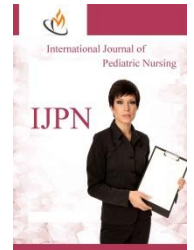




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EFFECT OF AN INTERVENTION ON PREVENTION OF RECURRENCE OF FEBRILE CONVULSION AMONG UNDER FIVE CHILDREN

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ABSTRACT

Fever is a common manifestation present in most of infections. In some children severe fever can cause convulsion. The aim of this study was to assess the effect of mothers' intervention on prevention of recurrence of febrile convulsions among under five children. Design: Quasi- experimental design was used with pre - post test. Setting: The study was conducted at outpatient clinics in Menouf Fever Hospital, Menouf district, Menoufia governorate. Sample: A convenient sample of 500 mothers and their children attending fever hospital and purposively assess 61 mothers of children with febrile convulsion. Tools of the study: Three tools were used the 1st was -a) Interviewing questionnaire for socio-demographic and past history data. 2nd was:-Assessment of mother's knowledge and practices: It included questions about fever and febrile convulsion and its management. 3rd Check list for management of febrile seizures adapted from WHO (2012) Integrated Management of Childhood Illnesses (IMCI) guidelines for management of fever. Results: The study revealed that, male children were the predominance who had febrile convulsions than females. The majority of cases had positive family history of febrile convulsion. Nearly, half of febrile convulsion cases were from 6 month to 1 year. There was highly statistical significant improvement in mother's knowledge and practices at the post test compared with that of pre test. In addition, frequency of recurrence of febrile convulsion became decreased by 3% at the 4th month, and decline to 0% at 5th & 6th months of follow up compared to the first month. Conclusion: Enhancing mothers of children with febrile convulsions with knowledge and practices necessary for decreasing frequency of recurrence episodes at the end of 6 months. Recommendation: Health education for fever and febrile convulsions prevention should be performed at the outpatient clinics using booklets, posters and other mass media to improve mother's knowledge and practices. A similar study can be replicated on nurses of the outpatient clinics to evaluate their knowledge and practices toward fever and febrile convulsions.

INTRODUCTION

Febrile convulsions are common among under

five, and occur in 3 to 5% of healthy children, with peak incidence around 18 months. It is usually associated with a viral infection, although the exact etiology of febrile convulsions is uncertain. The onset of the convulsion may be sudden with few symptoms of preceding illness, and the child may be drowsy and unwell looking for some

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Research Article



time after the convulsion. The convulsion may be terrifying for caregivers to observe, they frequently believe that their child is dying and may attempt CPR or other resuscitative measures [1].

Febrile convulsion is a most common cause of convulsion in childhood and about 4% of children in the age group of one to six years have at least one episode of febrile convulsion. Of these, up to 30% have recurrent seizures and many get admitted to the hospital. Correct and adequate knowledge of relationship between fever and febrile convulsion, and its usual good prognosis are important for their mothers to understand [2].

The condition is also a diagnostic challenge for healthcare professionals. As a result, there is a perceived need to improve the recognition, evaluation and immediate treatment of feverish illnesses in children [3].

Febrile seizures are subdivided into 2 categories: simple and complex. Simple febrile seizures last for less than 15 minutes, are generalized (without a focal component), and occur once in a 24-hour period, whereas complex febrile seizures are prolonged more than 15 minutes, or are focal, or occur more than once in 24 hours [4]. It include motor phenomena either repetitive (clonic) or maintained (tonic) involuntary contractions of muscles which may be generalized or confined to specific muscle groups [5].

Children should be promptly evaluated after an initial seizure. Most children with febrile seizures present for medical care after resolution of the seizure and return to full alertness within an hour of the seizure. The initial evaluation should focus on determining the source of the fever.

Parents should be questioned about a family history of febrile seizures, immunizations, recent antibiotic use, duration of seizure, a prolonged postictal phase, and any focal symptoms. During the examination, attention should be given to the presence of meningeal signs and to the child's level of consciousness [6].

Parental reaction and response to febrile seizure occurrence in children can comprise physical, psychological, and behavioral manifestations. Common physical symptoms experienced by parents following their child's febrile seizure include dyspepsia, anorexia, and sleep disruption. A psychological reaction experienced by parents includes fear of reoccurrence, fear of subsequent development of epilepsy, apprehension, excessive anxiety and worry about fevers. The occurrence of febrile seizures can potentially disrupt the familial quality of life and the parents may experience anxiety and fear whenever a child develops a fever. These parents may also perceive that somehow the child is now "vulnerable" or unusually susceptible to medical or developmental problems [7].

So, health professionals should spent enough time with mothers attending a feverish child and provide adequate information regarding appropriate management

of fever at home [8]. Caregivers need to have clear advice regarding expected clinical progress and what to do in the event of a future convulsion. Information may be poorly recalled when offered under the stress of the initial presentation. A copy of the parent information leaflet should be given and caregivers advised to return if clinical progress is not as expected. Follow-up during the next 24 hours is advisable to assess progress of the child's illness and to allow caregivers the chance for further discussion. This is best done by the nurses.

The aim of this study

To assess the effect of mothers intervention for prevention of recurrence of febrile convulsions among under five children.

Operational definition

Febrile convulsions are fits occurring in children associated with fever without other underlying causes such as central nervous system infection or electrolyte imbalance [9].

Research hypothesis

- Mothers who will receive nursing guidelines intervention for prevention of febrile convulsion will have better knowledge and practices in post test and follow up than pretest
- The recurrence rate of febrile convulsion will be reduced among children whose mothers attended the nursing intervention sessions than before intervention

METHODOLOGY

Research design

A quiz experimental design with pre- post test was used in carrying out the study. The study was conducted at the outpatient clinics in Menouf Fever Hospital, Menouf district, Menoufia governorate.

Subjects: A convenient sample of 500 children and their mothers were selected to achieve the aim. They were selected from the outpatient of Menouf Fever Hospital to detect diagnosed cases of febrile convulsion from all cases admitted to outpatient fever clinic (purposively elicited). The researcher selected cases who were amenable to the following inclusion criteria

Children age from 6 months till 5 years, body temperature above 38.5 °C. (Auxiliary), willing to participate in the study and both sexes were included.

Exclusion criteria Included

- Children who are medically diagnosed with congenital or chronic diseases to avoid any pathological changes, Also, Children who had family history of epilepsy or CNS infection.



Data collection tools

Tool I: An interview questionnaire was designed and developed by the researcher after an extensive review of literature, discussion with the experts and based on the investigator's personal experience to collect data about the subjects. The tool consists of the following parts:-

Part I: It consisted of 7 items describing the socio-demographic variables such as age of the child, mothers place of residence, educational status, occupational status, number of children, and previous history of hospitalization of the child.

Part 2: It included questions to assess levels of mother's knowledge about fever, febrile convulsion and its management. This part was used for pre & post test.

The questionnaire was constructed with a total number of 20 items. Each item has four options, for correct answer the score was two and wrong answer the score is zero. The total score was 40.

The level of knowledge is classified as

1. Poor Knowledge - <50%
2. Moderate Knowledge- 51-75%
3. High Knowledge ->76%.

Tool II

Assessment of practice Procedurea check list was used to assess mother practices for measuring child temperature and bathing. (Pre & post test) [10]. The check list contains 14 items. For correct answer the score is two and for wrong answer the score is zero. The total score is 28, and it was categorized as follows:

- a) Poor (0-14).
- b) Moderate (15-21).
- c) High (21-28).

The level of mothers knowledge and practice was categorized as

Correct answer: If the mother responded more than 75% of the correct answer in knowledge and in performance their practice.

Incorrect answer: If the mother reported less than 75% of the correct answers or performing practice.

Don't know: If the mother reported less than 50% knowledge or performance in practice.

Tool III: Check list for management of febrile seizures adapted from Integrated Management of Childhood Illnesses (IMCI) [11].

Integrated Management of Childhood Illnesses (IMCI) guidelines for management of fever

were submitted to 3 experts who had specialization in pediatric nursing, community health nursing and public health medicine. Suggestions and recommendations given by the experts were accepted and necessary corrections

The scale consists of different knowledge and guideline management about febrile convulsion through exploring of different types of thermometers and measuring temperature, tape bath and seizure precaution as well as prophylaxis to prevent recurrence of simple or complex febrile convulsion and use of anticonvulsant therapy.

Description of Method of Guideline Validation

The guideline was reviewed by members of the American Academy of Pediatrics (AAP) Steering Committee on Quality Improvement and Management; the American Academy of Neurology, the American College of Emergency Physicians, and members of the Pediatric Committee of the Emergency Nurses Association.

Methods

Administrative approval

An official letters was issued from the dean of Faculty of Nursing, Menoufia University and sent to director of menouf fever hospital to get their permission for data collection. The letter explain the purpose of the study to sough his cooperation before starting the data collection. The agreement and the aim of the study were explained to each subject.

Preparatory phase

Based on reviewing of past and current literature covering the various aspects of febrile convulsions were done using books, articles, magazines and network about studies related to learning needs of febrile convulsions. Also prepared pictorial form for mothers of febrile convulsive children that covered all items such as definition, signs & symptoms, main causes, types of thermometer and how to use it, as well as taped compress and diet during fever in children.

Reliability of the tools

Reliability was applied by the researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar condition on one or more occasions. Answers from repeated testing were compared. (r.=,92)

Validity of the tools

To determine the content validity of the tool developed by the researcher, the objectives, hypothesis, operational definitions, scoring key and evaluation criteria

were done to modify the tool.

Pilot study

A pilot study was carried out on 50 mothers at



the outpatient clinics in May 2014. They were not included in the study sample, to test practicability, legibility, understand ability and feasibility of the tools. It also served to estimate the time needed to fill the tool. Based on the findings of the pilot study, the necessary modifications were done.

Ethical consideration

- Ethical approval was obtained from the university and participating hospital to conduct the research.
- Issues of voluntary participation, confidentiality, anonymity, and consent as well as data security were considered and addressed with potential.

Field work

Operational phase

The initial data collection was conducted from May/2014 to July/2014 after getting permission from university and study setting on 500 feverish children then 61 were elicited after met the inclusion criteria.

The investigators get verbal consent after explaining the importance and purpose of the study. Structured interview questionnaire was used for initial data collection. Sample of 10-15 mothers with feverish children were interviewed per day. For period of 6 days per week. Each interview took about 20-25 minutes to fill biosocial and knowledge questionnaire at pre test.

After the pre test the investigator administrated the intervention for prevention of febrile convulsion based on guideline for management of febrile convulsion and the American Academy of Pediatrics guidelines were used as illustrated (pictorial form) for diagnostic cases as febrile convulsion to enhance knowledge and practice of the mothers. It took about 30 minutes. At the end of the intervention 10 minutes was allotted for discussion and feedback. The post test was conducted immediately after the nursing intervention. The mother was followed for a period of 6 months via phone.

Evaluation phase

It was done through follow up the effect of the guided session on prevention of febrile convulsion among the children using telephone interviews. This was done by asking the mothers about the frequency of febrile convulsion recurrence episodes during the last 6 months.

Statistical analysis

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 16, SPSS Inc. Chicago, IL, USA). For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparison between two groups and more was done using Chi-square test (χ^2). For comparison between

means of two groups, parametric analysis (t-test) was used. Significance was adopted at ($P < 0.05$) for interpretation of results of tests of significance [12].

Regarding to demographic data, Table (1) showed that the Mean \pm SD age of children with and without febrile convulsions ranged between 6-60 month with a mean of 26.80 ± 17.53 , 24.32 ± 14.57 respectively. Majority (77%) of children with febrile convulsion were boys. Also majority of their mothers (63.9%) were uneducated and working as housewives (93.8%)

Figure 1 showed that, 87.80% of studied children did not have febrile convulsions compared to 12.20% of children complains from febrile convulsion.

Regarding to medical history of the studied feverish children with febrile convulsions table (2) showed that 59% didn't have previous attack of febrile convulsions and it occurred for the first time, while it occurred previously among 41% of children with febrile convulsions. The attack lasted from 1-3 min among 49.2%, while it lasted from <5 minutes among 51.8% of febrile children. The attack occur for about one half of children from 6 months to one year

There was no statistical significant difference $P > .0001$ between the mean scores and grades of total knowledge about fever and febrile convulsions of studied 'mothers for the two groups (with or without febrile convulsion).

Figure 2 revealed scores and grades of total mothers practice about measuring temperature. The majority of mothers with (78.70%) and without (78.80%) febrile convulsion had bad performance about measuring temperature.

Table 4 showed comparison of knowledge items about febrile convulsion among the studied mothers of feverish children with febrile convulsions (FC) pre and post intervention. It revealed that there was significant statistical improvement for post guideline intervention score than pre in all knowledge items ($P < .0001$).

Table 5 showed comparison of total knowledge items about febrile convulsion among the studied mothers of feverish children with febrile convulsions at pre and post intervention. It revealed that there was significant statistical ($P < .0001$) improvement for mothers at post intervention than in pre score in all knowledge items.

Table 6 showed comparison between mothers practice items of measuring temperature for the studied feverish children with febrile convulsions (FC) pre and post intervention ($n=61$). The table illustrated statistical significant improvement in post intervention ($P < .0001$) than that of the pre intervention for measuring temperature and intervention for febrile convulsion.

Figure 3 In the first month all children had episodes of febrile convulsions. However, it dropped to 15% during the second month, then decreased to 10%



during the third month, while it occurred in the fourth month among 3%. On the other hand it didn't occurred

during the fifth & six months among the studied feverish children with febrile convulsions (FC).

Table 1. Reported demographic data of the studied feverish children and their mothers (with and without febrile convulsions) (n=500).

Variables	Demography of feverish children and their mothers (n=500)			
	With febrile convulsions (n=61)		Without febrile convulsions(n=439)	
	No.	%	No.	%
▪Age of the child (months):				
Range	6-60		6-60	
Mean ±SD	26.80±17.53		24.32±14.57	
t-test	1.213			
P	0.226			
▪Sex:				
Males	47	77.0	250	56.9
Females	14	23.0	189	43.1
▪Mothers' education level:				
Educated	22	36.1	252	57.4
Not educated	39	63.9	187	42.6
▪Mothers' occupation				
House wife	57	93.4	412	93.8
Working	4	6.6	27	6.2

*Significant (P<0.05)

Table 2. Medical history data of the studied feverish children with febrile convulsions

Medical history	Feverish children with febrile convulsions(n=61)	
	No.	%
Previous attacks of febrile convulsions:		
Yes	25	41.0
No	36	59.0
▪ Duration of the attacks:		
1.3 min	30	49.2
>5 min	31	51.8
▪ Age of the child at the first febrile convulsions attack:		
6- months >1 year	30	49.2
1->3 year	16	26.2
3:5 year	15	24.6
▪ Number of previous convulsion attack with fever:		
Once	15	24.6
Twice	11	18.0
More than twice	6	9.8
Not occur(first attack)	29	47.5

Table 3. Distribution of studied mothers total knowledge score about fever and febrile convulsions (pre-intervention) (n=500).

Total knowledge	The studied mothers of feverish children (n=500)						χ^2	P. Value
	With febrile convulsions (No=61)		Without febrile convulsions (No =439)		Total (No=500)			
	No.	%	No.	%	No.	%		



▪ Grades of total knowledge:								
Poor	43	81.1	356	70.5	399	79.8	3.932	0.140
Moderate	15	16.4	72	24.6	87	17.4		
High	3	2.5	11	4.9	14	2.8		
▪ Scores of total knowledge:								
Range	5-32		5-34		5-34			
Mean \pm SD	16.49 \pm 6.98		16.18 \pm 6.04		16.22 \pm 6.16			
t-test	0.370							
P	0.711							

*Significant (P<0.05)

Table 4. Knowledge items about febrile convulsions of the studied mothers of feverish children with febrile convulsions (FC) pre and post intervention (n=61).

Knowledge items	Mothers of children with FC (n=61)				χ^2	P. Value
	Pre-intervention		Post-intervention			
	No.	%	No.	%		
▪ Definition of febrile convulsions						
Correct	12	19.7	57	98	33.041	0.0001*
Incorrect	5	8.2	2	1		
Don't know	44	72.1	2	1		
▪ Risk factors to febrile convulsions						
Correct	9	14.8	59	99	47.144	0.0001*
Incorrect	2	3.3	2	1		
Don't know	50	82.0	0	0.0		
▪ Clinical manifestations of febrile convulsions:						
Correct	16	26.2	60	99.9	41.650	0.0001*
Incorrect	0	0	1	1		
Don't know	45	73.8	0	0.0		
▪ Relation between high temperature and febrile convulsions:						
Correct	7	11.5	59	96.7	92.880	0.0001*
Incorrect	8	13.1	2	3.3		
Don't know	46	75.4	0	0.0		
▪ Temperature elevated pre convulsions or the reverse :						
Correct	11	18.0	59	98.1	75.412	0.0001*
Incorrect	2	3.3	2	1.9		
Don't know	48	78.7	0	0.0		
▪ Effect of febrile convulsions on brain and intelligence:						
Correct	0	0.0	60	98.4	43.642	0.0001*
Incorrect	8	13.1	1	1.6		
Don't know	53	86.9	0	0.0		
▪ Relation between febrile convulsions and epilepsy:						
Correct	2	3.3	59	96.7	92.880	0.0001*



Incorrect	7	11.5	2	3.3		
Don't know	52	85.2	0	0.0		
▪Action of mothers toward febrile convulsions at home						
Correct	3	4.9	58	95.1	49.331	0.0001*
Incorrect	4	6.6	3	4.9		
Don't know	54	88.5	0	0.0		

*Significant (P<0.05)

Table 5. Mean scores and grades of total mothers knowledge about fever and febrile convulsions of the studied feverish children with febrile convulsions (FC) pre and post intervention (n=61).

Total knowledge	Mothers of feverish children with FC (n=61)				χ^2	P. Value
	Pre intervention		Post-intervention			
	No.	%	No.	%		
▪Grades of total knowledge:						
Poor	43	7 0.5	0	0	110.561	0.0001*
Moderate	15	2 4.6	2	3.3		
High	3	4.9	59	96.7		
▪Scores of total knowledge:						
Range	5-32		31-34			
Mean \pm SD	16.49 \pm 6.98		32.85 \pm 0.48			
Paired t-test	18.392					
P	0.0001*					

Table 6. Comparison between mothers practice items of measuring temperature and management of febrile convulsion for the studied feverish children with febrile convulsions (FC) pre and post intervention (n=61).

Practice items	Mothers of feverish children with FC (n=61)				χ^2 P. Value
	Pre-intervention		Post-intervention		
	No.	%	No.	%	
▪ Sterilizing thermometer:					
Correct	13	21.3	61	100	75.872
Incorrect	48	78.7	0	0.0	0.0001*
Not done	0	0.0	0	0.0	
▪Hold therm. At the eye level:					
Correct	11	18.0	59	96.7	92.880
Incorrect	2	3.3	2	3.3	0.0001*
Not done	48	78.7	0	0.0	
▪Check mercury level to 35 °C:					
Correct	12	19.7	58	95.1	49.331
Incorrect	1	1.6	3	4.9	0.0001*
Not done	48	78.7	0	0.0	
▪Put therm. In the center of child axilla:					
Correct	10	16.4	59	96.7	92.880
Incorrect	3	4.9	2	3.3	0.0001*
Not done	48	78.7	0	0.0	
▪Put child's arm on his chest :					
Correct	4	6.6	58	95.1	49.331
Incorrect	9	14.8	3	4.9	0.0001*
Not done	48	78.7	0	0.0	
▪ Leave therm. For 3 minutes under child axilla					
Correct	2	3.3	59	96.7	92.880



Incorrect	11	18.0	2	3.3	0.0001*
Not done	48	78.7	0	0.0	
▪ Intervention done for child care at home during febrile convulsions:					
Correct	52	85.2	59	96.7	92.880
Incorrect	9	14.8	2	3.3	0.0001*
Don't know			0	0.0	
▪Precautions during febrile convulsions:					
Correct	1	1.6	58	95.1	49.331
Incorrect	3	4.9	3	4.9	0.0001*
Don't know	57	93.4	0	0.0	

Fig 1. Frequency distribution of febrile convulsions among studied feverish children (n=500)

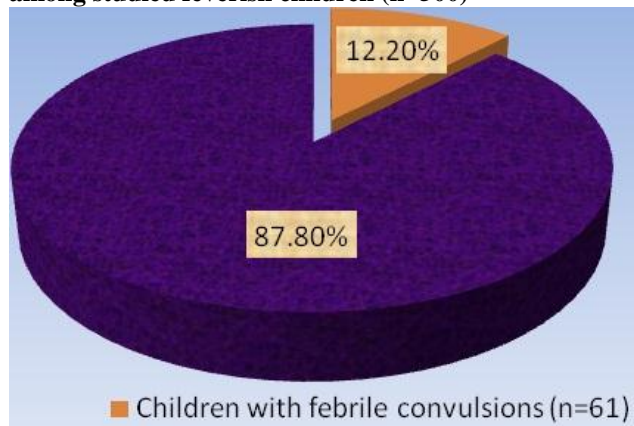


Fig 2. Grades of mothers of observed total practice about measuring temperature (Mothers with and without febrile convulsions) at pre-intervention (n=500).

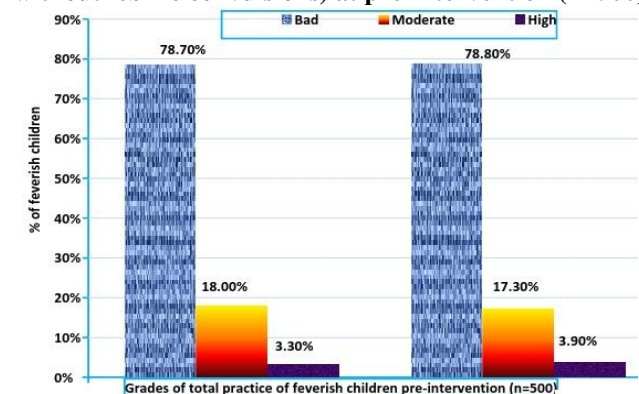
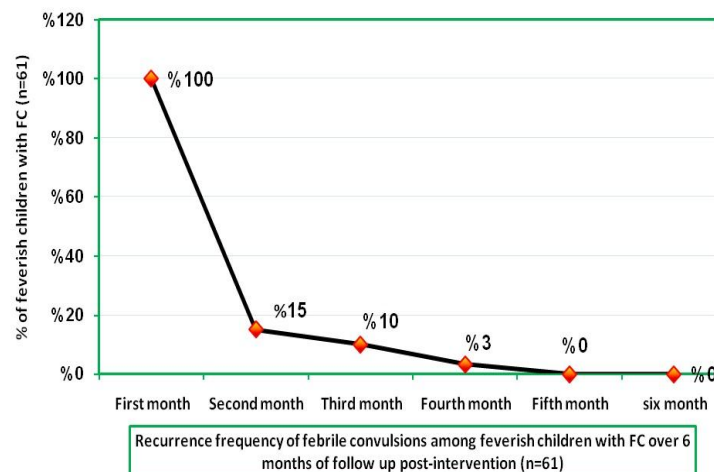


Fig 3. Frequency of recurrence of febrile convulsions among the studied feverish children with febrile convulsions (FC) over 6 months of follow-up (n=61).



DISCUSSION

Fever in children is one of the most common problems and greatest challenges faced by those caring for them. The current study revealed that, majority of studied children were males, this was consistent with Pediatricall.com [13]. Who conducted A Retrospective

study in selected hospital Karnataka to determine the incidence of febrile convulsion? Of those, 65% were males and 35% were females. Age ranged from 5.5 months to 5.5 years. Family history was strongly present in 75% of those children. Also, Sadlier & Scheffer (2009) [14] whose were in agreement with the higher percentage of febrile



convulsion among males children compared to females. This result could be related to gene sex factors, the present study showed that the majority of mothers were uneducated and housewives. This finding was supported by Sajadi & Shamsi (2011) [15]. Who carried out a cross sectional study to find the relationship between perceived barriers and mothers' function in preventing febrile convulsion among 100 mothers with children less than two years of age in eight healthcare centers of Arak. Also, the result was consistent with Bessico *et al.*, (2012) [16]. Who found high level of febrile convulsion among children whose mothers' educational level was less than primary school and for uneducated mothers and found that the risk of febrile convulsion was relatively high in this population, consistent with studies from other developing countries.

Concerning to family and medical history data, the present study showed that there were significant relationship between positive family history and febrile convulsions, where it was low with negative family history of febrile convulsions. This result was supported with who conducted a prospective study in children's emergency department of the University of Benin Teaching Hospital, Nigeria. Children were selected purposively. The result of the study showed that 140 children had a family history of febrile convulsion. While reported that the risk of further febrile convulsions varied with the age at first convulsion and the presence of a history of convulsive disorders is relatives [17]. In addition [18] agreed that a genetic predisposition is strongly observed. The empiric risk of febrile convulsion after one affected child is 10 percent, it rises to almost 50 percent if one parent had febrile seizure. Subsequent febrile seizures and epilepsy in later years are more common in this group and continuous prophylaxis may become necessary.

Regarding to frequency of febrile convulsions, the present study demonstrated a high percentage of children with febrile convulsions (12, 20%) than that reported by Lahal and Goldman (2007) [19] who reported that only 2%-.5% of children might develop febrile convulsions. This finding was supported by Suda and Adel (2009) [20] who reported a high incidence of febrile convulsions by 14% among feverish children. From the researcher point of view, the difference was due to different sites of research setting.

Regarding to age of the child at first febrile convulsion episodes, the present study demonstrated that the higher age group was between 6 months to 1 year of life. The result was consistent with Madhi and Taha (2006) [21]. Who conducted a prospective study in Children's Hospital, Riyadh to determine the incidence of febrile convulsion? Hundred children were selected conveniently. Data collected through interviewing the parents. The result of the study showed that there was a preponderance of boys (69%) and a mean age of 18.6 months with a peak incidence (82%) between six months

and one year. Twenty five children got febrile convulsion when they experienced fever.

The present study illustrated that there was statistical significant improvement in post then pre intervention regarding knowledge and practices of febrile convulsion. This result comes incongruent with a cross-sectional study conducted by Saki and Marui (2009) [22] in healthcare centers in Arak city on knowledge of mothers about management of febrile convulsion. Hundred mothers with children less than two years of age were selected by multi-stage cluster sampling. Data were collected using a knowledge questionnaire. The result showed that the mean function score of mothers in preventing febrile convulsion was 45.85 ± 20.5 , and their mean awareness score was 36.2 ± 12.05 . In addition, mothers with lower education and poor function had lower levels of knowledge and practice ($p < 0.05$). The study concluded that there was lack of knowledge regarding febrile convulsion among mothers so required elaborate educational program is needed.

In the light of the present study findings, there was statistical significant improvement in post than pre intervention regarding mothers practice for fever and febrile convulsion. The majority of mothers had bad practical performance in dealing with fever and febrile convulsion at home. This finding was in contrast with Stuijvenberg *et al.*, (2005) [23] who performed a comparative study to evaluate the effects of educational intervention on changing parental practices for recurrent febrile convulsions in Taiwan. Three hundred parents voluntarily chose to receive either pamphlet or an educational program. The result showed that parents who received only pamphlets didn't show any significant improvements. Parents who attended the educational program demonstrated significant improvements in the recommended practices particularly in protecting the convulsing child and placing the child on his/her side.

The present study showed that the recurrence episodes of febrile convulsion were decreased so, it's mainly prevented when the mothers follow preventive nursing intervention and guidelines for management. This finding is supported by Hung *et al.*, [24] who conducted a prospective questionnaire based study to evaluate the knowledge, concerns, attitudes and practices of children with first febrile convulsion at the Mofid Children's Hospital, Tehran. The sample was 126 mothers of children presenting with febrile convulsion. The study result was only 46% of mothers recognized the convulsion, 39% interpreted the seizure as death, 68% of mothers didn't carry out any intervention before getting the child to the hospital. This study concluded that parental fear and anxiety is the major problem in febrile convulsion and necessary measures should be taken to educate the mothers regarding febrile convulsion in case of recurrence The results were also supported by Rosman (2005) [25]. who reported that febrile convulsion in children had always



been a controversial subject. Also, there was difference of opinion among the clinicians regarding its treatment and prevention. The perusal of the available electronic literature and the books does not throw adequate light on whether or not there was any complication following an episode of febrile convulsion. However the American Academy of Pediatrics guidelines were very effective in improving mothers knowledge and practices related to management of fever and prevention of febrile convulsions recurrence. From the researcher point of view, this difference indicates that the nursing intervention and American Academy Guidelines were highly effective in enhancing the knowledge and practices of mothers related to management of fever and prevention of recurrence of febrile convulsion.

CONCLUSION

In the light of the present study findings, it can be concluded that the implementation of the intervention for prevention of febrile convulsion recurrence among children

had lead to improve mother's knowledge and practices regarding fever and febrile convulsion and reduce the frequency of recurrence of febrile convulsion.

RECOMMENDATIONS

- Health education for fever and febrile convulsions management should be performed at the out patient clinics using booklets, posters and other mass media to improve mother's knowledge and practices regarding management of febrile convulsion.
- A similar study can be replicated on nurses of the out patients clinics to evaluate their knowledge and practices to ward fever and febrile convulsions.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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