

# Practices of mothers attending primary health care centers regarding febrile convulsion in Basrah

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## Abstract

**Backgrounds:** Febrile convulsion is one of the common childhood clinical conditions. Children under the age of five years are more susceptible to such types of convulsions. This disorder produces anxiety among family members mostly in mothers. There is an extreme need for parents to be prepared with precise knowledge about the causes and suitable home resuscitation of febrile convulsion to reduce the under-five mortality rate.

**Objectives:** The objective was to evaluate the practices of mothers attending primary health care centers in Basrah regarding febrile convulsion.

**Methods:** The study was cross-sectional, accomplished among 210 mothers attending five PHCCs in Basrah. Data were gathered by face-to-face meeting of the mothers by the investigator, using a specially prepared questionnaire form.

**Results:** Nearly one-quarter of the mothers (24.8%) were illiterate, while (21%) of them had primary school education. When assessing the mothers' practices regarding febrile convulsion, the highest correct responses were in "Observe seizure manifestations and duration" at (93.3%) followed by "Reduction of temperature" at (90.5%) then "Place the child on the soft surface" at (84.3 %). Only (5.2%) of mothers with good practices about FC, while those with poor and fair practices were (20.5%) and (74.3%), respectively.

**Conclusions:** According to the findings of the present study, mothers' practice of febrile convulsion was good in only (5.2%) of mothers, there is a need for women to be informed about risk factors and suitable home practices of febrile convulsion management in children below the age of five years in Basrah, so the health care providers can give suitable health education and support plans.

**Key words:** Practices, Febrile convulsion, Primary health care, Basrah

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## Introduction

Febrile convulsion (FC) is one of the common childhood clinical conditions. Children below the age of five years are more susceptible to this type of convulsions. The disorder produces fear among family members mostly in mothers.<sup>1</sup> FC means a spasm that happens below the age of five years as a result of high body temperature with high incidence

in the 2<sup>nd</sup> year of life.<sup>2,3</sup> Universally, 25-35% of the children are admitted to pediatric emergency departments with FC.<sup>4,5</sup> FC related conditions form 30-40 % of admissions to hospital as declared by Volta Regional Health Annual Reports 2014.<sup>6</sup> Globally, febrile convulsion is seen in about 5% of children, and it is assessed that 460 out of 100,000 children below the age of four years.<sup>7</sup> In Europe and North America, it is reported in 3 to 5% and Asian children up to 14%.<sup>8</sup> Investigating the risk factors for FC, gender, family history of the same condition

and viral infections have been the main factors.<sup>9</sup> Children with febrile convulsions are mostly presented with unconsciousness and uncontrollable vibration of upper and lower limbs. Most FCs last only a few minutes (less than 5 minutes) and appear with fever above 101°F (38.3°C). Although febrile convulsion doesn't generate any long-term health effects it is more frightening for the entire family especially for mothers.<sup>10</sup> Worries about the upcoming health of the child are the most common source of anxiety among the mothers. Reasons for concern include fear of recurrent attacks, mental retardation, physical disabilities, and even death.<sup>11</sup> In a Turkish study, parents were shocked witnessing their child in a febrile convulsion state and considered it as life-threatening.<sup>10</sup> Another study also documented that mothers had established poor KAP about febrile convulsion as some wrong practices were recognized in this study which are possibly unsafe. The practices were: driving fluids by mouth, catching the child's body powerfully to stop convulsions, or inserting something to keep the mouth open. So, the studies highlighted the need for improvement in awareness and practice by raising knowledge among parents through educational programs.<sup>12</sup> Similarly, the studies revealed that despite having sufficient information about the risk factors and clinical signs of FC; mothers are still adhering to false beliefs like paranormal powers cause convulsions. These beliefs are well-experienced in their choices regarding the management of FC. There is an extreme need for parents to be prepared with precise health literacy regarding the causes and suitable resuscitation of febrile convulsion to decrease the mortality rate below the age of five years.<sup>13</sup> In Bagdad, a study revealed that (56.4%) of the participating mothers have anxiety level of understanding practices regarding febrile convulsion.<sup>14</sup> The Creation of successful communication with mothers and improving their measures to manage FC at home is the best approach for febrile convulsion; there is a necessary need for the parents to release the anxiety and become capable of managing the condition ideally.<sup>15</sup> The chief purpose of the study was to evaluate the practices of mothers attending PHC centers in Basrah regarding febrile convulsion.

## Methods

The design was cross-sectional, it was conducted over a period of 3 months extending from the 2<sup>nd</sup> of January 2022 to the 1<sup>st</sup> of April 2022. Approval from the Basrah Directorate of Health to conduct the study was obtained before the beginning of the study. About 210 mothers, with children aged below 5 years, attending 5 PHCCs in Basrah and ready to participate in the study were included. A list of the PHCCs in Basrah was obtained from the Department of Public Health (a total of 134 PHCCs). Five PHCCs were selected to represent different areas in Basrah (Shalhat Al-Hajaj, Al-Jeiry, Al Zurayji, Al-Murabaa and Medainah). These PHCCs provide primary health care services five days per week, from Sunday to Thursday, (8:30 AM to 2:00 PM). The first 5-10 mothers achieving the criteria of eligibility were recruited in the study. Consequently, from each PHCC, about 35-45 participants were recruited in the study. The data were gathered through the meeting of the participants by the investigator directly using a special questionnaire form. Components of the questionnaire were selected by the supervisor from a published study,<sup>14</sup> They included 2 parts: (1) Socio-economic and familial characteristics of the mothers (age, education, occupation, number of children), family type as: nuclear that consists only of parents and their children and extended type that includes grandparents and sometimes other relatives, family income and family history of febrile convulsion (2) Mother's practices regarding febrile convulsion: it was measured by 15 MCQs. For scoring purposes, each correct response was given "1" and incorrect responses were given "zero". The total score ranged from zero to 15 and the level of practice was classified into three as: poor (< 6 scores), fair (6-10 scores) and good (11-15 scores). The data were examined by the Statistical Package for Social Sciences (SPSS) version 23. Descriptive data were displayed as frequencies and percentages. The association between two categorical variables was measured using the X<sup>2</sup> test. A P-value of less than 0.05 was the standard of significant statistical association.

## Results

Table (1) shows the socioeconomic and familial information of mothers. The sample size was 210 mothers. In total (44.8%) of the women were from 20-29 years of age, (30.5%) were from 30-39 years while (4.8%) of them were below the age of 20. About (62.4%) of the participants have  $\leq 6$  years of education, whereas (24.8%) of mothers have from 7 to 12 years of education. Only (12.9%) of the participants were 13 years and above. About two-thirds of participants (64.3%) were housewives, only (11.9%) were government employees and (17.1%)

were self-employed. Overall (34.3%) of the participants had 1-2 children, about (36.7%) had 3-4 children the remaining (29%) of the mothers had  $\geq 5$  children. About half of the families (53.3%) were nuclear, the remaining (46.7%) of the families were extended. Less than half of the mothers (47.1%) had a monthly family income of less than 500.000 Iraqi dinars, about (37.1%) of the families had an income between 500.000 to one million Iraqi dinars. Only (13.8%) of the families had an income from one to two million Iraqi dinars. About (42.4%) of the mothers reported a positive family history of febrile convulsion.

**Table 1. Socioeconomic, and familial characteristics of mothers**

Variable	No.	%
<b>Mother's age (years)</b>		
< 20	10	4.8
20-29	94	44.8
30-39	64	30.4
$\geq 40$	42	20
<b>Mother's years of education</b>		
$\leq 6$	131	62.4
7-12	52	24.7
$\geq 13$	27	12.9
<b>Mother's occupation</b>		
Housewife	135	64.3
Governmental employee	25	11.9
Self-employed	36	17.1
Student	14	6.7
<b>Number of children</b>		
1	29	13.8
2	43	20.5
3-4	77	36.7
$\geq 5$	61	29
<b>Family type</b>		
Nuclear	112	53.3
Extended	98	46.7
<b>Family income (IQD)</b>		
< 500.000	99	47.1
500.000-1 million	78	37.2
1-2 million	29	13.8
> 2 million	4	1.9
<b>Family history of febrile convulsion</b>		
Yes	89	42.4
No	121	57.6

The highest correct responses were in “Observe seizure manifestations and duration” at (93.3%) followed by “Reduction of temperature” at (90.5%) then “Place the child on a soft surface” at (84.3 %). The highest incorrect responses were in “Being confused” and “Being calm” at (78.6 %), (77.6 %) respectively, followed by “Could you use the thermometer in a correct way” at (77.1%) and “Doing cardiac massage”, “Trying to open the child's mouth and insert something in” at (75.2%), (71%), **table.2**.

**Table 2: Responses of mothers about their practices related to FC**

Practices	Correct Responses	Responses			
		Correct		Incorrectly	
		No.	%	No.	%
Reduction of temperature	Yes	190	90.5	20	9.5
Place the child on a soft surface	Yes	177	84.3	33	15.7
Put the child on his/her side	Yes	131	62.4	79	37.6
Being calm	Yes	47	22.4	163	77.6
Observe seizure manifestations and duration	Yes	196	93.3	14	6.7
Take the child to the doctor immediately without resuscitation	No	137	65.2	73	34.8
Shaking the child	No	118	56.2	92	43.8
Trying to open the child's mouth and insert something in	No	61	29	149	71
Resuscitate the child with FC by mouth-to-mouth	No	84	40	126	60
Suctions of secretions from the child's mouth and nose	No	78	37.1	132	62.9
Doing cardiac massage	No	52	24.8	158	75.2
Control the handling of child with FC	No	71	33.8	139	66.2
Being confused	No	45	21.4	165	78.6
Did you have a thermometer in your house	Yes	65	31	145	69
Could you use the thermometer in the correct way?	Yes	48	22.9	162	77.1

Concerning the distribution of practice score regarding febrile convulsion, **Table .3** shows that only (5.2%) of mothers had good practice about FC, whereas mothers who had poor and fair practices were (20.5%) and (74.3%), correspondingly.

**Table 3: Level of mothers' practice score**

Practice score	No.	%
Poor	43	20.5
Fair	156	74.3
Good	11	5.2

There was a significant association between mother's education, family history of febrile convulsion and practice score ( $p < 0.05$ ). Association between mother's age, occupation, number of children, family type, family income and practice score were found non-significant ( $p > 0.05$ ),

Table 4. Association between variables and practice scores

Study variables	Practice score						Total		P- value
	Poor		Fair		Good				
	No.	%	No.	%	No.	%	No.	%	
Mother's age (years)									0.437
< 20	2	20	7	70	1	10	10	100	
20-29	24	25.5	64	68.1	6	6.4	94	100	
30-39	12	18.8	50	78.1	2	3.1	64	100	
≥40	43	20.5	156	74.3	11	5.2	41	100	
Mother's years of education									0.033
≤ 6	26	19.8	102	77.9	3	2.3	131	100	
7-12	12	23.1	37	71.2	3	5.8	52	100	
≥ 13	5	18.5	17	63	5	18.5	27	100	
Mother's occupation									0.117
Housewife	29	21.5	102	75.6	4	3	135	100	
Governmental employee	2	8	19	76	4	16	25	100	
Self-employed	8	22.2	26	72.2	2	5.6	36	100	
Student	4	28.6	9	64.3	1	7.1	14	100	
Number of children									0.945
1	8	27.6	20	69	1	3.4	29	100	
2	7	16.3	33	76.7	3	7	43	100	
3-4	15	19.5	58	75.3	4	5.2	77	100	
≥ 5	13	21.3	45	73.8	3	4.9	61	100	
Family type									0.409
Nuclear	23	20.5	81	72.3	8	7.1	112	100	
Extended	20	20.4	75	76.5	3	3.1	98	100	
Family income (IQD)									0.180
Less than 500.000	21	21.2	76	76.8	2	2	99	100	
Between 500.000-1 million	13	16.7	59	75.6	6	7.7	78	100	
Between 1-2 million	7	24.1	19	65.5	3	10.3	29	100	
More than 2 million	2	50	2	50	0	0	4	100	
Family history of febrile convulsion									0.020
Yes	19	21.3	61	68.5	9	10.1	89	100	

No	24	19.8	95	78.5	2	1.7	121	100	
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Discussion

Although the incidence of FC in childhood is quite high, they can be exceedingly fear and anxiety-provoking, and emotionally traumatic when observed by parents,<sup>1</sup> fortunately, the majority of FC are benign. Suitable action through knowledge about FC can help parents get through this distress and give them the necessary support.

When the mothers were asked about practices taken to manage FC, more than (93%) of them were aware that they should observe seizure manifestations and duration; this was consistent with the result obtained from Bagdad and Hillah studies.<sup>14,16</sup> The second most common form of practice in our study was a reduction of temperature (90.5%), which was reported among (98.6%), (and 75%) of mothers in Bagdad and Hillah respectively.<sup>14,16</sup> About (84%) of mothers placed the child on a soft surface, this finding was very similar to the studies done in Iraq and Sri Lanka .<sup>14,16,17</sup> Only (34.8%) of studied mothers directly ran to the emergency department or health center at the time of FC attacks without resuscitations, this may be due to mothers distress that their child may die, or they may have a poor practice of the state. This result comes in line with Hillah and Iran's studies.<sup>16,18</sup> During episodes of convulsion, 71% of the mothers tried to open their child's mouth and forced something in, thought that it may prevent tongue biting; in KSA, only 32% of mothers said that they tried to maintain the child's mouth open by inserting their fingers or any other objects to prevent tongue biting .<sup>12</sup> Sixty-three percent of participating mothers in this study eliminate secretions from the child's mouth and nose during episodes of FC which is higher than the percentage reported in Hillah and Sri Lanka .<sup>16,17</sup>Only (31%) of mothers had a thermometer at home and about (23%) knew how to use it.

In general, the current study showed that only (5.2%) of the mothers had good practices about FC, while those who had poor and fair practices were (20.5%) and (74.3%), correspondingly; our result is lower than that obtained in Bagdad and Hillah.<sup>14,16</sup> A higher level of correct practices was found to have a significant association with the mother's education,

and family history of febrile convulsion. In Hillah a significant relationship was found between the frequency of attacks reported by families and practice score.<sup>16</sup> In Bagdad a significant association was found between Mother's education, father's education, father's occupation and practice score<sup>14</sup>.

Conclusion

Looking into the results of the present study, mothers' practice FC was good in only (5.2%) of mothers, whereas mothers who had poor and fair practices were (20.5%) and (74.3%), respectively.

Recommendations

There is a need for women to be informed about the causes and suitable first aid of febrile convulsion in children under five years in Basrah, so the health care providers can deliver necessary plans for help and education.

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## ممارسات الأمهات اللائي يرتدن مراكز الرعاية الصحية الأولية بالنسبة للصرع الحراري في البصرة

**الخلفية:** يعتبر الصرع الحراري أحد مشاكل الطفولة الشائعة. الأطفال دون سن الخامسة هم أكثر عرضة لهذا النوع من التشنجات. تخلق هذه الحالة خوف وقلق بين افراد العائلة وخاصة عند الأمهات. هناك حاجة ماسة لتزويد الأمهات بمعلومات صحية دقيقة حول الأسباب والمعالجة المنزلية للصرع الحراري لتقليل معدل الوفيات دون الخمس سنوات

**الأهداف:** كان الهدف الرئيسي من الدراسة هو تقييم ممارسات الأمهات اللائي يرتدن على مراكز الرعاية الصحية الأولية في البصرة فيما يتعلق بالصرع الحراري.

**الطرق:** أجريت دراسة مقطعية على ٢١٠ أم ترتدن خمسة مراكز للرعاية الصحية الأولية في البصرة. تم جمع البيانات من خلال المقابلة الشخصية للمشاركين من قبل الباحثين باستخدام استمارة استبيان خاصة أعدت لغرض الدراسة.

**النتائج:** ما يقرب من ربع الأمهات (٢٤,٨٪) أميات ، بينما (٢١٪) منهن حاصلات على تعليم ابتدائي. عند تقييم ممارسات الأمهات فيما يتعلق بالصرع الحراري، كانت أعلى الردود الصحيحة في "مراقبة مظاهر النوبة ومدتها" عند (٩٣,٣٪) تليها "خفض درجة الحرارة" عند (٩٠,٥٪) ثم "وضع الطفل على سطح ناعم" في (٨٤,٣٪). نسبة (٥,٢٪) فقط من الأمهات لديهن ممارسة جيدة فيما يتعلق بالصرع الحراري، في حين كانت نسبة اللواتي لديهن ممارسة سيئة وعادلة كانت (٢٠,٥٪) و (٧٤,٣٪) على التوالي.

**الاستنتاجات:** وفقاً لنتائج الدراسة الحالية ، كانت ممارسة الصرع الحراري لدى الأمهات جيدة لدى (٥,٢٪) من الأمهات فقط ، وهناك حاجة لتثقيف النساء حول الأسباب والرعاية المنزلية المناسبة أو معالجة الصرع الحراري عند الأطفال دون سن الخامسة في البصرة ، لذلك يمكن لفريق الرعاية الصحية توفير التخطيط المناسب للدعم والتعليم

**الكلمات المفتاحية:** ممارسات، صرع حراري، رعاية صحية أولية، بصره