

Effect of Bite-Sized Teaching Sessions on Parent’s Knowledge, Attitude, and Practice Regarding Febrile Seizures in Children

Hanaa I. El Sayed¹, Faten F. Mahfoz², Hanaa M. Ahmed³

Assistant professor of Pediatric Nursing, Faculty of Nursing, Menoufia University, Egypt¹

Assistant professor of Pediatric Nursing, Faculty of Nursing, Suez Canal University, Egypt²

Lecturer of Pediatric Nursing, Faculty of Nursing, Menoufia University, Egypt³

Abstract

Background: Febrile seizures are benign neurological disorders in children under the age of five and often make parents distressed and frightened leading to a relevant reduction in the quality of care. **Aim:** This study aimed to examine the effect of bite-sized teaching sessions on parents’ knowledge, attitude, and practice regarding febrile seizures in children under five. **Setting:** The study was carried out over a period of six months from May to October 2021 in the Pediatric department at Governmental hospital, El Menoufia Governorate, Egypt. The study adopts a quasi-experimental research design to perform this study on 80 parents of children with febrile seizures from the age of 6 months to 5 years old and selected by convenience sampling technique. **Two tools** were used for gathering data. First tool: A structured interviewing questionnaire sheet. The second tool: An observational checklist to evaluate the parents’ practice for first-aid management of febrile convulsion. **Results:** Findings of the current study indicate statistically significant differences between pre and post-tests regarding parents’ knowledge and care practices for children with febrile convulsion at 5% and 1% levels of statistical significance. **Conclusion:** There was a marked improvement in parents' knowledge, attitude, and practice post-implementation of the bite-sized teaching program. **Recommendation:** Continuous bite-sized teaching sessions should be scheduled regularly for parents in the Pediatric Units to reinforce the quality of care and improve children's outcomes.

Keywords: Bite-sized teaching; Knowledge; Attitudes; Practice; Febrile seizures; Children

Introduction

Febrile seizures (FS) are the most common form of pathological brain activity in young children and are characterized by seizures with a fever of more than 38 °C in absence of neurological infection (1). According to World Health Organization (2019), approximately 50 million people currently live with febrile seizures. Globally, an estimated 2.4 million people are diagnosed with febrile seizures (2). Seventy percent of the children in both low- and middle-income countries are treated with seizure-free drugs. It is more frequently seen in the Asian population (5–10% of Indian children and 6–9% of Japanese children). There is a higher prevalence in some ethnic groups such as Guamanians (14%) and Japanese from 6% to 9% (3). In Egypt, the incidence

of febrile convulsion is 5 % with peak incidence at 18 months and twice as common in boys than girls (4, 5).

The cause of febrile seizures is multifactorial resulting from the vulnerability of the developing central nervous system to the effects of fever with underlying genetic predisposing factors with environmental conditions (6). Risk factors of FS are male gender, family history of FS, prenatal and natal complications, low serum calcium, sodium, or blood sugar, microcytic hypochromic anemia, zinc & iron deficiencies, and drug use (7). Febrile seizures can be classified as either simple or complex based on duration, physical characteristics, and recurrence patterns (8).

Simple febrile seizures are generalized in onset, last less than 15 minutes, and do not occur more than once in 24 hours. Simple febrile seizures account for about 80–85% of all febrile seizures (9). Loss of consciousness at the time of seizure is a constant feature. Foaming at the mouth, difficulty breathing, pallor, or cyanosis may also occur (3).

Complex seizures are characterized by focal onset and duration longer than 15 minutes with frequent episodes during the first 24 hours, fever higher than 38.0 C, difficulty breathing, pallor or turning blue, foaming at the mouth, eyes rolling to the back of the head, a fixed gaze, generalized or focal twitching, and jerking of the arms and legs (10). After a seizure, children may be irritable, confused, or drowsy but will completely recover after approximately 30 min (11). Febrile status epilepticus is the most severe form characterized by continuous or intermittent febrile seizures without consciousness being regained for more than 30 minutes (12). Diagnosis is guided by the medical history and physical examination (8, 13). A complete blood count should be considered in sick children because bacteremia may lead to febrile seizures (14). Measurements of serum glucose, electrolytes, creatinine, and urea nitrogen should be considered if there has been a history of inadequate fluid intake, vomiting, diarrhea, or if there are physical signs of dehydration or edema. If the cause of the fever is unclear, a urinalysis should be considered. A urine culture would be appropriate if the urinalysis is abnormal (15).

Prehospital and emergent management should focus on stabilizing the patient airway, breathing, and circulation (ABCs). Most febrile seizures are self-limited (16). Though seizures extended more than five minutes are unlikely to stop on their own, a benzodiazepine should be administered to

terminate the seizure (17, 18). Daily administration of Valproic acid or phenobarbital is an effective drug to prevent the recurrence of SF (19). Children who experienced a simple febrile seizure are at potential risk of adverse outcomes such as injuries from falling or colliding with objects, self-biting, aspiration pneumonia, medication side effects, decreased Intelligence Quotient (IQ), increased risk of epilepsy, recurrent febrile seizures, and death (20). Despite patients having a good prognosis of FS, it's a very difficult condition for parents to handle. Concerns about future health are the most common cause of fear among the parents (21). Sources of concern include fear of recurrence, mental retardation, physical disabilities, disturbance in the parents' sleeping pattern, and family's quality of life (8). Misconceptions regarding fever can lead to aggressive and dangerous practices like sponge bathing with alcohol or overdosing with antipyretics (22).

Extreme frightening and emotionally traumatic for parents, leading to overprotection, restriction of children's activities, sleep disorders, or other functional disorders for weeks besides reduction in the quality of life (15). The best approach is to establish good communication with parents to increase their responses and alleviate parental fears, empower them to cope with the frightening experience, and intervene with the disease optimally (23). The fundamental responsibilities of the nurse are monitoring temperature, using pharmacological and non-pharmacological methods for temperature reduction, adequate hydration, increasing child comfort, and assisting in the treatment of underlying cause (11). Also, nurses should provide assertive and honest information to parents in written and verbal methods comprising the causes of febrile seizures and the risk of subsequent events, management of fever, and lifestyle

modifications (3). Nursing care should be directed toward the child and family to help them cope with the psychological and sociological problems related to the disease (24). Parents' knowledge concerning FC mainly affects their attitudes toward their children's FC attacks (25).

A lack of accurate data about FC causes many disorders such as severe depression and other negative outcomes on the parents and child. Parents seeing a convulsion for the first time may be shocked and overwhelmed with fear. To minimize parental fear and anxiety, it is crucial to give sufficient and correct knowledge about FC, the relationship with fever, and the good prognosis (26). Bite-Sized Teaching (BST) is an instructional method breaking down the complex content into discrete, manageable units that emphasizes relevant knowledge schemas that use multiple, focused 4 to 5 micro sessions with 8 minutes for each one (27). Instead of reviewing all content relevant to the topic, it emphasizes a single construct and provides a framework for that construct for learners to organize and recognize related facts and ideas in order to simplify learning by targeting extraneous load to ease working memory (28, 29).

Operational definitions

- **Bite-sized Teaching:** (BST) is a brief, focused learning unit built around a specific objective within 10 min of teaching micro-sessions.
- **Knowledge:** refers to facts, information, and skills attained through experience or education either as the theoretical or practical understanding of a topic.
- **Attitude:** is a tendency to respond positively or negatively toward a certain idea, person, or situation. They comprise four components are cognitive, affective, evaluative, and conative.

- **Practice:** refers to actual interventions or use of an idea, belief, or method, as opposed to theories regarding it.

- **Febrile seizure:** is a seizure occurring in childhood between the ages of 3 and 60 months related to febrile illness that is not caused by a central nervous system infection.

- **Children:** it refers to youngsters below the age of puberty.

Aim of the Study:

This study aimed to examine the effect of bite-sized teaching sessions on parents' knowledge, attitude, and practice regarding febrile seizures in children under five.

Objectives

- To evaluate the level of knowledge on management and prevention of febrile seizure among parents with children aged under five.
- To evaluate the effect of educational teaching on knowledge regarding management and prevention of febrile seizure among parents with children aged under five.

Research hypothesis

Hypothesis 1: Parents will have better knowledge, attitude, and practice after implementation of the BST sessions

Hypothesis 2: A positive correlation will be found between the implementation of BST sessions and parents' knowledge, attitude, and practice

Hypothesis 3: A positive association will be found between the implementation of BST sessions and fever control for the prevention of febrile seizures.

Subjects and Methods

Research design:

The research method adopted for this study was a quasi-experimental design (pre and post-test).

Setting:

The study was conducted in the Pediatric department at the Government hospital

(Birket El Sabah Central Hospital), El Menoufia Governorate, Egypt.

Sampling:

A nonprobability purposive sampling technique was utilized. This study comprised of 80 parents having children with febrile convulsion under the age of five (Both first and recurrent attacks of FC).

Inclusion Criteria

- Parents of children showed febrile seizures aged between 6 months to 5 years old without central nervous system infection.
- Parents accepted to participate in the study.

Exclusion Criteria

- Children with inborn errors of metabolism, brain tumor, epilepsy, chromosomal abnormalities, history of intracranial surgery intracranial hemorrhage, or hydrocephalus
- Parents who don't complete the questionnaire sheet.

The tool for data collection

Two tools were used for data collection:

Tool one: A structured interview questionnaire sheet was adopted from 30 and modified by researchers after reviewing the related literature of various aspects of the study using books, articles, internet periodicals, and Journals to develop the tools for data collection. It was written in simple Arabic language. It contained three sections divided to the following:

Section 1: Characteristic of the studied sample, it contains 9 questions in relation to children age, sex, diagnosis, parent's age, residence, level of education, family history of seizure, family history of febrile convulsion, and previous training programs.

Section 2: Parents' knowledge about febrile seizures, the questionnaire contained 13 questions about the definition, cause, risk factors, medications, ECG / CT scan, prognosis, complications, and traditional therapy. It is classified two choices (Yes and No). Scoring system for parent's knowledge: The scale score for this study was estimated as follows: the scoring method of the questionnaire in the

knowledge part was one for correct response and zero scores for incorrect response. The overall knowledge score ranged from 0 to 13 and was divided into three incremental sections ($13/3 = 4.3$). Later, the parent's knowledge was reclassified into three groups of 0, 4.4, and 8.7 denoting poor, fair, and good knowledge respectively.

Section 3: Parents' attitudes about febrile seizures to evoke a positive or negative attitude and disposition for action. The questionnaire comprised 9 questions about parents' opinions about the febrile seizures, prevalence among the relatives, time, frequency, and monitoring temperature. It is classified two choices (Yes and No). Scoring system for parent's attitude, each question was scored one for good perception and zero for poor perception. The attitude score ranged from 0 to 9 and was grouped into three incremental sections ($9/3 = 3$). This is divided parents' attitudes into three groups of 0, 4, and 7 signifying poor, fair, and good attitude respectively.

Tool two: An observational checklist was adopted from Abdulla & Abdulhadi, (2015) and modified by researchers after reviewing the related literature to evaluate parents' practice for first-aid management of febrile convulsion. It consisted of 15 elements. It is divided into two choices (Yes and No). The correct practice was scored one, while the incorrect practice has given a score of zero. The obtained score for each domain was multiplied by 100 and divided by the total number of questions in the domain. The practice score ranged from zero to 15 and was grouped into three incremental sections ($15/3 = 5$). The practice divided into three groups of 0, 6, and 11 representing poor, fair, and good practice respectively. The score for each item ranged from [0 to 1]. The incorrect practice was taken a score of zero [0], and complete safe practice was given a score of one [1]. The percentage score $< 60\%$ considered incorrect practice, $\geq 60-85\%$ considered a fair safe practice, and

more than 85% considered good safe practice.

2.5 - Reliability:

The reliability of the instruments was applied to delineate the extent to which items in the questionnaire were interrelated to each other. It was computed using Cronbach's alpha 0.80

2.6 - Validity:

For validity assurance, the instrument was provided to five juries including two professors of Pediatrics, and three professors of pediatric nursing for their feedback on content, set-up, and order. The modifications were done to ascertain the relevance and completeness.

2.7-Ethical consideration:

Approved consent has been issued from the Faculty of Nursing. Officials' approval was obtained to collect data after illuminating the purpose of the study and the intervention that could contribute to expand the parent's knowledge, attitude, and practice about prevention and management of febrile convulsion. In the initial interview, the researchers introduced themselves to the parents and explained the purpose of the study. Parents were required to give verbal or written consent indicating their willingness to join in the study. Every parent was informed of the right to refuse or participate in the study with anonymity and the confidentiality of the information collected was guaranteed. Finally, the parent's formal consent to participate was obtained and reassured that they had the right to withdraw from the study without any penalty.

2.8- Pilot study:

A Pilot study was conducted on 10 % (8 parents) of the sample selected and interviewed to test the applicability, consistency, clarity, and feasibility of the tools to estimate the needed time to fill each sheet. No changes were made to the study tools. So, 10% of the study sample was included in the research.

2.9 -Procedure for data collection

Fieldwork: Data collection started in May and lasted until October 2021.

A. Assessment phase

Official permission was obtained from the hospital director after giving an official letter from the Dean of the Faculty of Nursing outlining the purpose of the study. Subsequently, the researcher attended a meeting with the Head of Nursing to clarify the purpose of the research and sought their support in implementing bite sized teaching sessions. The researchers introduced themselves to the parents who shared in the study and explained the purpose. Each parent was given a self-administered questionnaire sheet to assess their knowledge and attitude that included closed-ended questions focused on parents' knowledge and attitudes towards febrile convulsion. It took 10 minutes for parents to fill out. The assessment phase took 3 months to complete the required data. Parents' performance was assessed by an observational checklist and filled out by the researcher while providing care to the children. Parents were not informed that they were observed. Data was collected 2 days a week during the morning and afternoon shifts for a total of 80 parents. Areas of weaknesses in parents' knowledge, attitude, and practices were identified and Brief focused learning units including multiple, 10-min micro-learning sessions threaded thematically were determined.

B. Planning phase

The researcher planned bite-sized teaching (BST) following a review of the literature built on the assessment of parents' knowledge, attitude, and practice obtained from the structured questionnaire sheet and observational checklist. Therefore, key topics deemed important to parents are carefully refined and focused on the specific learning objectives. The sessions were planned to be provided in two days for eight sessions (10 min) for the explanation, and 3-5 min for summarizing the contents. The

first four sessions started with a theoretical part and each session lasted approximately 10 minutes. It focused on the definition, causes, signs and symptoms, diagnosis, treatment, and complications of febrile convulsion to improve parents' knowledge in this topic. The second four sessions focused on the practical part and lasted approximately 10 minutes about the care and preventive measures of febrile convulsion through a concise piece of education with purposeful visual aids with applying demonstration, and re-demonstration of the related skills to enable a deeper understanding of content. The researcher used demonstration, and re-demonstration of the related skills. A booklet about febrile convulsion, management, and prevention was prepared.

C. Implementation phase

Bite-Sized Teaching Sessions was implemented at Pediatrics Department at Birket El-Sabah Central Hospital. In order to enable the release of as many parents as possible to attend the teaching program, the Parents were divided into small groups (2-5). Bite-Sized Teaching sessions were carefully refined and relevant content focused on febrile convulsion than the researcher discussed with parents in two days to make the learning process no longer boring. Bite-Sized Teaching sessions are starting with the theoretical part inside the pediatric department. The second four sessions were about the management and prevention of febrile convulsions (practical part). All sessions were delivered by the researcher to ensure consistency with direct reinforcement in the form of material rewards and affection with positive feedback. As soon as implementing micro-teaching, the researcher uses the video to repeatedly watch and study each small operation detail with parents and encourage them to ask questions to clarify for them. Researcher hints with positive words to increase parents' participation in the teaching

process. Each parent received handouts that included theoretical and practical sessions and was distributed to all parents.

D. Evaluation phase

To assess the impact of BST sessions on learning, we conducted a post-test to compare parents' knowledge, attitude, and practice acquisition via a structured questionnaire sheet and observational checklist after the implementation of bite-sized teaching sessions (post-test) and it took 3 months.

Data processing and analysis

Statistical Package of Social Science (SPSS) version 20 was used for statistical analysis of the findings obtained in the study. Quantitative data were expressed in the form of mean and standard deviation. Qualitative data were expressed as numbers and percentages and analyzed by applying the Chi-square test. P-value > 0.05 was shown statistically nonsignificant, P-value ≤ 0.05 was revealed statistically significant, and P-value < 0.001 means highly statistical significant.

Results

Table 1 represents the distribution of parents and children socio-demographic factors. It was revealed that the Mean ± SD of the studied children was 20.97 ± 13.19. The majority of children (62.5%) were diagnosed with pneumonia whereas 33.75% were diagnosed with gastroenteritis (33.75%). The mean age and standard deviations of parents were 27.72 ± 7.47 and less than half of studied sample was aged between 20 -< 30 (47.5%). This study reported that 61.25% were from rural residents. Approximately one-third of studied parents (33%) had bachelor's degrees and more than one quadrant had preparatory school (26.25%). The majority of studied parents had a negative family history of epilepsy or febrile convulsions (93.75% and 91.25% respectively). Also, it was revealed that none of the parents had attended any previous training program about febrile seizures.

Figure 1 shows the distribution of children according to their age, it was illustrated that more than half of the studied sample was aged between 6 < 24 months (58.75%). While more than one quadrant of children was aged between 24 < 48 months and the minority of them were aged between 48 < 60 months (12.50%).

Figure 2 discloses the distribution of children according to their gender, it was shown that male children outnumber female children by the percentage of 61.25 % to 38.75%.

Table 2 shows the comparison between parents' knowledge about febrile seizures on pre and post-tests. Although parents had adequate knowledge about most of the items related to febrile seizures, there was unsatisfactory level of knowledge with their believes that positive family history of convulsive disorder increases the risk of FS, recurrent fever increase risk of FS, Medication needed for every child with FS and EEG or CT is necessary for the child with FS (18.75%, 12.5%, 17.5%, and 11.25% respectively). Furthermore, the findings revealed that parents' knowledge improved tremendously after being educated about febrile seizures. They taught that febrile convulsion can cause convulsion, they did not perceive that a febrile convulsion is a form of epilepsy, and there is no necessity of ECG & CT scan to be done (98.75%, 98.75%, and 91.25% respectively). Therefore, there were statistically significant differences between knowledge of parents at 5% and 1% levels of statistical significance

Table 3 reflects parents' attitudes about febrile seizures on pre, and post-test. The majority of the parents in the pre-test believed that it is not a stigma to have a child with febrile seizures (90%) and 70% of them thought that they should measure the temperature frequently. Meanwhile, more than one-quarter of studied parents expects that relatives of the child will get the disease (28.75%). On other hand, a

minority of them is believed that febrile seizures occur at night (11.25%). On the post-test, there was a marked improvement in parents' attitude post-implementation of the bite-sized teaching program. All parents agreed that it is not a stigma to have a child with febrile seizures, know how to deal with febrile seizures, febrile seizures can occur at night, febrile seizures are not an infectious disease and parents measure the temperature of a child frequently (100%).

Table 4 demonstrates a comparison of parents' practice for febrile seizures on pre and post-test. This table revealed that during the pre-test, the majority of parents reduced body temperature, putting their children in smooth and safe place laid the child in lateral position when drooling, and they were observing the features & duration of FS (81.25%, 91.25%, 75%, and 83.75% respectively). Despite this, less than half of the studied sample was engaging in inappropriate practices such as cardiac massage and stimulating the child (41.25%, and 47.50% respectively). The minority of them shakes the children, who have had FS attack & open their mouth to put something in to prevent tongue biting and suction secretions from the child's mouth and nose (16.25%, 17.50%, and 20% respectively). On post-test, parents had the most adequately done practices related to body temperature reduction, putting the children on lateral position when drooling, observing the features and duration of FS, and not controlling or handling the child with FS (96.25%, 97.5%, 100%, and 98.75% respectively). Therefore, there were statistically significant differences between practices of parents at 5% and 1% levels of statistical significance.

Table 5 represents the correlation of confounding factors and parental knowledge of febrile convulsions. It was clarified that the family history of febrile convulsions was more common in the children with febrile convulsion and there is no correlation between knowledge of febrile convulsions

and having a positive family history for febrile convulsions.

Figure 3 depicts the comparison between the total mean score of parents' knowledge, attitude, and practice regarding febrile seizures. The study revealed that there was a significant increase in knowledge, attitude, and practice level after the bite-sized teaching program intervention.

Table 6 represents the relationship between febrile convulsions knowledge score and socio-demographic characteristics of the studied sample. It was revealed that there was a statistically significant difference ($P < 0.05$) between the knowledge level and parents' mean age, residence, and education.

Table 1: Distribution of parents and children socio-demographic factors (No=80)

Demographic characteristics		Frequency n=80	Percentage %
Child Age(Months)	6 -< 24	47	58.75
	24 -<48	23	28.75
	48 -< 60	10	12.5
	Mean ± SD: 20.9743 ± 13.19		
Child Sex	Male	49	61.25
	Female	31	38.75
Diagnosis	Pneumonia	50	62.5
	Gastroenteritis	27	33.75
	Otitis media	3	3.75
Parents age(Years)	20 -< 30	38	47.5
	30 -< 40	32	40
	40 -<	10	12.5
	Mean ± SD: 27.72 ± 7.47		
Residence	Rural	49	61.25
	Urban	31	38.75
Education Level	Primary School	3	3.75
	Preparatory School	21	26.25
	Secondary School	17	21.25
	Technical Institute	13	16.25
	Bachelor Degree	26	32.5
Family history of epilepsy	No	75	93.75
	Yes	5	6.25
Family history of febrile convulsion	No	73	91.25
	Yes	7	8.75
Training sessions about febrile convulsion	No	80	100
	Yes	0	0.0

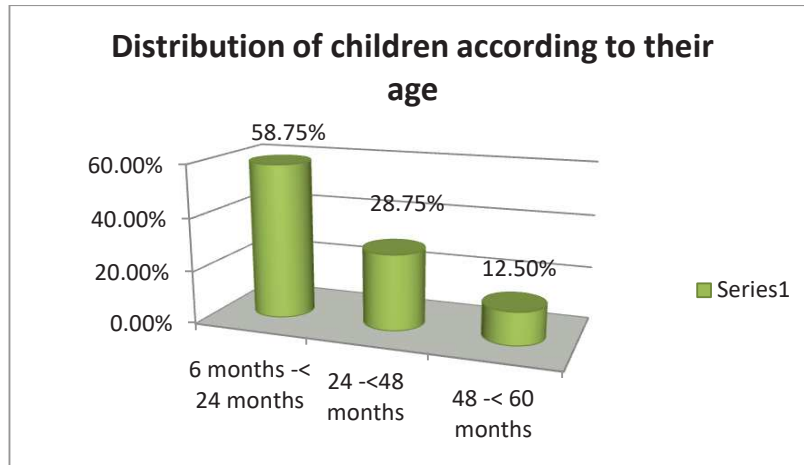


Figure 1:- Distribution of children according to their age

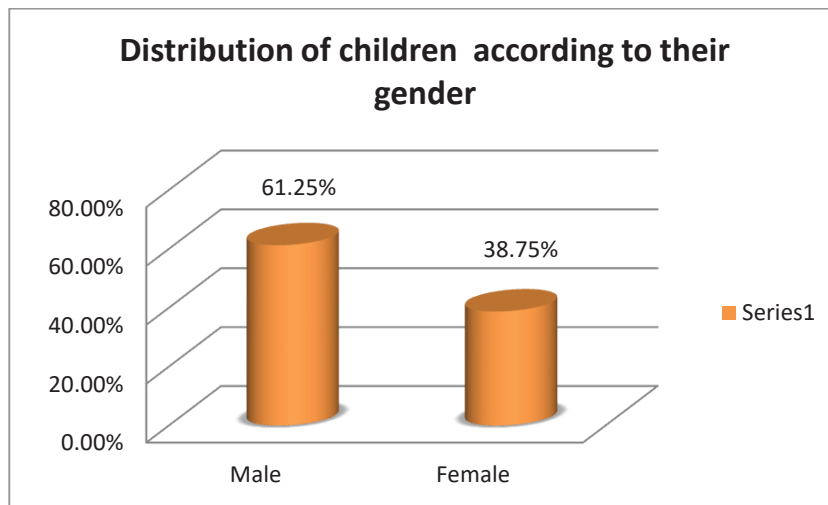


Figure 2:- Distribution of children according to their gender

Table 2: Comparison between parents' knowledge about febrile seizures on pre and post-tests (No=80)

Questions	Correct knowledge	Correct responses				χ^2	P Value
		Pre-test n=80		Post-test n=80			
		No	%	No	%		
Knowledge							
1-Fever can cause convulsion	Yes	68	85	79	98.75		
2- A febrile convulsion is a form of epilepsy	No	62	77.5	79	98.75	5.73	.017*
3-Febrile convulsion at 3m - 5 years is risky	Yes	64	80	77	96.25	3.48	.062 ^{ns}
4-Growth retardation increase the risk of FS	No	60	75	75	93.75	12.46	.000* *

5-Family history of convulsive disorder increase the risk of FS	Yes	15	18.75	78	97.5	3.038	.081*
6-Recurrent fever increase risk of FS	Yes	10	12.5	79	98.75	1.23	.267 ^{ns}
7-Higher fever increases the risk of FS	Yes	27	33.75	73	91.25	.145	.704 ^{ns}
8-Medication needed for every child with FS	No	14	17.5	70	87.5	3.90	.048*
9-EEG or CT is necessary for children with FS	No	9	11.25	73	91.25	2.42	.119 ^{ns}
10-Febrile convulsion can progress to epilepsy	No	66	82.5	76	95	19.85	.000* *
11-Febrile convulsion is fatal	No	54	67.5	77	96.25	6.11	.013*
12-FS can lead to brain damage	No	56	70	79	98.75	2.22	.136 ^{ns}
13-Traditional medication is necessary as therapy	No	32	40	71	88.75	6.76	.009*

NB: ** P<.001 * P<.05 ^{ns} mean not significant P: between pre and post-test

Table 3: Comparison between parent’s attitude about febrile seizures on pre, and post-test (No=80)

Questions	Correct response	Correct responses			
		Pre-test n=80		Post-test n=80	
		No	%	No	%
Attitude					
1- Is it a stigma to have a child with febrile seizures	No	72	90	80	100
2-I don’t know how to deal with febrile seizures	No	49	61.25	80	100
3-Would you expect that relatives of the child will get febrile seizures	Yes	23	28.75	65	81.25
4-Could febrile seizures occur at night	Yes	9	11.25	80	100
5-It couldn't be expected to have febrile seizures	Yes	14	17.50	70	87.5
6-Would more febrile seizures attacks will occur	Yes	46	57.5	72	90
7-Could febrile seizures are infectious	No	19	23.75	80	100
8-Is child with febrile seizures needs more attention	Yes	20	25	79	100
9-Should parents measure the temperature of children frequently	Yes	56	70	80	100

Table 4: Comparison of parents’ practice for febrile seizures on pre, and post-test (No=80)

Practices	Correct response	Correct responses				χ^2	P Value
		Pre-test n=80		Post test n=80			
		No	%	No	%		
1-Reduction of body temperature	Yes	65	81.25	77	96.25	13.50	.000**
2-Put the child in a smooth and safe place	Yes	73	91.25	75	93.75	55.61	.000**
3-Lay the child on lateral position when drooling	Yes	60	75	78	97.5	55.38	.000**
4-Being calm	Yes	69	86.25	74	92.5	6.15	.013*
5-Observe the features and duration of FS	Yes	67	83.75	80	100	58.90	.000**
6-Taking the child to the physician without first aids	No	17	21.25	76	95	2.58	.108 ^{ns}
7-Shaking the child who had FS attack	No	13	16.25	75	93.75	1.035	.309 ^{ns}
8-Open the child's mouth and put something in to prevent tongue biting	No	14	17.50	65	81.25	.223	.040*
9- Resuscitate the child with FS by mouth to mouth	No	57	71.25	77	96.25	8.21	.004*
10-Suctions of secretions from the child's mouth and nose	No	16	20	70	87.5	2.85	.091*
11-Doing cardiac massage	No	33	41.25	56	70	22.66	.000**
12-Control and handling of the child with FS	No	73	91.25	79	98.75	10.56	.001**
13-Stimulation of the FS child	No	40	50	77	96.25	16.06	.000*
14-Did you have a thermometer in the house	Yes	38	47.50	75	93.75	5.33	.021*
15-Did you know the use of thermometer correctly	Yes	41	51.25	70	87.5	12.01	.001**

NB: ** P<.001 * P<.05 ^{ns} mean not significant P: between pre and post

Table 5: Correlation of confounding factors and parental knowledge of febrile convulsions

Items	Corr. factor
Family history of febrile convulsions	0.017
General child health knowledge	0.053

Figure 3: Comparison between the total mean score of parents' knowledge, attitude, and practice regarding febrile seizures [No=80]

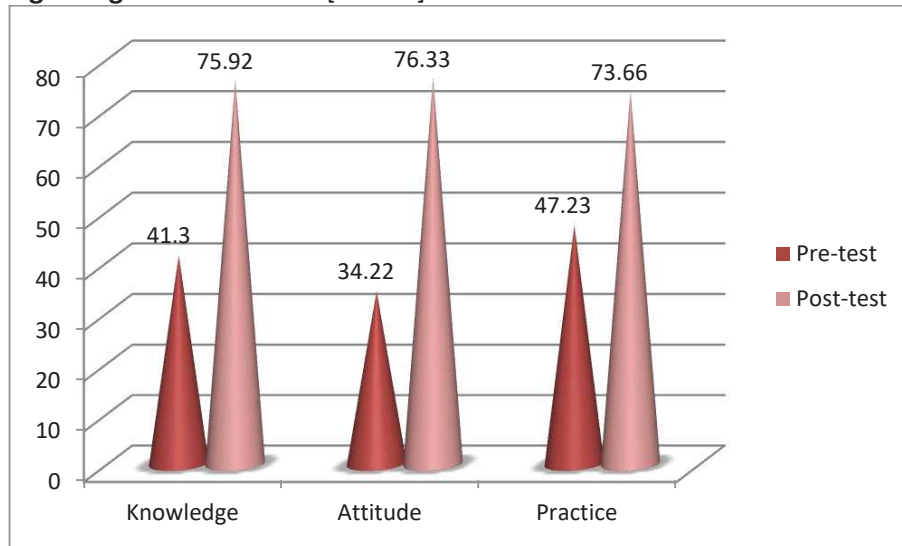


Table (6): Relationship between febrile convulsions knowledge score and socio-demographic characteristic of the studied sample

Item	Correct responses				χ^2	P Value
	Not Satisfactory		Satisfactory			
	No	%	No	%		
Age/year Mean \pm SD	27.72 \pm 7.47		27.18 \pm 8.58		0.378	0.68
Residence						
a) Rural	29		20		5.67	.000
b) Urban	20		10			
Parent's education					15.98	.000
a) Primary School	1	1.25	0	0.0		
b) Preparatory School	4	5	0	0.0		
c) Secondary School	4	5	3	3.75		
d) Technical Institute	5	6.25	4	5		
e) Bachelor's Degree	16	20	11	13.75		
Family history of seizure					36.64	.000
a) No	54	67.5	21	26.25		
b) Yes	2	2.50	3	3.75		
Family history of febrile convulsion					41.20	.000
a) No	53	66.25	20	25		
a) Yes	3	3.75	4	5		

Discussion

The occurrence of febrile convulsion can have a negative impact on the family's quality of life and the parents may experience anxiety and fear whenever their child develops a fever. Regarding socio-demographic characteristics of children, it was revealed that the Mean \pm SD of the studied children per months was 20.97 ± 13.19 . This result was consistent with (23) who stated that children's age ranged from 3 months to 6 years. This was emphasized by (31) who reported that the peak incidence occurs at 18 months. Approximately 6-15% of febrile convulsions occur after the age of four months and the onset after 6 years is extremely rare. This may be due to the unique age specificity of the maturing brain's sensitivity to fever.

The majority of children (62.5%) were diagnosed with pneumonia and more than one-third of the studied children were diagnosed with gastroenteritis (33.75 %) while the minority of them had otitis media. According to (29), the most common types of diseases were upper respiratory tract infections (53.8%), gastroenteritis (24.4%), acute otitis media (9%), urinary tract infection (6.4%), and pneumonia (3.8%). Furthermore, (17) reported that upper respiratory tract infection (77.8%) was the most common diagnosis in the studied sample, followed by gastroenteritis (22.2%). These diseases could be caused by a lack of immunization, inadequate nutrition, weakened immune systems, as well as environmental factors affecting the health of infants and young children. Concerning children's gender, male children outnumber female children by the percentage of 61.25 % to 38.75%. This was consistent with (32) who found that

fifty-two percent (52.3%) of the children were boys with a mean age \pm SD 2.76 ± 1.30 . This result is matched with the findings of the study done by (25). This was demonstrated by (33) who illustrated that males are predisposed to infection because they have an XY chromosome and the X chromosome is strongly related to the production of immunoglobulin. In the study by (34), febrile seizures were more mutual in boys than in girls. Regarding socio-demographic characteristics of parents, the finding revealed that the mean age and standard deviations of parents were 27.72 ± 7.47 and less than half of the studied sample aged between 20 -< 30 (47.5%). This was in line with (32) who reported that the mean age and standard deviation of the studied sample were 30.29 ± 6.41 . This was supported by (35) who stated that 56.0% of parents aged between 20 to less than 30 years. This demonstrates the need for providing information about febrile seizures in order to avoid inappropriate reactions and complications. The study reported that 61.25% were from rural residents. Approximately one-third of studied parents (33%) had bachelor's degrees and more than one quadrant had preparatory school (26.25%). This was contradicted with (36) who reported that 46.7% of the studied sample had secondary school. The majority of studied parents had a negative family history of epilepsy or febrile convulsions (93.75% and 91.25% respectively). These results are approved by (37).

It was revealed that none of the parents had attended any previous training program about febrile seizures. This could reveal a lack of a structured awareness program. It is noteworthy

that if enlightenment about the febrile convulsion, the parents will have correct and adequate knowledge, that will develop their attitudes and practice. This result is companionable to other studies done by (38, 39) their results clarified the importance of educational programs to improve knowledge and practice about prevention and management of febrile seizures. Concerning parents' knowledge about febrile seizures on pre and post-tests, it was shown that parents had adequate knowledge about most of the items related to febrile seizures in the pre-test, This was agreed with other studies with (40) who reported that the majority of parents had knowledge prior awareness from health care provider about an episode of febrile convulsion.

Although on the pre-test, parents had an unsatisfactory level of knowledge with their believes that positive family history of the convulsive disorder increases the risk of FS, recurrent fever increases the risk of FS, medication needed for every child with FS and EEG or CT is necessary for a child with FS (18.75%, 12.5%, 17.5%, and 11.25% respectively). This was supported by (7) who stated that in febrile seizures, 35% of the studied sample had moderately adequate knowledge, 44% had inadequate knowledge, and 21% had adequate knowledge in febrile seizures. This was similar to (32) who mentioned that a lack of knowledge and practice among mothers is due to poor understanding of their children's condition or mothers fear that their children will die. Additionally, (30) reported that there was a generally low level of knowledge about FS, with only 10% of the mothers having adequate knowledge at baseline. These

results are opposed to study in Iraq concluded that 43% of the parents had good level of knowledge (23). Similarly, (41) have reported that 77.9% of parents in Mumbai (India) did not have enough information. This highlights the importance of education programs to increase knowledge about the disease and risk factors in order to correct any misconceptions and provide appropriate first aid measures.

Furthermore, the findings showed that parents' knowledge improved tremendously after these findings were obtained soon after audio-visual education and discussion about febrile seizures. They taught that febrile convulsion can cause convulsion, febrile convulsion is not a form of epilepsy, there is no necessity for an ECG & CT scan to be done, and (98.75%, 98.25, and 91.25% respectively). This justifies that the use of micro-teaching improved parents learning ability, efficiency and achieved satisfactory teaching effects. Other studies were done with (7, 42) found that 76.4 percent of parents believed there was no need for a CT scan, and 50.7% believed that lumbar puncture was necessary. This matched with (30) who revealed that 84.5% of the mothers were aware that fever can cause convulsions. This illustrates that teaching via brief, focused learning units have a significantly greater impact on immediate knowledge recall. This was in agreement with (27) who mentioned that brief, focused learning units improved knowledge and had a significantly better effect on immediate knowledge recall. The study findings were supported by (43) who stated that the structured teaching program on knowledge regarding febrile convulsion management was effective

in knowledge acquisition. This was consistent with (7) who revealed that the structured teaching program was effective and the mothers with children under the age of five learned more about febrile convulsion. In addition, a study in Egypt showed that good knowledge of FC was associated with higher maternal education levels and the implementation of educational programs (37).

Concerning parents' attitudes about febrile seizures on pre, and post-tests, the majority of the parents in pre-test believed that it is not a stigma to have a child with febrile seizures (90%). This could be due to the emotion-evoking experience of having encountered children with febrile convulsion in their home driving their positive attitudes. In this regard, (44) reported that a minority of the studied sample (3.5 %) expressed embarrassment about having a child with FS. This finding was contradicted by (45) who reported that 49.2 percent of parents were embarrassed to have a child with FS. In this regard, (43) stated that unfortunately, convulsion still carries a stigma in our society, and people may incorrectly attribute unwarranted characteristics to the child, leading to a variety of psychosocial difficulties. This emphasizes the importance of continuing education programs in order to normalize their lives. Seventy percent of parents thought it was important to take their children's temperature on a regular basis. This corresponded to (32) who stated that 84% of mothers believed that children with febrile convulsions required frequent temperature monitoring following module implementation. Meanwhile, more than a quarter of the parents polled expect their child's

relatives to contract the disease (28.75 %). This was contradicted by (42) who reported that more than half of the studied sample (54.6%) believed a family history of seizures increased the risk of FS. As a result, it is critical to provide ongoing education programs to improve parents' knowledge of FS.

On other hand, the minority of them is believed that febrile seizures occur at night (11.25%). This was consistent with the findings of (41) who reported that the majority of parents (77.9%) were unaware of the concept of febrile convulsion. As a result, raising awareness and counseling provide appropriate changes in parents' attitudes and conceptions regarding the proper control of febrile children. On post-implementation of the bite-sized teaching program, there was a significant increase in parents' knowledge and positive attitude to febrile convulsion. All parents agreed that it is not a stigma to have a child with febrile seizures, know how to deal with febrile seizures, febrile seizures can occur at night, febrile seizures are not an infectious disease and parents measure the temperature of a child frequently (100%). This illustrated that bite-sized learning is a useful teaching approach that enhances the active learning experience. This was consistent with the findings of (7) who reported that febrile seizures can be managed through health education and training to improve the mother's knowledge of febrile seizures and reduce the frequency of symptoms in children under the age of five. Additionally, (32) stated that after module implementation, mothers' attitudes toward febrile convulsion improved by more than half (57.9%). Ultimately, the results of this study indicate those micro-teaching sessions

are more flexible, easily stimulate the interest in learning, and have an important role in changing the attitude of the parents.

Concerning parents 'practice with febrile seizures, it was revealed that on the pre-test, the majority of parents reduce body temperature, putting their children in a smooth and safe place laid the child on lateral position when drooling, and they were observing the features & duration of FS (81.25%, 91.25%, 75%, and 83.75% respectively). This was approved with (30) who found that 73.9% of mothers were observing seizure features and duration. Despite this, less than half of the studied sample was engaging in inappropriate practices such as cardiac massage and stimulating the child (41.25%, and 47.50% respectively). The minority of them shakes the children who have had FS attack & open their mouth to put something in to prevent tongue biting and suction secretions from the child's mouth and nose (16.25%, 17.50%, and 20% respectively). This was consistent with (30) who stated that many of the studied samples were engaging in incorrect practices such as cardiac massage and child stimulation. Furthermore, (32) were reported that 52% of mothers reported that they would take their child to the doctor following a seizure, 77% would perform mouth-to-mouth resuscitation, 75% would include cardiac massage, and 72% would restrain the child during a febrile convulsion prior to module implementation. This was similar to (42) who reported that 50.6% of mothers eliminated secretions and kept the child in a lateral position when the child is drooling. Meanwhile, half of them had thermometers in their houses and knew

how to use thermometers correctly (50% and 51.25% respectively). This result comes in agreement with (23) who reported that 56% of the studied sample has thermometers at home. This was inconsistent with another study conducted by (46) who reported that the majority of parents were unable to use a thermometer correctly.

On post-test, parents had the most adequately done practices for the reduction of body temperature, putting the children in lateral position when drooling, observing the features and duration of FS, and not controlling or handling the child with FS (96.25%, 97.5%, 100%, and 98.75% respectively). This illustrated that the majority of parents displayed improvement in their practices post-implementation of BST that aiming to control the fever in order to prevent febrile seizure that has an impact on their self-confidence and inner calmness due to timely action. This was demonstrated by (32) who reported that the action was taken during febrile convulsion to lower the child's body temperature after module implementation was improved to 99.1%. This result was consistent with the findings of (45) who reported that the majority of studied mothers reduced the child's body temperature during the febrile convulsion. On the contrary (47) stated that 51% of parents do not attempt and don't take any action to lower the child's temperature prior to the FC attack. Therefore, educational courses and seminars should regularly be conducted for practicing parents to increase and sustain their knowledge, attitudes, and first aid management of febrile convulsion in their children.

In relation to the correlation of confounding factors and parental knowledge of febrile convulsions, it was clarified that the family history of febrile convulsions was more common in the children with febrile convulsion and there is no correlation between knowledge of febrile convulsions and having a positive family history for febrile convulsions which similar to (48). Concerning the comparisons between the total mean score of parents' knowledge, attitude, and practice regarding febrile seizures, the study depicted that there was a significant increase in knowledge, attitude, and practice associated with brief focused units that made BST content more accessible to parents. This was similar to (32) who concluded that the use of educational intervention programs positively influenced mothers' knowledge, management, and attitude toward FC. The findings were supported by (43) who reported that the structured teaching program was effective, and the mothers' with children under the age of five improved their knowledge of febrile convulsion. The findings are consistent with (27) who mentioned that there was an overall improvement in the perceived knowledge and practice of the study group after the implementation of BST sessions. Besides, (49) in Netherlands noted a similar finding. It seems that using BST content suitable with the target group and also using group discussion and practical display were important roles in improving the knowledge, attitude, and practice. Therefore, it is recommended further education in the family medicine clinics or through mass media regarding the prevention of febrile seizures.

Concerning the relationship between febrile convulsions knowledge score and socio-demographic characteristic of the studied sample, it was revealed that there was a statistically significant difference ($P < 0.05$) between the knowledge level and parents' mean age, residence, and education. This result was conforming to (37) who mentioned that there was a statistically significant difference ($P < 0.05$) between the level of knowledge and parents' mean age, residence, and parent's education.

Conclusion:

This study indicated that teaching via BST sessions has a significantly greater impact on immediate knowledge recall and improvement of practice. Therefore, there were statistically significant differences between practices of parents at 5% and 1% levels of statistical significance.

Recommendations

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

1. Continuous bite-sized teaching sessions should be applied for all parents to improve their information and comply with therapeutic treatment of febrile convulsion.
2. Countersign the educational program for febrile convulsion care in the orientation program for parents and caregivers
3. Written and verbal information should be available in pediatric units based on the new trends on febrile seizures to increase and sustain their knowledge, attitudes, and first aid management.
4. Booklets should be available for home management, and prevention of febrile seizures.
5. Further education in the pediatric clinic or via mass media is required to enhance proper practice and home management.

Acknowledgment

We'd like to express our heartfelt gratitude to the panel of experts who contributed their valuable information, time, and expertise to this study. We are grateful for the support and help from the pediatric department's staff. In addition, we like to express my gratitude to all parents who participate in the research.

References

1. Skotte, L., Fadista, J., Bybjerg-Grauholm, J., Appadurai, V., Hildebrand, M., Hansen, T., and Banasik, K et al., (2022). Genome-wide association study of febrile seizures implicates fever response and neuronal excitability genes. Retrieved from <https://vbn.aau.dk/en>
2. Hackett, R., Hackett, L and Bhakta, P. (2020). Febrile seizures in a South Indian District: Incidence and Associations. *Dev Med Child Neurol* 39 (6):380–384. DOI: 10.1111/j.1469-8749.1997.tb07450.x. 9. Verity CM
3. Paul, S., Kirkham, E and Shirt B. (2015). Recognition and management of febrile convulsion in children. *Nurs Stand*. [PubMed] [CrossRef] [Google Scholar]
4. Hekal, A., El-Mashad, G and Omar, Z. (2019). Zinc Status in Children With Febrile Convulsion. *Menoufia University. Faculty of Medicine. Pediatrics Department*. Retrieved from <http://www.eulc.edu.eg/eulc>
5. El Shafie, A., Abou El-Nour, E., El-Hawy, M and Barseem, Z. (2017). Study of iron deficiency anemia in children with febrile seizures. *Menoufia Medical Journal*. Vol. 31, No. 3 (July-September 2018). Retrieved from <http://www.eulc.edu.eg>
6. Kumar, N., Midha, T and Kumar, Y. (2019). Risk Factors of Recurrence of Febrile Seizures in Children in a Tertiary Care Hospital in Kanpur: A One Year Follow Up Study. *Ann Indian Acad Neurol*. 2019 Jan-Mar; 22(1): 31–36. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6327698>
7. Chockalingam, G. (2020). Effectiveness of Video-assisted Teaching on Knowledge Regarding Management and Prevention of Febrile Seizure among Mothers of Children Aged under Five Years. Retrieved from <https://pjn.sbvjournals.com/doi/PJN/pdf/10.5005/jp-journals-10084-12155>
8. Leung, A., Hon, M., Leung, T and Fhkam, F. (2018). Febrile seizures: an overview. *S National Library of Medicine. National Institutes of Health*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6052913/>
9. Canpolat, M., Per, H, Gumus, H., Elmali, F and Kumandas, S. (2018). Investigating the prevalence of febrile convulsion in Kayseri, Turkey: an assessment of the risk factors for recurrence of febrile convulsion and for development of epilepsy. *Seizure*. 2018;55:36–47.doi: 10.1016/j.seizure.2018.01.007. [PubMed] [CrossRef] [Google Scholar]
10. El-Bradie, E. (2016). Serum Zinc Level in Children with Simple Febrile Convulsions. *Faculty of Medicine .Tanta University*. Retrieved from [eulc.edu.eg/eulc](http://www.eulc.edu.eg/eulc)
11. Gundapu, G., Bhavani, M., Kiran, M., Bathula, N and kumar, A. (2017). Safety And Prevention Of Febrile Seizures In Pediatrics, Identify New Symptoms, Adverse Effects, Side Effects, Life Style Modifications, Patient Councelling , Observing, Monitoring By Involving Doctor Of Pharmacy. *International Journal of Medical Research and Pharmaceutical*

- Sciences Volume 4 (Issue 2): February 2017. DOI- 10.5281/ zenodo. 287700
12. Al Morshedy, S., Elsaadany, H., Ibrahim et al. (2017). Interleukin-1 β and interleukin-1receptor antagonist polymorphisms in Egyptian children with febrile seizures: a case-control study. *Medicine*; 96 (11): [PMC free article] [PubMed] [Google Scholar]
 13. Natsume, J., Hamano, SI., Iyoda, K., Kanemura, H., Kubota, M., Mimaki, M., Nijjima S et al. (2016). New guidelines for management of febrile seizures in Japan. *Brain Dev.* 2017 Jan;39(1):2-9. doi: 10.1016/j.braindev.2016.06.003. Epub 2016 Sep 6. PMID: 27613077. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/27613077/>
 14. Ogawa, E., Shoji, E., Kamidani, S and Miyairi, I. (2017). Febrile seizures with leukocytosis as a predictor for occult bacteremia. *Pediatrics International*. Volume 61, Issue 6 p. 578-582. Retrieved from <https://onlinelibrary.wiley.com/journal/1442200x>
 15. Leung, AK. (2011). *Common Problems in Ambulatory Pediatrics: Specific Clinical Problems, Volume 1*. New York, NY: Nova Science Publishers, Inc.; 2011. pp. 199–206. [Google Scholar]
 16. Agarwal, M and Fox, SM. (2013). Pediatric seizures. *Emerg Med Clin North Am.* ;31(3):733–754. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/23915601/>
 17. Sayed, A., Hashem, E and Gad, E. (2018). Diagnostic Approaches for Children with Febrile Seizures Admitted to Assiut University Children Hospital. Assiut University. Faculty of Medicine. Department of pediatrics. Retrieved from eulc.edu.eg/eulc
 18. Kimia, A., Bachur, R., Torres, A and Harper, MB. (2015). Febrile seizures: emergency medicine perspective. *Curr Opin Pediatr.* 2015; 27(3):292–297. doi: 10.1097/MOP.0000000000000220. [PubMed] [CrossRef] [Google Scholar]
 19. Offringa, M., Newton, R., Cozijnsen, MA and Nevitt, SJ. (2017). Prophylactic drug management for febrile seizures in children. *Cochrane Database Syst Rev.* (2017). 2: CD003031. doi: 10.1002/14651858.CD003031. pub3. [PubMed] [CrossRef] [Google Scholar]
 20. Yousef, M. (2008). Risk Factors and Management of Febrile Convulsions. Assiut University. Faculty of Medicine. Retrieved from eulc.edu.eg/eulc.
 21. Westin, E and Levander, M. (2018). Parent’s experiences of their children suffering febrile seizures. *J Pediatr Nurs.* 2018; 38: 68–73. doi: 10.1016/j.pedn.2017.11.001. [PubMed] [CrossRef] [Google Scholar]
 22. Clarkle, P. (2014). Evidence-Based Management of Childhood Fever: What Pediatric Nurses Need to Know. *Journal of Pediatric Nursing* 29(4). *Journal of Pediatric Nursing* 29(4). DOI:10.1016/j.pedn.2014.02.007.
 23. Shibeeb, N and Altufaily, Y. (2019). Parental knowledge and practice regarding febrile seizure in their children. *Medical Journal of Babylon*. Volume: 16 | Issue: 1 Page: 58-64.
 24. Najimi, A., Dolatabadi, NK., Esmaeili, A and Sharifirad, GR. (2013). The effect of educational program on knowledge, attitude and practice of mothers regarding prevention of febrile seizure in children. *J Educ Health Promot* 2013; 2:26.

25. Ali, AM. (2008). Iron deficiency anemia and febrile seizures case control study in children under 5 years. *Iraqi J Commun Med* 2008; 4:285-90.
- In Shibeeb, N and Altufaily, Y. (2019). Parental knowledge and practice regarding febrile seizure in their children. *Medical Journal of Babylon*. Year : 2019 | Volume : 16 | Issue : 1 | Page : 58-64.
26. Anand, A., Salas, A., Mahl, E. (2015). Cerebral Abscess Presenting as a Complex Febrile Seizure. *Pediatr. Emerg. Care* 2015, 31, 499–502. [Google Scholar] [CrossRef] [PubMed]
27. Kimberly, D., Jennifer, O., Golub, L., Akbashev, K & Klein, R. (2021). The micro revolution: effect of Bite-Sized Teaching (BST) on learner engagement and learning in postgraduate medical education. *BMC Medical Education* (2021) 21:69. Retrieved from <https://bmcmmededuc.biomedcentral.com/>
28. Young, J and Van Merrienboer, J. (2014). Cognitive load theory: implications for medical education: AMEE guide no. 86. *Med Teach*. 2014; 36(5):371–84.
29. Mahyar, A., Ayazi, P., Fallahi, M and Javadi, A. (2010). Risk Factors of the First Febrile Seizures in Iranian Children. *International Journal of Pediatrics* Volume 2010. ID 862897, 3 pages. Retrieved from <https://downloads.hindawi.com/journals/ijpedi/2010/862897.pdf>
30. Abdulla, M and Abdulhadi, F. (2015). Knowledge, attitudes, and practices (KAP) regarding Febrile Convulsions among Iraqi under 5 children's mothers attending pediatric department in a teaching hospital in Baghdad. *Int J Adv Res* 2015; 3: 973-83.
31. Srinivasa, S and Syeda, K. (2018). Knowledge, attitude and practice of mothers in infantile skin care. *International Journal of Contemporary Pediatrics*. DOI:10.18203/2349-3291.IJCP20180550. Corpus ID: 55602030
32. Elbilgahy, A., Abd El Aziz., R and Abd El Aziz, E. (2018). Effect of implementing an educational module on improving mothers knowledge, home management and attitude about febrile convulsion. Retrieved from <https://www.sciedupress.com/journal/index.Php/jnep/article/view/12033>
33. Schurz, H., Salie,M., Tromp, G., Hoal, E., Kinnear,C and Moller, M.(2019). The X chromosome and sex-specific effects in infectious disease susceptibility. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6325731/>
34. Koppad, A, Shah, P., Dagar, J and Singh, S. (2016). To study serum electrolyte profile in 1 month-5 years children with dehydration admitted to Kimsdu hospital, Karad. From: *Journal of Evolution of Medical and Dental Sciences* (Vol. 5, Issue 99) Peer-Reviewed
35. Abdel Gawad, Z., Helaly, N and Khamis, G. (2016). Mothers' Care for Children with Febrile Convulsion. Alexandria University. Faculty of Nursing. Department of Pediatric Nursing. Retrieved from eulc.edu.eg/eulc
36. Abd Rabo, A., Abd El-Aziz, M and Sabry, S. (2018). Mothers Care of Children Regarding Febrile Convulsion under Five Years at Homes. Banha University. Faculty of nursing. Department of community health nursing. Retrieved from eulc.edu.eg/eulc.
37. El-Esrigy, F., Farahat, F and Othman, E. (2021). Effect of Implementing an Educational Program on Parental Knowledge and Practice about Febrile Convulsion. *The Egyptian Journal of*

- Hospital Medicine (October 2021)
Vol. 85 (1), Page 3061-3071
38. Eefje, G., Nick, A., Geert, J., Jochen, W. (2014). Parents' knowledge, attitudes, and practice in childhood fever: an internet-based survey. *British Journal of General Practice* 2014; 64 (618): e10-e16. DOI: <https://doi.org/10.3399/bjgp.14X676401>.
39. Chiappini, E., Parretti, A., Becherucci, P., Pierattelli, M., Bonsignori, F., Galli, L and Martino, M. (2012). Parental and medical knowledge and management of fever in Italian pre-school children. *BMC Pediatr.* 2012 Jul 13; 12:97. doi: 10.1186/1471-2431-12-97.
40. Akpan, M and Ijezie, E. (2017). Knowledge of febrile convulsion among mothers attending the paediatric clinic of University of Uyo teaching hospital, Nigeria. *International Journal of Pediatric Research*. Retrieved from <http://medresearch.in/index.php/IJPR/article/view/1903/2897>
41. Parmar, R and Bavdekar, S. (2001). Knowledge, attitude and practices of parents of children with febrile convulsion. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed>
42. Abeysekara, M., Weerasekara, M., Wijesena, B., Perera, R., Sriyan,i K., Kuruppu, N. (2017). Mothers' knowledge, believes and practices regarding febrile convulsions and home management. (OURS 2017); 2017. p. 219-23
43. George, J. (2012). A Study To Assess The Effectiveness Of Structured Teaching Programme Regarding Knowledge On Management Of Febrile Convulsion Among Mothers Of Under Five Children In Rajarajeswari Medical College And Hospital, Bangalore. Rajiv Gandhi University Of Health Sciences, Bangalore, Karnataka
44. Kizilay, D., Kirdok, A., Senem, P., Demet, M and Polat, M. (2017). Information is Power: An Interventional Study on Parents of Children with Febrile Seizures. *J Pediatr Res* 2017;4(2):53-8 DOI: 10.4274/jpr.43433
45. Kayserili, E., Unalp, A and Apa H. (2008). Parental Knowledge and Practices Regarding Febrile Convulsions in Turkish Children. *Turk J Med Sci*;38:343-50
46. Mohammadi, M. (2010). Febrile seizures: four steps algorithmic clinical approach. *Iran J Pediatr* 2010; 20(1):5-15. In Talebi, S., Shahrabadi, H., Vahidi, A., Sabzevar, S and Siyavoshi, M. (2016). Mothers' management of fever of children in Sabzevar. *Journal of Nursing and Midwifery Sciences* 2016; 3(2): 32-39.
47. Kanemura H, Sano F, Mizorogi S, et al. (2013). Parental thoughts and actions regarding their child's first febrile seizure. *Pediatrics International.* 2013; 55(3): 315-319. PMID:23360347 <https://doi.org/10.1111/ped.12058>
48. Wassmer, E and Hanlon, M. (1999). Effects of information on parental knowledge of febrile Convulsions. Available online at <http://www.idealibrary.com>
49. Van Stuijvenberg, M., De Vos, S and Tjiang, G. (1999). Parents' fear regarding fever and febrile seizures. *Acta Paediatr.*, 88 (6): 618-622