate of epilepsy is 50.651/ total population and prevalence rate is 643.639/ total population (National Statistics by Country for Epilepsy to Countries & regions, 2019). A child with epilepsy can have a shortened life span due to Complications such as frequent seizures, compromised airway management, and trauma during seizure activity. affect the child's care and parents 'everyday life. Although caregiving is a normal part of being a parent, this role takes on a distinctly different significance when a child experiences functional, physical, and cognitive limitations and possible long-term dependence on the caregiver.

The aim of this study was to evaluate the effect of a training program on mothers' self-competence regarding caring for their epileptic children through:-

Assessing mothers' knowledge, practices and sense of self competence regarding caring for their epileptic children Designing and implementing a training program for mothers based on their needs assessments.

Evaluating the effect of the training program on mothers' knowledge, practice and their sense of self competence.

**Research Hypotheses:**

- 1-The training program will improve mothers' knowledge, practices and sense of self competence for managing their epileptic children
- 2- Their will be a positive relationship between mothers' knowledge, practice and sense of self competence level.
- 3- Their will be a positive effect on children's seizures' severity after implementation of the training program

**II. Subjects And Method**

The study will be conducted according to the following designs:

- 1- Technical design.
  - 2- Operational design.
  - 3- Statistical design.
  - 4- Administrative design.
- 1- Technical Design

Technical design was included; the research design, the settings, subjects, as well as tools of data collection.

**Research Design:**

A quasi- experimental design was used to carry out the current study.

**Settings:**

The study was carried out at pediatric outpatient clinics at Benha health insurance hospital and Nasar health insurance clinic in Shobra city affiliated to Ministry of Health.

**Subjects:**

Two main subjects were included in the study:

Sample I: A convenient sample of ( 100) mothers accompanying their epileptic children who were attending the above mentioned settings, regardless their characteristics.

Sample II: A purposive sample of epileptic children with the following criteria:

- 1-Age 6-18 years
- 2-Both genders
- 3-Free from any congenital or mental disability

**Tools of data collection**

**Tool I: A structured interviewing questionnaire schedule:-**

It was developed by the researchers in a simple Arabic language after reviewing related literatures (Epilepsy Foundation, (2012), Mary, (2013), Tong et al., (2016) and National Statistics by Country for Epilepsy to Countries & regions, (2019). It was used to assess mothers' knowledge about epilepsy and epileptic seizures. It was designed to suite the nature of study samples. It composed of two parts:-

**Part I:**

a-Personal characteristics of the studied children such as; age, educational level, gender, child's rank. The total questions in this part included (6 questions)

b- Present and past medical history, such as; the first diagnosis of epilepsy was done by whom, the first attack, reason of attack, its duration and frequency of attack, repeated admission and medications of epileptic convulsions and exposure to previous head trauma. The total questions in this part included (6questions)

c-Personal data of the studied mothers such as; age, occupation, educational level, previous attendance of training sessions or courses about epilepsy. As well as, source of mothers' information. The total questions in this included (6questions)

**Part II:**

a- Mothers' knowledge regarding epilepsy such as; meaning, types, etiology, clinical manifestations, diagnostic investigations, treatment, side effects related to the prescribed drugs, complications, and follows up. The total questions included (7questions)

b-Mothers' knowledge related to accompanied epileptic convulsions episodes, such as; meaning of seizure, first signs of seizures occurrence, drugs may initiate occurrence of seizures, precautions during onset of seizure. The total questions included (9questions)

Scoring system:

A scoring system was followed to obtain the outcome of mothers' knowledge. For each knowledge items, the scoring system consisted of giving score (2) for the correct complete answer, while the correct incomplete answer was scored (1); and don't know or incorrect answer was scored (0). The total score of questionnaire

responses was accordingly, classified as; more than 75% was considered good knowledge, 60 <75 was considered average knowledge and less than 60% was considered poor knowledge

**Tool (II): Mothers' reported practice checklist:**

It was adopted from Epilepsy Foundation, (2012). It was used to assess mothers' reported practice in relation to the following practices:

- a) Mothers' practices regarding care for their epileptic children during daily activities, which composed of three dimensions as the following: a) physical care whereas, elements of care included; monitoring and administering treatment for seizure; monitoring treatment side effects; providing bowel, bladder and skin care; planning and ensuring adequate dietary intake; and assuring physical safety. b) psychosocial/emotional care which included; and c) the planning and management of care. The total items in this subpart included (14 items)
- b) Mothers' practices regarding care of their children during the epileptic convulsions, such as; remove any sharp or hard objects or surrounding furniture away of the child. The total items in this subpart included (9 items).

**Scoring system:**

A scoring system was followed to obtain the outcome of mothers' reported practice. For each step item, the scoring system consisted of giving score (2) for the completely done response, while the incompletely done response was scored (1); and not done response was scored (0). The total score of mothers' reported practice checklist responses was accordingly, classified as; more than 75% was considered good practice, while, 60 <75 was considered average practice and less than 60% was considered poor mothers' total practice

**Tool (III): Seizures Severity Scale**

It was Adopted from Hans et al., (1996) and translated by the researchers into Arabic language. It was filled by the mothers or any other family member during the attack. It was used to assess seizures' frequency, duration, consciousness level, accompanied signs and symptoms and complaints after the attacks. The scoring system was done concerning the above items. Each response was considered either; always, (3grades), usually, (2grades), sometimes (1grade), or never (zero grade). The total score was 39. The seizure severity was categorized as; zero indicated no seizure, 1-13 grades indicated mild seizure, 14-26 grades indicated moderate seizure while, 27-39 grades indicated severe seizure.

**Tool (VI): The Parenting Sense of Competence Scale (PSOC)**

It was adopted from Gibaud-Wallston & Wandersman, (1978). It was used to assess mothers' competence level regarding caring for their children with epileptic. The PSOC is a 17 item scale. Each item is rated on a 6 point Likert scale anchored by 1 = "Strongly Disagree" to 6 = "Strongly Agree". Higher scores indicated greater level of self competence. The researchers considered total competence level scores more than 75 highly self competence, while from 60-75 considered moderate self competence and on the other hand less than 60 considered low self competence.

**2- Operational design**

2.1 Preparatory Phase: A review of the past and currently available literatures related to the research problem using books, evidence-based articles, periodicals, and magazines were done to be acquainted with all aspects of the study problem and also in order to develop relevant tools for data collection and designing the content of the training program. This period extended from the beginning of January 2019 to the end of February 2019.

**2.2 Validity and Reliability of the Study Tools:**

Data collection tools were submitted to a jury of two experts in pediatric nursing from El-Menofia and Zagazig Universities field and a professor of pediatric neurology. To test the content validity. Modifications of the tools were done according to the experts' judgment on clarity of sentences, appropriateness of content and sequence of items. The experts' agreed on the content, but recommended minor language changes that would make the information clearer and more precise. The suggested changes were made. Internal consistency reliability of all items of the tools were assessed using coefficient alpha. It was 0.83 for Structured Interviewing questionnaires schedule, was 0.86 for mothers' practical reported checklist and was 0.79 for the self-competence scale.

**2.3. Ethical Considerations and human rights**

The present study was conducted under the approval of the faculty of nursing, Benha University. Then approval was obtained from the hospitals managers in the previously mentioned study settings through submission of

official letters issued from the dean of Benha faculty of nursing. The aim of the study was explained to each mother before applying the tools to gain their confidence and trust. The tools of this study were not be against the mothers' believes and cultures. The study was conducted in safe places for the mothers and their children and was not have any physical, social, or psychological risks. Data were collected and treated confidentially. Mothers ,were also informed that they could withdraw from the study at any time without giving any reason. An informed signed consent was obtained from each mother in the study. Confidentiality of participants information was assured and the data were accessed only by the researchers involved in the study. This phase took one month )March 2019(.

#### **2.4. Pilot study**

A pilot study was carried out on 10% of mothers (10 mother) and their children (10 child) over a period of one month (April, 2019), to evaluate the feasibility, reliability, and clarity of the tools. It was conducted to test the applicability of the tools, find out the possible obstacles and problems that might face the researchers and interfere with data collection. Additionally, detect any problems peculiar to the statements as sequence of questions and clarity. It was also helped to estimate the time needed for data collection, as it was 20 minutes. The sample concluded in the pilot study was excluded from the main study for the purpose of modification and clarification.

#### **3. Field work**

The actual field work was carried out from the beginning of May 2019 to the end of August 2019. The researchers were available at the previously mentioned settings two days/week (Saturday and Tuesday) to collect data by using the previous tools.

3.1 Assessment phase: At the beginning, the researchers interviewed each mother individually introduced themselves to each participant included in the study, explained the aim of the study, duration, and activities and took an assigned consent to participate in the study prior data collection. The data were collected along two phases of assessment for mothers. The first phase was done prior to conducting the training program to have baseline of data and the second phase of assessment was done post conducting the training program to evaluate the effect of the program on mothers' knowledge, practice and self-competence level. In addition, the data related to the study sample was gathered prior to conducting the training program. The time required for completion of the study tools ranged between 20 and 35 minutes.

3.2 Planning phase: The training program was designed by the researchers after an extensive review of related literatures and the needs identified in the assessment phase. An Arabic booklet concerning mothers' self-competence level regarding caring for their epileptic children was prepared and given to mothers.

3.3 Implementation phase: The training program was implemented in about two months. It was designed by the researchers according to the mothers' needs regarding caring for their epileptic children. It was constructed, revised and modified from the related literatures to improve the mothers' knowledge, practices and sense of competence. The contents were prepared in simple Arabic language to be easy understood for the mothers. It was designed and implemented throughout four sequential phases:

##### **1- First phase:**

A pre-test was carried out using the previously tools to assess knowledge, practice and sense of self competence of mothers in relation to epileptic children care.

##### **2- Second phase:**

Analysis of the pre-test findings was done to detect the mothers' actual needs.

##### **3-Third phase (planning and implementation):**

The program was carried out at the study settings through 6sessions (4 sessions for theory and 2 sessions for practice). A time schedule suitable for mothers was developed to conduct the program that included; date, place, topic, time and duration of each session. The training program consisted of two parts, the theoretical part covered the related concepts and the practical parts covered the mothers' practices related to care of their children during daily activities and care of their children during epileptic seizure. The teaching materials were developed before initiating the training program. Contents regarding; (meaning of epilepsy, types, etiology, meaning of seizures.....etc.) was developed in the form of a booklet. Mothers and their children were motivated to participate in the training program by giving the studied children a simple present in the form of a simple toy or school materials suitable for their age to gain their active cooperation.

These sessions have lasted for 21 hours. It was difficult to take all mothers at the same time. Thus, they were divided into 20 groups of about 5 mothers in every session and a copy of the training program contents was given to each mother. mothers participated in the program activities for 30 minutes of theoretical and 45 minutes of practical contents, The researchers were attended the study settings two days/week. The researchers started each session with a summary of the previous session and a pretest on the current session. Methods of

teaching were data show was used in order to help proper understanding of contents by mothers and their children. Used; lectures, brain storming, group discussion, demonstration and re-demonstration. Proper audio-visual materials such as booklets, illustrated educational videos, and posters.

General and specific objectives of the training program was stated and implementation to satisfy the study subjects actual needs, was carried out. Then, evaluation immediately after the implementation of training program using the same pre-test format as a post-test. Whereas, by the end of the training program each mother was able to fulfill following objectives:

- Identify meaning of epilepsy
- List types of epilepsy
- List etiology of epilepsy
- Identify risk factors
- Identify diet regimen and follow up
- List the sports should be avoided
- Identify needs of an epileptic child
- List warning signs and symptoms of epileptic convulsion episode
- Recognize different common treatment used in epilepsy
- List precautions regarding treatment of epilepsy
- List side effect accompanied with epilepsy drugs
- Identify the emergency conditions accompanied with
- Demonstrate the daily care activities for the epileptic child
- Demonstrate the immediate action in case of convulsion episodes.
- Demonstrate mother's action after the occurrence of epileptic episode

#### **(1) Booklet**

A booklet was developed by the researchers for training mothers on how to provide care for their epileptic children. It was composed of 18 pages and covered the meaning of epilepsy, types, etiology, meaning of seizures.....etc.). The contents were presented in simple figures and illustrated pictures so that mothers could easily understand and apply them. The booklet was evaluated by two professors of pediatric nursing and a professor of pediatric neurologist at the first step. Some of the initial educational contents were not for mothers, especially the practical contents but for nurses care of children with epilepsy; based on feedback at this stage, all materials were modified to provide educational and training content for mothers. The booklet was then evaluated by the previously mentioned jury.

(2)-Post-tests were performed to evaluate the mothers knowledge, practice and self-competence regarding care for their children with epilepsy, immediately after the end of the training session and 3 months after the training session

#### **(3) Evaluation of seizures' severity**

Mothers were taught about how to document seizures severity prior the training program initiation to be easily for them or other family member to document frequency, duration, consciousness level, accompanied signs and symptoms and complaints after the attacks. It was assessed pre, after one month of the training program and after 3 months of program implementation. Thus helped in recognition of the training program effect on the studied children with epilepsy.

#### **4- Fourth phase:**

After the completion of the program contents, the post test similar to pre test and practical demonstration were done to the mothers for measuring their knowledge, practice and self of competency regarding caring for their children.

### **III- Administrative design**

An official letters were issued from the Dean of the Faculty of Nursing, Benha University to the administrators of the study settings to carry out the study. A clear explanation was given about nature, purpose, importance and expected outcomes of the study. Oral consent was obtained from the mothers.

#### **Statistical Design**

Data analysis was performed using IBM SPSS statistical software version 20. The data were explored. Descriptive statistics with mean and standard deviation (SD) for continuous variables and frequency for categorical variables were analyzed. Qualitative variables were compared using Chi square test (X<sup>2</sup>) as the test of significance was used to evaluate changes in the pre- intervention and post-intervention program

implementation. Pearson correlation coefficient was used to compare between variables and personal characteristics data. The p-value is the degree of significant. A significant level value was considered when p-value  $\leq 0.05$  and a highly significant level value was considered when p-value  $\leq 0.001$ , while p-value  $> 0.05$  indicates non-significant results

### III. Results

Table (1) Illustrates the personal characteristics and past history of children with epilepsy. It was found that nearly three-quarters 68.0% of children were male, while 72.0% of them aged 9<12 years and their mean age was  $10.76 \pm 2.81$  years, more than two third 70.0% of them had primary school. And more than half of them 52.0% didn't exposure to head trauma. While more than half of them 56.0% of them have the first seizure onset at age 6<9 years. While 42.0% of them ranked the first among this sibling. The majority 80.0% of them didn't family history of disease and more than two thirds 65.0% of them didn't exposure to previous and recurrent fever episodes, 100% the first diagnosis of epilepsy was by medical practitioners and the majority (86.0% ) of them repeated admission to hospital related to epileptic status.

Table (2) represents the personal data of the studied mothers. The mean age of mothers was  $34.42 \pm 7.87$  years for approximately less than half 49.0% of them age was 25<30 years. As regards mothers' level of education, approximately more than half 58.0% of them had basic education and 60.0% of them house wife. Regarding their residence, it was observed that 70.0% of mothers were living in rural areas and 100% of them had source of information from nursing and medical staff.

Table(3) shows that, there was a highly statistically significant difference between mothers' knowledge about epilepsy post program and follow up after 3 month as compared to preprogram implementation.

Table(4) clarifies that, there was highly statistically significant difference between mothers' knowledge regarding seizures and related terms in post program phase implementation and follow up after 3 month ( $p < 0.001$ ) in all items as compared with preprogram implementation.

Figure (1) shows distribution of the studied mothers' total knowledge scores throughout the training program implementation. It is clear that, mothers' total knowledge scores good post program and follow up after 3 month as compared to preprogram implementation.

Table (5) illustrates that, there was highly statistically significant difference regarding their reported practice in relation to Care of Their Children During Daily Activities ( $p < 0.001$ ) improvement in all items , post program and follow up after 3 month as compared preprogram

Table(6) indicates that, there was highly statistically significant difference of mothers' self-competence scores regarding caring for their epileptic children ( $p < 0.001$ ) improvement in all items , post program and follow up after 3 month as compared preprogram

Figure (2) shows distribution of the studied mothers' total self-competence level regarding care of their epileptic children through program phases. It is clear that, mothers' self-competence level high post program and follow up after 3 month as compared to preprogram implementation

Figure (3) shows distribution of the studied children regarding their seizures' severity through the program phases. It obvious that, children with epileptic seizures were improved in their severity after one month of the training program compared with pre implementation

Table (7) reveals the relationship between personal data of the studied mothers and their total self-competence level regarding care of their children with epilepsy a highly statistically significant difference post and follow up after three months implementation of the training program

Table (8): reflects that, there is positive correlation between the studied mothers' total knowledge, total self-competence level and total reported practices ( $P < 0.05$ ) pre, post program implementation and after 3 months.

**Table (1): Personal characteristics and past history of epileptic children (n=100).**

Personal Characteristics	No	%
<b>Age in years</b>		
6<9	20	20.0
9<12	72	72.0
$\geq 12$	8	8.0
Mean $\pm$ SD	10.76 $\pm$ 2.81	
<b>Gender</b>		
Female	32	32.0
Male	68	68.0
<b>Rank</b>		
First	42	42.0
Second	10	10.0
Middle	20	20.0

The last	28	28.0
<b>Educational Level</b>		
Primary school	70	70.0
Preparatory school	22	22.0
Secondary school	8	8.0
<b>Previous academic failure</b>		
Yes	23	23.0
No	77	77.0
<b>Recurrent absence from school</b>		
Yes	63	63.0
No	37	37.0
<b>Past medical history</b>	<b>No</b>	<b>%</b>
<b>The first diagnosis of epilepsy was by:</b> Medical practitioners	100	100.0
<b>Exposure to previous head trauma</b>		
Yes	48	48.0
No	52	52.0
<b>Family history of disease</b>		
Yes	20	20.0
No	80	80.0
<b>Exposure to previous and recurrent fever episodes</b>		
Yes	35	35.0
No	65	65.0
<b>Age at first seizure onset (years)</b>		
1<3	12	12.0
3<6	20	20.0
6<9	56	56.0
9≥12	12	12.0
<b>Repeated admission to hospital related to epileptic status</b>		
Yes	86	86.0
No	14	14.0

Table (2): Personal data of the studied mothers (n=100)

Personal data	No	%
<b>Age in years</b>		
25<30	49	49.0
30<35	31	31.0
≥35	20	20.0
Mean ± SD	34.42 ± 7.87	
<b>Level of education</b>		
Basic education	58	58.0
Secondary	30	30.0
University	12	12.0
<b>Occupation</b>		
Work	40	40.0
House wife	60	60.0
<b>Family number</b>		
4-5	88	88.0
5-7	22	22.0
<b>Residence</b>		
Rural	70	70
Urban	30	30
<b>Source of mothers' information</b>		
Nursing and medical staff	100	100.0



Attending training sessions or courses related to epilepsy No	100	100.0
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**Table (3): Distribution of the studied mothers' knowledge regarding epilepsy pre, post and after three months implementation of the training program (n=100).**

mothers' knowledge	Preprogram implementation n=(100)						Post program implementation n=(100)						Follow up implementation After 3 month n=(100)						X <sup>2</sup> 1 p-value	X <sup>2</sup> 2 p-value
	Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
Meaning of epilepsy	12	12.0	32	32.0	56	56.0	64	64.0	28	28.0	8	8.0	44	44.0	46	46.0	10	10.0	39.09 0.000**	3.15 0.12
Types	16	14.0	40	40.0	44	44.0	60	60.0	36	36.0	4	4.0	44	44.0	48	48.0	8	8.0	35.3 0.000**	2.52 0.46
Etiology	14	14.0	42	42.0	44	44.0	60	60.0	36	36.0	4	4.0	48	48.0	28	28.0	24	24.0	41.3 0.000**	1.66 0.46
Signs and symptoms	16	16.0	32	32.0	52	52.0	70	70.0	22	22.0	8	8.0	66	66.0	13	26.0	21	21.0	41.6 0.000**	0.78 0.47
Meaning of epileptic status	12	12.0	48	48.0	40	40.0	68	68.0	30	30.0	2	2.0	58	58.0	20	20.0	22	22.0	51.2 0.000**	1.34 0.29
Complications	6	6.0	24	24.0	70	70.0	68	68.0	28	28.0	4	4.0	60	60.0	33	40.0	7	7.0	38.2 0.000**	1.54 0.59

**Continued table (3)**

Diagnosis	10	10.0	40	40.0	50	50.0	48	48.0	23	46.0	6	6.0	42	42.0	36
Treatment	22	22.0	36	36.0	42	42.0	58	58.0	36	36.0	6	6.0	44	44.0	32
Side effects accompanied with the prescribed drugs	16	16.0	32	32.0	52	52.0	66	66.0	26	26.0	8	8.0	60	60.0	20

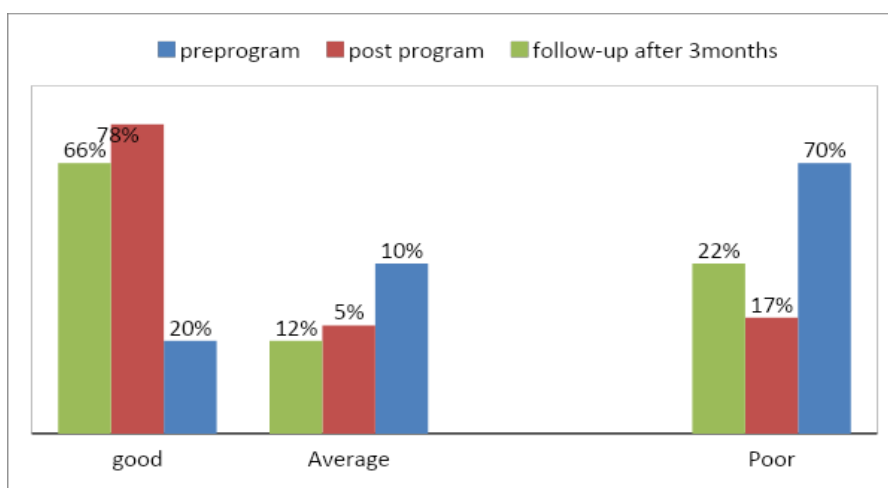
X<sup>2</sup>1 Difference between pretest and posttest

\*\*Highly statistically significant at p<0.001

X<sup>2</sup>2 Difference between posttest and follow up test.

**Table (4): Distribution of the studied mothers' knowledge regarding epileptic seizures and related terms (n=100)**

Mothers' knowledge	Preprogram implementation n=(100)						Postprogram implementation n=(100)						Follow up implementation After 3 month n=(100)						X <sup>2</sup> p-value	X <sup>2</sup> p-value
	Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
Meaning of seizure	16	16.0	22	22.0	62	62.0	64	64.0	28	28.0	8	8.0	54	54.0	36	36.0	10	10.0	69.09	3.15
																			<b>0.00</b> **	0.14
First signs of seizures occurrence	36	36.0	40	40.0	24	24.0	80	80.0	6	6.0	14	14.0	69	69.0	12	12.0	19	19.0	55.3	2.62
																			<b>0.00</b> **	0.46
Drugs may initiate occurrence of seizures	15	15.0	22	22.0	63	63.0	60	60.0	36	36.0	4	4.0	55	55.0	30	30.0	15	15.0	31.3	1.46
																			<b>0.00</b> **	0.46
Allowed activities for the child	20	20.0	32	32.0	48	48.0	70	70.0	10	10.0	18	18.0	66	66.0	13	13.0	21	21.0	51.6	0.88
																			<b>0.00</b> **	0.87
Sports should be avoided	12	12.0	38	38.0	50	50.0	78	78.0	10	10.0	12	12.0	67	67.0	15	15.0	11	11.0	74.2	1.34
																			<b>0.00</b> **	0.39
Leading Factors to seizures	6	6.0	24	24.0	70	70.0	68	68.0	28	28.0	4	4.0	60	60.0	33	33.0	7	7.0	58.2	1.64
																			<b>0.00</b> **	0.59
Drugs used in controlling seizures	15	15.0	22	22.0	63	63.0	60	60.0	36	36.0	4	4.0	55	55.0	30	30.0	15	15.0	31.3	1.66
																			<b>0.00</b> **	0.46
Precautions	12	12.0	38	38.0	50	50.0	78	78.0	10	10.0	12	12.0	67	67.0	15	15.0	11	11.0	51.2	1.34
																			<b>0.00</b> **	0.29



**Figure(1): Distribution of the studied mothers' total knowledge scores throughout the training program implementation(pre, post,and follow up after 3 month)**

**Table (5):**Distribution of the studied mothers regarding their reported practice in relation to care of their children during daily activities pre , post program and after 3 month (n=100)

Mothers' knowledge	Preprogram implementation n=(100)						Postprogram implementation n=(100)						Follow up implementation After 3 month n=(100)						X <sup>2</sup> p-value	X <sup>2</sup> p-value
	Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect		Complete correct answer		Incomplete correct answer		Unknown or incorrect			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
Meaning of seizure																			69.09	3.15
	16	16.0	22	22.0	62	62.0	64	64.0	28	28.0	8	8.0	54	54.0	36	36.0	10	10.0	<b>0.000**</b>	0.14
First signs of seizures occurrence																			55.3	2.62
	36	36.0	40	40.0	24	24.0	80	80.0	6	6.0	14	14.0	69	69.0	12	12.0	19	19.0	<b>0.000**</b>	0.46
Drugs may initiate occurrence of seizures																			31.3	1.46
	15	15.0	22	22.0	63	63.0	60	60.0	36	36.0	4	4.0	55	55.0	30	30.0	15	24.0	<b>0.000**</b>	0.46
Allowed activities for the child																			51.6	0.88
	20	20.0	32	32.0	48	48.0	70	70.0	10	10.0	18	18.0	66	66.0	13	26.0	21	21.0	<b>0.000**</b>	0.87
Sports	12	12.0	38	38.0	50	50.0	78	68.0	10	10.0	1	12.0	67	67.0	15	15.0	11	11.0	74.2	1.34
should be avoided											2								<b>0.000**</b>	0.39
Leading Factors to seizures																			58.2	1.64
	6	6.0	24	24.0	70	70.0	68	68.0	28	28.0	4	4.0	60	60.0	33	40.0	7	7.0	<b>0.000**</b>	0.59
Drugs used in controlling seizures																			31.3	1.66
	15	15.0	22	22.0	63	63.0	60	60.0	36	36.0	4	4.0	55	55.0	30	30.0	15	24.0	<b>0.000**</b>	0.46
Precautions																			51.2	1.34
	12	12.0	38	38.0	50	50.0	78	68.0	10	10.0	12		67	67.0	15	15.0	11	11.0	<b>0.000**</b>	0.29

**Table (6): Distribution of the studied mothers' self competence scores regarding caring for their epileptic children pre, post program implementation and after 3 months( n=100)**

Mothers' Self competence	Preprogram implementation n=(100)						Postprogram implementation n=(100)						Follow up implementation After 3 month n=(100)						X <sup>2</sup> 1 / p-value	X <sup>2</sup> 2 / p-value
	Disagree		Somewhat agree		Agree		Disagree		Somewhat agree		Agree		Disagree		Somewhat agree		Agree			
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
The problems of taking care of a child are easy to solve	38	38.0	30	30.0	22	22.0	80	80.0	2	2.0	18	18.0	71	71.0	12	12.0	17	17.0	85.3 / 0.000**	3.62 / 0.47
Even though being a parent could be rewarding, I am frustrated now	20	20.0	22	22.0	58	58.0	70	70.0	26	26.0	4	4.0	65	65.0	20	20.0	15	15.0	61.3 / 0.000**	2.66 / 0.86
I go to bed the same way I wake up feeling I have not accomplished a whole lot	21	21.0	32	32.0	49	49.0	72	72.0	15	15.0	13	13.0	63	63.0	10	10.0	17	17.0	41.6 / 0.000**	0.77 / 0.97
I do not know why it is, but sometimes when I'm supposed to be in control	14	14.0	38	38.0	48	48.0	79	79.0	10	10.0	11	11.0	70	70.0	15	15.0	12	15.0	104.2 / 0.000**	1.55 / 0.54
My mother was better prepared to be a good mother than I am.	6	6.0	34	34.0	60	60.0	68	68.0	18	18.0	11	11.0	58	58.0	23	23.0	19	19.0	78.2 / 0.000**	1.34 / 0.79
I would make a fine model for a new mother to follow in order to learn what she would need	25	25.0	22	22.0	53	53.0	69	69.0	26	26.0	5	5.0	55	55.0	20	20.0	25	25.0	36.35 / 0.000*	1.674 / 0.46
Being a parent is manageable, and any problems are easily solved easily solved	22	22.0	30	30.0	48	48.0	78	78.0	10	10.0	12	12.0	67	67.0	12	12.0	21	21.0	61.2 / 0.000*	1.54 / 0.69
A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.	12	12.0	38	38.0	50	50.0	78	68.0	10	10.0	12	12.0	67	67.0	15	15.0	11	11.0	35.78 / 0.000	1.98 / 0.630

*Effect of Training Program on Mothers' Self Competence Regarding Caring for Their ..*

Sometimes I feel like I'm not getting anything done.	38	38.0	30	30.0	22	22.0	80	80.0	2	2.0	$\frac{1}{8}$	18.0	71	71.0	12	12.0	17	17.0	98.45 / 0.000	1.36 / 1.36
I meet by own personal expectations for expertise in caring for my child.	14	14.0	38	38.0	48	48.0	79	79.0	10	10.0	$\frac{1}{1}$	11.0	70	70.0	15	15.0	12	15.0	104.2 / 0.000**	1.55 / 0.54
If anyone can find the answer to what is troubling my child, I am the one.	25	25.0	22	22.0	53	53.0	69	69.0	26	26.0	5	5.0	55	55.0	20	20.0	25	25.0	36.35 / 0.000*	1.674 / 0.46
My talents and interests are in other areas, not being a parent	12	12.0	38	38.0	50	50.0	78	68.0	10	10.0	$\frac{1}{2}$	12.0	67	67.0	15	15.0	11	11.0	35.78 / 0.000	1.98/0.630
Considering how long I've been a mother, I feel thoroughly familiar with this role.	38	38.0	30	30.0	22	22.0	80	80.0	2	2.0	$\frac{1}{8}$	18.0	71	71.0	12	12.0	17	17.0	85.3 / 0.000**	3.62 / 0.47
If being a mother of a child were only more interesting, I	20	20.0	22	22.0	58	58.0	70	70.0	26	26.0	4	4.0	65	65.0	20	20.0	15	15.0	61.3 /	2.66
would be motivated to do a better job as a parent.																			0.000**	/ 0.86
I honestly believe I have all the skills necessary to be a good mother to my child	21	21.0	32	32.0	49	49.0	72	72.0	15	15.0	$\frac{1}{3}$	13.0	63	63.0	10	10.0	17	17.0	41.6 / 0.000**	0.77 / 0.97
Being a parent makes me tense and anxious.	22	22.0	30	30.0	48	48.0	78	78.0	10	10.0	12	12.0	67	67.0	12	12.0	21	21.0	61.2 / 0.000*	1.54 / 0.69
Being a good mother is a reward in itself.	12	12.0	38	38.0	50	50.0	78	68.0	10	10.0	$\frac{1}{2}$	12.0	67	67.0	15	15.0	11	11.0	35.78 / 0.000	1.98/0.630

X<sup>2</sup>1 Difference between pretest and posttest.      \*\*Highly statistically significant at p<0.001  
 X<sup>2</sup>2 Difference between posttest and follow up test

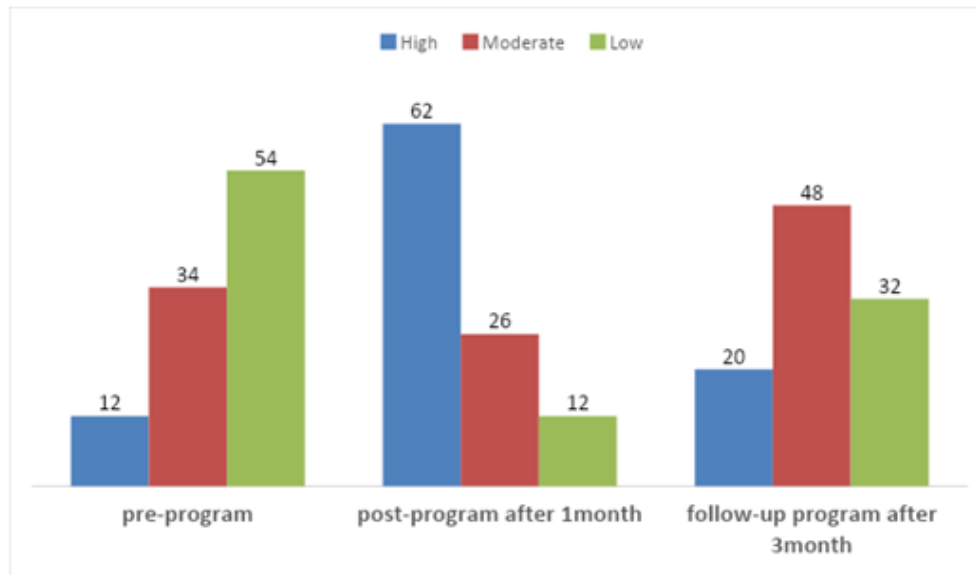


Figure (2): Distribution of the studied mothers total self-competence level regarding care of their epileptic children through program phases

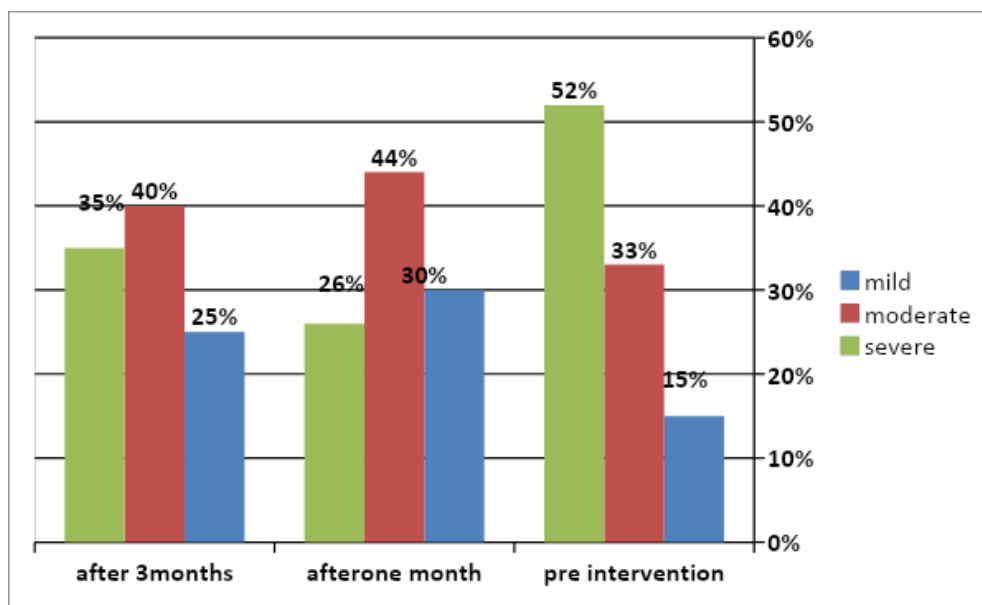


Figure (3): Distribution of the studied children regarding their seizures' severity through the program phases

**Table(7): Relationship between personal data of the studied mothers and their total self competence level regarding care of their children with epilepsy pre, post and after three months implementation of the training program (n=100).**

Total mothers' self competence level																		
Age in years	Pre pogram implementation						Post program implementation						Follow up after 3 months					
	high		Moderate		low		high		Moderate		low		high		Moderate		low	
	no	%	no	%	no	%	no	%	no	%	no	%	no	%	no	%	no	%
25<30	16	32.6	2	4.0	31	26.5	30	61.2	5	10.2	14	28.5	25	51.0	4	8.0	10	20.4
30<35	5	16.0	10	24.3	16	51.6	22	70.9	4	12.9	5	16.0	20	64.5	8	25.8	3	9.6
≥35	2	10.0	10	50.0	8	40.0	15	75.0	2	10.0	3	15.0	11	55.0	7	35.0	2	10.0
X <sup>2</sup> /P-value= 16.7/0.03*						X <sup>2</sup> /P-value=15.2/0.045						X <sup>2</sup> /P-value=12.2/0.06						
<b>Occupation</b>																		
Work	8	20.0	16	80.0	20	50.0	32	80.0	5	12.5	3	7.5	28	70.0	10	25.0	2	5.0
Housewife	19	31.6	11	18.3	30	50.0	44	73.3	8	13.3	8	13.3	39	65.0	14	32.3	7	11.6
X <sup>2</sup> /P-value=2.81/0.24						X <sup>2</sup> /P-value=1.24/0.53						X <sup>2</sup> /P-value=4.44/0.10						
<b>Level of education</b>																		
Basic education 58	10	14.7	12	20.6	36	62.6	50	86.2	2	3.4	6	10.3	43	74.0	7	12.6	17	29.3
Secondary30	6	20.0	12	40.0	12	40.0	22	73.3	2	6.6	6	20.0	18	60.0	2	6.6	2	6.6
University1212	3	25.0	5	41.6	4	3.3	8	66.6	2	16.6	2	16.6	5	41.6	1	8.3	6	50.0
X <sup>2</sup> /P-value=47.3/0.007*						X <sup>2</sup> /P-value=12.2/0.59						X <sup>2</sup> /P-value=27.6/0.006*						
<b>Residence</b>																		
Rural	12	17.0	6	8.5	52	74.2	60	85.7	4	5.7	6	8.5	54	77.0	10	14.2	6	8.5
Urban	5	16.6	9	30.0	16	53.3	23	76.6	7	23.4	0	0.0	20	66.6	5	16.6	5	16.6
X <sup>2</sup> /P-value=10.03/0.09						X <sup>2</sup> /P-value=12.89/0.57						X <sup>2</sup> /P-value=13.56/0.44						

\* statistically significant difference (P <0.000)      no statistically significant difference (P>0.05).

**Table (8): Correlation between total knowledge, total reported practices of the studied mothers and total self-competence regarding care of their children with epilepsy pre, post and after three months implementation of the training program (n=100).**

Variables	Total knowledge		Total reported practices		Total self competence level	
	Pre-program implementation		Post-program implementation After 1 month		Follow-up implementation After 3 month	
	r	p-value	r	p-value	r	p-value
Total knowledge	-	-	0.70	0.04*	0.81	0.01*
Total reported practices	0.35	0.01*	-	-	0.30	0.025*
Total self competence	0.14	0.07*	0.19	0.04*	-	-

#### IV. Discussion

Epilepsy is a common pediatric neurological emergency that requires immediate and vigorous management and at times poses a therapeutic challenge to the treating physician. If not managed promptly, it may result in significant neuromorbidity and mortality. Epilepsy is a neurological condition with common repeated seizures. In developing countries, the prevalence of epilepsy ranged from 0.004 to 0.008% children suffered from epilepsy. A seizure is a transient disturbance of the cerebral function secondary to abnormal paroxysms in the brain, which results in a sudden excessive disorderly discharge of the cerebral neurons. The discharge results in an almost instantaneous disturbance of sensation, loss of consciousness or psychic function, convulsive movements, or combinations of these (Almutairi et al., 2016)

During the last decades, the worldwide awareness regarded epilepsy and its effects on child and caregivers. Also, supporting information and high levels of awareness among mothers could support the needs of the children and help in managing the outcomes of epilepsy. However, the level of awareness and perceptions of population requires improvement, developing self-competence level care of mothers and the

studies regarding the mother's knowledge are limited. To understand the mothers knowledge regarding epilepsy, more surveys and international care delivery should be done that could influence the knowledge of the entire family. (Hagemann et al., 2016 & Carmassi et al., 2018)

The aim of this study was to evaluate the effect of a training program on mothers' self-competence regarding caring for their epileptic children through:-

- 1- Assessing mothers' knowledge, practices and sense of self competence regarding caring for their epileptic children
- 2- Designing and implementing a training program for mothers based on their needs assessments.
- 3- Evaluating the effect of the training program on mothers' knowledge, practice and their sense of self competence.

Therefore, the current study was testing the research hypothesis, mothers' knowledge, practice and self-competence level after attending the training program there was an improvement in mothers' self-competence level regarding caring for their epileptic children.

Regarding mothers' age, the present study revealed that the mean age of mothers was  $34.42 \pm 7.87$  years for approximately less than half of them age was ranged from twenty two to less than thirty years. These results disagreed with Hamaad&Alseraty(2019) in a study entitled " Impacts of Seizure Care Simulation Intervention on Mothers' of Epileptic Children Efficiency, Believes, Anxiety and Seizure Care" who found that the age of participants was thirty to less than forty years. Also, in relation to mothers' level of education ,it was found that, approximately more half of them had basic education, this finding disagreed with the same study whereas, nearly two fifth of them had secondary education. Moreover, regarding their residence, it was observed that more than two third of mothers were living in rural areas. This finding disagreed with Sonavane et al., (2014) in a study about " Knowledge and assessed practice regarding first aid among mothers of under 15 years children – A community based study in a rural area of South India' who found that almost of rural mothers could not identify the appropriate first aid for children having a seizure attack.

The present study revealed that, all of the studied mothers' sources of information were from nursing and medical staff. This finding disagreed with Asiri, (2018), who reported in his study about "Assessment of knowledge and Attitude and Practice of Parents towards Epilepsy among Children in Abha City" that the most prominent source of knowledge was internet among less than two thirds of the study subjects. However, this finding agreed with Kendall et al., (2014) who reported that the preferred source of knowledge among parents is physician or nurse as they are the source of most trustful information. On the other hand, Coulter & Koester, (2012) found that neither physician nor nurse have free time to give parents the full information they need

Regarding the personal characteristics and past history of children with epilepsy. It was found that nearly three-quarters of children were male, while more than half of them aged from nine to less than twelve years and their mean age was  $10.76 \pm 2.81$  years. This study result disagreed with the result of Karabiber et al., (2010) & Wong, (2012), who reported that, epilepsy has been in some studies as slightly more common in males as in females. This may be due to that male children practice heavy activities more than females. Whereas, Wong determined a Male/female ratio of 1.22:1, while Karabiber et al determined a ratio of 1.42:1 in a study of children aged 1-12 in Malatya, Turkey. However, this finding contradicted with Aaberg et al., (2017) who reported that the cumulative incidence was less than half at age 5 and two third at age 10 years.

Concerning the educational stage of the studied children, the result of the present study revealed that, more than two third of them had primary school. This finding was in accordance with Zinshteyn, (2017), who mentioned that most of the children suffering from epilepsy had either primary or secondary level

The present study revealed that less than half of the children ranked as the first among their siblings, which may be due to that mothers of the first child have little knowledge regarding caring of their children. Moreover, on studying family history of epilepsy, the current study finding revealed that, the majority of them didn't had family history of the disease .This finding was disagreed with Ottman et al., (2010) in a study about "Accuracy of family history information on epilepsy and other seizure disorders "who reported that the information about the accuracy of family history data for seizure disorders is very limited. We previously reported that people with epilepsy accurately identified epilepsy in their parents and siblings but underreported other seizure disorders isolated unprovoked, febrile, and other acute symptomatic seizures. Regarding diagnosis of epilepsy

According to the first diagnosis of epilepsy, the present study showed that all of studied children had the first diagnosis of epilepsy was by medical practitioners. This finding disagreed with Ottman et al., (2011) who reported that the diagnoses of seizure disorders based on medical record review, which served as the gold standard in this study, are subject to error but better than expected in many other settings. Our diagnoses were not based on recorded diagnoses alone, but on expert review of original data e.g., seizure descriptions, EEG, neuroimaging, other medical history by study epileptologists. Among relatives classified as having epilepsy



based on medical record review, 89% were seen by neurologists, and thus detailed data were available for review in most cases. Nevertheless, the available information was sometimes limited.

Regarding the age of onset when the child had the first seizure, the present study result revealed that, more than half of the studied children had the first seizure at age six to less than nine years. This result disagreed with Laura Ochoa et al., (2017) in a study entitled, "A study of epilepsy according to the age at onset and monitored for 3 years in a regional reference paediatric neurology unit" who reported that, less than half of children were having epilepsy between six and ten years. However, these findings supported with Sanmartí & Malaga (2011) in a study about "Atlas de epilepsia en la edad pediátrica Springer Healthcare" who reported that the peak incidence of epilepsy with absence seizures occurred between seven and eight years of age.

The present study result revealed that there was a highly statistically significant difference between mothers' knowledge related to epilepsy terms and practice regarding care of children with epilepsy post program implementation ( $p < 0.001$ ) in all items as compared with pre program. This finding was in agreement with Hamaad & Alseraty (2019) who found that, the majority of mothers had correct answers post intervention related to; definition of epilepsy, precipitating factors of seizure.

Regarding mothers' practices towards care of their children during daily life activities and also in relation to epileptic seizures attacks. It was found there was a highly statistically significant difference in post program phase compared with preprogram phase. This may be attributed to the lack of maternal knowledge reflected unsatisfactory practice regarding their children care. This is in accordance with Arash Najimi et al., (2013) in a study entitled "The effect of educational program on knowledge, attitude and practice of mothers regarding prevention of febrile seizure in children" who reported that after the educational intervention knowledge and practice of mothers had a significant increase in the intervention group and unlike the pre-intervention time, there was a significant difference between the control and intervention groups in the post-intervention time. It seems that using educational content suitable with the target group and also using group discussion and practical show were important roles in increasing the knowledge, and practice of mothers, particularly about practice of mothers, despite a relative good situation; the educational intervention could also promote the mean score of knowledge and practice.

Additionally, in a study conducted by Shore et al., (2010) entitled "Continuing Psychosocial Care Needs in Children with New-Onset Epilepsy and Their Parents", who mentioned that, the caregivers of children with epilepsy have lack of knowledge about epilepsy and educational programs were efficient in improving knowledge for epileptic children families with significant finding post the intervention was found.

The present study result revealed that there was a highly statistically significant difference between mothers' self-competence level regarding care of their children with epilepsy throughout the program phases. According to the researcher point of view this finding may be due to the positive effect of the training program. This was supported by Daulayet al., (2018). Who reported that, the importance of parenting sense of self competence as the mediator variable. The rate of parenting sense of self competence affects the way a mother perceives and feels the condition of her child so that it can minimize her stress. The mother's perception of her self-competence in taking care of her child has a direct correlation with the use of effective parenting strategy and proving that mothers with high parenting efficacy have confidence in their ability to apply effective ways of interacting with their children the practice of mothers before and after the introduction of the information change significantly.

Regarding the children's seizure severity through the program phases in the current study results, children with epileptic seizures were improved in their severity after one month of the training program compared with preprogram. The current finding supported by Sigalet et al., (2014) whom found, caregivers receiving the supplemental simulation-based curriculum achieved significantly higher levels of self-competence and reported confidence, supporting a positive relationship between simulation-based seizure discharge education, and caregiver self-competence level and confidence in managing seizures and improved in their severity of seizures. They added simulation sessions provided insight into caregiver knowledge, insight into the caregiver's ability to apply knowledge under stressful conditions.

Finally, the present finding revealed that, there was a statistically significant positive correlation between total knowledge score, practice score and self-competence score of studied mothers regarding care of their children with epilepsy on post and follow up after 3 month implementation of the training program. This finding consistent with Shields et al., (2012) who reported in his study about "Impacts of Seizure Care Simulation Intervention on Mothers' of Epileptic Children Efficiency, Believes, Anxiety and Seizure Care" who found that using simulation to improve caregiver self-competence level and self-confidence for seizure management produce a higher level of demonstrated competence level in families managing seizures in their children and evidence to support simulation education program compared with traditional approaches, the higher performance scores which improved significantly post the intervention.

## V. Conclusion

Based on the results of the current study, it can be concluded that the research hypothesis is accepted, while it was found that the training program is highly effective method to improve the mother's knowledge and practice and self-competence regarding care of their children with epilepsy .Moreover the seizures severity of the studied children were lessened and improved after the training program implementation.

## VI. Recommendation

Based on the findings of the present study, the following recommendations can be suggested:

- 1-Conducting training program for caregivers regarding caring of their children with epilepsy should be revised and available in pediatric outpatient clinic and health insurance hospital in Arabic language.
- 2- Continuous refreshing and evaluation should be provided in order to update mothers' knowledge and ensure self-competent level practice.
- 3-Training should be repetitive and involve actual practice to gain the required skills  
Incorporation of first-aid issues in the school curriculum
- 4-Further studie on larger scale should be conducted to generalize the findings over the whole population and not only those attending school health insurance centers

## Acknowledgment:

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