



Research



# Parental Knowledge, beliefs and first-aid practices regarding febrile convulsion: a descriptive cross-sectional study in Tamale Teaching Hospital, Ghana

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## Parental Knowledge, beliefs and first-aid practices regarding febrile convulsion: a descriptive cross-sectional study in Tamale Teaching Hospital, Ghana

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## Abstract

**Introduction:** febrile convulsion is one of the most common form of convulsion among children and one of the most common causes of hospital admissions in children under five years of age. There is paucity of data on the study of febrile convulsion in Ghana and especially, the northern part of Ghana. The aim of the study assessed parental knowledge, beliefs, and first-aid practice regarding febrile convulsion at a tertiary health facility in the northern region of Ghana. **Methods:** this was a cross-sectional descriptive hospital-based study involving 100 parents whose children were admitted with previous history of febrile convulsion. They were sampled purposively. A questionnaire was used to collect data from the parents at the children's emergency and paediatric wards of the Tamale Teaching Hospital from 1<sup>st</sup> October 2018 to 31<sup>st</sup> December 2018. The Data was then analyzed using SPSS version 23.0. **Results:** majority (95%) of the parents had heard about febrile convulsion and especially from family members. Overall good knowledge score was 59.0%. About (71.0%) identified the presentation of febrile convulsion as twitching of the face and stiffening of the neck. Furthermore, 87% belief that febrile convulsion is caused by high body temperature. Majority (69%) of the parents bathed their children with cold water as a first aid measure of febrile convulsion. Multivariate analysis showed that the belief witchcraft could cause convulsion, type of first aid intervention given and intervention given after first aid were all associated with parental knowledge of febrile convulsion ( $\chi^2=4.05$ ,  $p=0.044$ ), ( $\chi^2=9.52$ ,  $p=0.021$ ) and ( $\chi^2=6.45$ ,  $p=0.040$ ) respectively. **Conclusion:** the study revealed that parents had substantial idea about febrile convulsions. That notwithstanding, most of their first aid management yielded no positive outcome. Again, it is worth mentioning that some parents resorted to cultural practices in treating convulsions at home such as smearing ground garlic on the bodies of their children during a convulsive episode in order to abort it. Others attributed the cause of it to supernatural powers and witchcraft.

## Introduction

Febrile convulsion (FC) is one of the most common form of convulsion among children and one of the most common causes of hospital admissions in children under five years of age which largely occur as a result of high body temperature and affects 4-10% of children under 5 years of age [1]. Parental anxiety and misconceptions about FC contribute to a relevant reduction in the quality of life of children and families after a FC [2]. Febrile convulsion is defined as a paroxysmal involuntary disruption of brain function that manifests as an impairment or loss of consciousness, abnormal motor activity, behavioral abnormalities, sensory disturbance, or autonomic dysfunction [3]. Evidence suggests that children with fever and febrile convulsions represent about 20% of children who visit the paediatric emergency department worldwide [4-6]. Also, studies have demonstrated that about 25% to 35% of all admissions in paediatric emergency wards are due to FC and conditions relating to febrile illness in sub-Saharan Africa [7,8]. For most of parents and other family members, febrile seizure is usually an emotionally stressful condition and especially the thought that their children may die during the seizure attack. This family may have gross changes in their behavioral and daily activities with a settle sense of panic to fever and febrile convulsions itself. There is probably nothing more terrifying for parents than to see their child experiencing FC and this event is magnified by an inappropriate parental belief that FC will cause choking, brain damage, mental retardation, learning disorders or epilepsy [2].

Knowledge on FC is important for parents, especially knowledge regarding when it will occur, seizure characteristics, how to manage seizure, and how seizure can be prevented [9]. A study by Nyaledzigbor *et al.* [10] which explored Ghanaian mothers' knowledge on FC showed that mothers demonstrated good knowledge when describing FC in children as most (70%) described FC as a sickness in children which is exhibited by child twitching. However, in a similar study by Kheir *et al.* [11]

among parents of children presenting with FC in India showed knowledge gaps where 77.9% of the parents did not know that FC could be caused by fever, 90.7% did not carry out any first aid care prior to taking their children to the healthcare facilities for expert management and could not identify the FC respectively. In providing interventions during FC episode, a study by Srinivasa *et al.* [1] in India revealed that only 21.8% of parents protected their children by placing them on soft safe surface, 16.7% placed their children by their side and only 12.7% kept the children calm.

While literature has exposed several knowledge gaps in FC among parents, it is however interesting to note that parents with previous knowledge of febrile convulsions took more precise action and perceptive attitude. Prevention of recurrence FC should be addressed, since it causes anxiety and emotional disturbance in the whole family [12]. Furthermore, regarding parents' beliefs of FC, about 50% of parents' belief that the condition is caused by an increase in body temperature, while 30% belief that FC was cause by supernatural spirit and 24% attributed it to witchcraft [10]. Several studies have demonstrated that if parents had good knowledge in home management of fever and FC, they will be preventing about 60% to 65% of childhood emergencies resulting from febrile convulsions in health facilities [5,13,14]. In the presence of these overwhelming empirical data on parents' knowledge, beliefs and home management of FC globally, there is still the need for for such a study to be conducted in Ghana especially in the northern part as the researchers have not found any of such studies conducted in the area. Though few studies have been conducted in some parts of Ghana regarding FC [10,15] in the Volta region of Ghana, the differences in geographical location coupled with the fact that there is paucity of data on FC only strengthened the need for this study to be conducted among Ghanaian parents in the northern part of Ghana. Therefore the objective of this study was to assess parental knowledge, beliefs, and first-aid practice

regarding febrile convulsion in Tamale Teaching Hospital, Ghana.

## Methods

**Study design:** this was a cross-sectional descriptive hospital-based study that was carried out at the paediatric and paediatric emergency wards of the Tamale Teaching Hospital (TTH). The study assessed parental knowledge, beliefs, and first-aid practices regarding FC.

**Study setting:** this study was carried out in the TTH, which is located in Tamale the capital of the Northern Region of Ghana. Tamale is bounded by the following; Sagnarigu District to the west and north, Mion District to the east, East Gonja to the south, and Central Gonja to the south-west [16]. The TTH which was established in 1974 is now an 800-bed capacity referral hospital for the five (5) regions in the north. TTH also serves as a referral hospital for neighboring countries such as Côte-d'Ivoire, Burkina Faso, and Togo that shares borders with Ghana. The Hospital is one of the five Teaching Hospitals in Ghana, and it is the primary practical teaching hospital for the University for Development Studies School of Medicine and Health Sciences as well as other health training institutions in the northern region. The paediatric department where the study was conducted offers both general and specialized care to respective patients and has an average monthly patients' turnout of 450 and 17 patients per day during the peak season in the paediatric ward while the paediatric emergency has an average monthly admission of 115 patients during the peak season (Tamale Teaching Hospital: Hospital Administrative Records, 2019; unpublished).

**Study population:** the participants of the study were parents with children who were admitted into the paediatric ward and paediatric emergency unit of the TTH with a history of febrile convulsion prior to their admission. In all, a total of 100 parents were recruited to participate in the study.

**Inclusion and exclusion criteria:** the study included all parents who had their children on admission with previous FC episodes at home before this current admission and between the age of six (6) months and five (5) years who consented to take part in the study were administered with questionnaires. The study however excluded any parent whose child was not admitted and did not have any history of FC. It also excluded parents with children less than six months or more than five years of age. The study further excluded parents who did not consent to take part in the study as well as older siblings who brought their young sick siblings to the wards for admission.

**Sampling method and sample size:** a total of 100 parents were sampled conveniently at the study facility for the study who had their children admitted with a history of FC. The study was conducted between 1<sup>st</sup> October 2018 and 31<sup>st</sup> December 2018. All parents whose children were admitted at the various wards with a previous history of FC during this period were approached to participate in the study.

**Data collection tool:** a structured questionnaire was used to collect data from parents regarding their perspectives of FC in selected paediatric wards of TTH. The questions were both closed-ended and open-ended to provide a more accurate reflection of parental knowledge, beliefs, and practices regarding home management of FC. The questionnaire was carefully designed, taking into cognizant relevant literature available and the study objectives. The tool was structured into sections; section A: demographic characteristics of parents which were made up of 11 questions; section B: parental knowledge on FC also 11 questions; section C: parental beliefs and attitude 4 questions; section D: parental first aid management of FC 4 questions. The questions were numbered serially which was made up of yes or no and open-ended pattern of questions.

**Data collection procedure:** the data collection process began after obtaining approval from the Research and Development Unit of TTH. The

collection started in October 2018 and ended in December 2018. The questionnaires were administered to the parents on a one-on-one basis in private rooms of the respective wards after obtaining their informed consent, both verbally and written. Parents who could read and write were given the questionnaire, where they answered and returned the completed questionnaire. Those who could not read and write were assisted in answering the questions by translating the information in the questionnaire to their native local languages. The filled questionnaires were cross-checked for completeness and consistency of the responses and kept in a sealed envelope. Each questionnaire was coded with an identification number before giving it to the parents for easy identification.

**Validity and reliability:** to measure the accuracy and consistency of the questionnaire used, it was piloted at the Tamale Central Hospital using the same inclusion criteria among 15 parents. This did not detect major variations in the questionnaire, and hence the original form was maintained. The questionnaire was designed to suit the objectives intended to be achieved. The questionnaire went through peer review among all the authors and six experienced paediatric nurses and one paediatrician to ensure content validity. Ambiguity, errors, and inconsistencies arising from the review were corrected to make it free from bias. To guarantee internal consistency of the study instrument, Cronbach's alpha coefficient was conducted on the study instrument.

**Data analysis:** the data was entered into a Microsoft Excel sheet, cleaned, and exported to IBM Statistical Package for Social Sciences (SPSS) version 23.0. The data was presented in the form of tables and bar charts. Numerical data were presented in frequencies and percentages. Knowledge and attitude of parents regarding FC were calculated using frequencies and percentages. In the classification of knowledge and attitude, parents who scored below average were classified as having poor knowledge or attitude, and those who scored above average were classified as having good knowledge and attitude.

Chi-square analysis was performed to ascertain the association between parental knowledge on febrile convulsion and other factors and a p-value of lesser than 0.05 was considered as statistically significant. Ordered Logistic regression analysis was also done to determine the relationship between a dependent (knowledge) and independent (age, sex, marital status, educational background, ethnicity, religious affiliation, number of children among others) variables with 95% confidence interval and p-values calculated using variables that showed significant association ( $p < 0.05$ ) in the chi-square analysis.

**Ethical considerations:** ethical approval was obtained from the Research and Development unit of the facility, with reference number: TTH/R&D/SR/128. Written informed consent was obtained from the parents before administering the questionnaire to them. Parents were also informed that they could willingly withdraw from the study at any time without facing any penalty. They were further assured of anonymity and confidentiality and privacy of their identity and information.

## Results

**Demographic characteristics of respondents:** as shown in Table 1, a total of 100 parents were recruited for this study. Of this number, the majority 70% of them were between the ages 26-35 years, 16% aged 36-45 years, with the least being 5% aged 46-55%. The majority of the fathers 42% were aged 26-35 and 36-45 years. Forty five percent of the children were aged 13-36 months while more than one fourth, 28% were also aged 6-12 months. About 75% of the respondents were females, and a little above half, (51%) of their children were also females. The majority of the respondents, (63%) were Muslims with only one-third, 35% being Christians. About half of the parents, (51%) were Dagombas, 19% Gonjas, 16% Akans, and 4% Ewes. Nearly, one-third of the respondents had a secondary school education, while 18% had either primary or vocational

education, and 16% of them had tertiary education. More than half of the respondents engaged in trading (57%), with 19% engaged in farming. Also, 93% of the respondents were married, and the majority of them had two or three children, with  $2.95 \pm 1.46$  mean number of children. About 56% of the parents had a family history of convulsion, of which 51.8% were direct siblings to the respondents, 30.3% were also nieces.

**Parental knowledge regarding febrile convulsion:** parental knowledge regarding febrile convulsion was explored, and it revealed that 95% of the parents had heard about febrile convulsion. Of those who had heard about FC, 62.0% heard about it from family members, while 32% heard it from health care professionals. Signs of convulsion were identified by the majority (80%) as twitching of the face or the extremity, stiffening of the neck 71%, clenching of the teeth and vomiting 67% and loss of consciousness 50% (Table 2). A majority (96%) of the parents, knew that untreated convulsion in children could lead to complications. Of these, more than half (59.4%) identified brain damage and mental illness as complications of untreated convulsion while less than half (47.9%) also identified epilepsy as a complication and (43.8%) identified physical injuries as complications. Regarding knowledge on preventive measures of febrile convulsion, about 85% knew fever reduction through sponging, 70% through paracetamol syrup administration. About 75% indicated that giving concoction or herbs to the child was a preventive measure, while 45% indicated treating the cause of fever, and 43% only knew of prophylaxis for repeated convulsions. About 75% indicated that giving concoction or herbs to the child was a preventive measure, while 45% indicated treating the cause of fever, and 43% only knew of prophylaxis for repeated convulsions (Figure 1). Also, 93% of the respondents knew that the prevention of high body temperature was a way of preventing convulsive episodes. Other ways identified as ways of preventing convulsive episodes were the child should be sent to the hospital (60%), take concoction (37%), and taking of

drugs (33%). This is presented in (Figure 2). The results also revealed that 59.0% of respondents had good knowledge of FC, while 41.0% had poor knowledge.

**Parental beliefs towards convulsion:** on the beliefs of parents concerning the causes of febrile convulsion, majority (87%) of the respondents believe that febrile convulsion is caused by high body temperature while 66% attributed febrile convulsion to the malaria parasite. About 38% also indicated that febrile convulsion is caused by supernatural powers while 20% and 13% respectively indicated the abnormal function of the brain and sores in the stomach to be causes of febrile convulsion. Most of the parents (94%) also held the belief that convulsion could be treated while 26% believed that witchcraft could cause febrile convulsion (Table 3).

**Parental first aid management of febrile convulsion:** the majority (71%) of the febrile convulsion occurred at the home of respondents while 14% of these occurred in the market, and 8% occurred on the farm. On the management of febrile convulsion, about 69% of the parents bathed their children with cold water as a first-aid measure, 15% smeared grinded garlic on the body and 7% smeared herbal preparation on the body. Only 30% of the seizure stopped after first aid was provided. The majority (91%) of them sent their children to the hospital after first aid intervention. Surprisingly, 6% of the parents sent their children to herbalist while 3% managed it at home. Table 4 shows the various interventions by parents.

**Factors associated with parental knowledge regarding febrile convulsion:** chi-square analysis was performed to ascertain the association between parental knowledge on febrile convulsion and other factors. It revealed that the belief that witchcraft could cause convulsion was associated with parental knowledge of febrile convulsion ( $\chi^2=4.05$ ,  $p=0.044$ ). The kind of first aid given for convulsion was also associated significantly with parental knowledge of febrile convulsion ( $\chi^2=9.52$ ,  $p=0.021$ ). Again, parental knowledge was

significantly associated with intervention given after first aid has been given ( $\chi^2=6.45$ ,  $p=0.040$ ). There were no significant associations between demographic characteristics and parental knowledge. Logistic regression analysis was performed to explore the determinants or factors that were associated with parental knowledge of febrile convulsion. It was revealed that those who had no formal education were 77% less likely to have good knowledge on febrile convulsion compared to those who had primary education (OR=0.23 (95%CI: 0.05 - 0.96),  $p=0.044$ ). Parents who did not believe that witchcraft could cause convulsion were two and half times more likely to have good knowledge. (Table 5).

## Discussion

This study was aimed at assessing parental knowledge, beliefs and practices regarding home management of FC in a tertiary health institution in the northern part of Ghana. It is important to note that the level of understanding of parents regarding FC as well as their beliefs can greatly influence how they manage FC at home. To this effect, it was necessary in conducting this study in the northern part of Ghana. The overall good knowledge level of parents in the current study was 59.0%, while 41.0% had poor knowledge. This finding contradicts findings of Shibebe *et al.* [17] in Babylon, where in their study the overall good and poor knowledge on FC were 43.0% and 17.0% respectively. The outcome of the current study showed that parental knowledge regarding FC was high as more than 90.0% of the parents had heard about FC and identified correctly twitching of the face or the extremity, stiffening of the neck, clenching of the teeth, loss of consciousness as some signs of FC. These findings largely corroborate the findings [10,15] where majority of the mothers (87.5%) and (96.5%) were able to recognize FC as muscular twitching with eyes open, clenching the teeth and vomiting, stiffening of the arm and loss of consciousness. Nyaledzigbor *et al.* [10] further asserted that the ability of mothers to give a vivid manifestation of FC in children under five years

might stem from their experiences as caregivers who are always with their children during the seizure episodes. On the aspect of knowledge on the complications of FC, several findings [9,17-20] have vindicated our findings by indicating that brain damage will occur as a result of FC.

Regarding parental beliefs on the causes of FC, 87.0% in our study believe high body temperature causes FC. This finding agrees with the findings of Nyaledzigbor *et al.* [10], Abeysekara *et al.* [18] and Abdulla *et al.* [21]. However, the study of Syahida *et al.* [9] where majority (47.0%) of the respondents indicated that high body temperature will not cause FC contradicts our finding. Although about 84.5% of the mothers in the study of Abdulla *et al.* knew that fever could lead to convulsions, more than 89.0% knew higher body temperature only increases the risk of febrile convulsion [21]. Despite parents identifying correctly the cause of FC as increased in body temperature, there was reported cases of knowledge gaps in our findings as 38.0% attributed the cause of FC to witchcraft and supernatural spirits. This highlights the need for public education regarding the cause of FC. Once parents associate the cause to witchcraft and supernatural forces, the possibility of engaging in home management or consulting a herbalist is high. Our finding is in agreement with the findings of Nyaledzigbor *et al.* [10] where mothers attributed supernatural spirits (30.0%) and witchcraft (24.0%) as causes of FC. Concerning prevention of FC, about 85.0% and 70.0% of the parents in the current study demonstrated that reducing fever through sponging and paracetamol syrup administration were ways of preventing FC. The finding of Nyaledzigbor *et al.* [10] affirms our findings, though our 85.0% and 70.0% were more than their 66.0% and 44.0%. Furthermore, 40.0% of the respondents in their study indicated that FC could be prevented by treating the cause of the fever, which is similar to our finding of 45.0%. However, in a contrasting view, Syahida *et al.* [9] in a study in Indonesia indicated that parents resorted to giving coffee powder to their children to prevent FC.

Regarding home management after a convulsive episode, the study of Nyaledzigbor *et al.* [10] revealed that more than 50.0% of parents adhered to correct practices of first aid management after a convulsive episode by bathing, tepid sponging the child and giving paracetamol syrup which is similar to ours (73.0%) considering same interventions. Furthermore, about 19.0% of parents in our study engaged in inappropriate means of providing care after convulsive episode by smearing garlic on the body, smearing cow dung and application of herbal preparation on the body. This is similar to several studies [10,15,19] where application of cow dung, smearing of garlic, herbal preparations, putting pepper on fire, making small incisions on the body, pressing on the child's chest, restraining the child from convulsion, rushing the child to the doctor without any interventions etc. Despite efforts to manage FC at home, an overwhelming majority (70.0%) of parents in our study revealed that the home first aid care did not avert the convulsion from occurring, while 30.0% indicated that FC stopped after first aid. It is not surprising that more than 90.0% of parents will then take their children to the hospital after failed home first aid care. However, Shibebe *et al.* [17] reported that about 25.0% of parents will take their children to the clinic or hospital when convulsion occur at the first instance without instituting any first aid treatment. Concerning the association between variables and parental knowledge score of FC in our study, it was realized that knowledge was associated with belief that witchcraft could cause FC, first aid and intervention after first aid at ( $p=0.44$ ), ( $p=0.021$ ) and ( $p=0.040$ ) respectively. Furthermore, parents who did not believe that witchcraft could cause FC were two and half times more likely to have good knowledge in FC than those who believe witchcraft could cause FC. However, our findings disagree with the findings of Shibebe *et al.* where they found that knowledge was associated with residence ( $p=0.047$ ) and educational level ( $p=0.001$ ) [17].

## Conclusion

The study revealed that mothers had substantial idea about febrile convulsions however, most of their first aid management did not yield any good results. Again, it is worth mentioning that some mothers from the northern part of Ghana used grinded garlic to smear on their children during a convulsive episode in order to abort it. The level of Parental knowledge, fear of febrile convulsion, beliefs and their first aid intervention can result in mishandling of the affected child before they sent to the hospital and also influence their health seeking decisions. The effectiveness of parental first aid practices can be assessed further, and substantial enhancement can be accomplished by giving acceptable information to the parents or caretakers. Based on the findings it is very important to creating awareness among parents in the Tamale Metropolis and the northern part of Ghana as a whole on febrile convulsion, its first aid management and more especially disabuse their minds on their beliefs.

### *What is known about this topic*

- *Parents have substantial knowledge on the FC;*
- *FC is often a terrifying event;*
- *Level of education influences parental first aid intervention.*

### *What this study adds*

- *Some parents in the northern part of Ghana uses ground garlic on children's bodies to abort FC;*
- *Parental knowledge is significantly associated with intervention given after first aid has been given;*
- *There is no significant associations between demographic characteristics and parental knowledge of FC.*

## Competing interests

The authors declare no competing interests.

## Authors' contributions

Abubakari Wuni conceived the idea, designed the study, analyzed the data and produced the manuscript, Solomon Mohammed Salia, Seidu Salifu and Samaku Nabila Sein reviewed the study protocol and proofread the manuscript, Ninebri Justine Koku-Anu, Charity Tiemeh and Evans Nte-Awan Bigargma collected the data and followed up for ethical clearance and also proofread. All the authors have read and agreed to the final manuscript.

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## Tables and figures

**Table 1:** socio-demographic characteristics of respondents (n=100)

**Table 2:** parental Knowledge regarding febrile convulsion

**Table 3:** parental beliefs and attitude towards convulsion (n=100)

**Table 4:** parental first aid management of febrile convulsion (n=100)

**Table 5:** logistic regression analysis showing factors associated with parental knowledge of febrile convulsion



**Figure 1:** knowledge of preventive measures of febrile convulsion

**Figure 2:** knowledge of preventive measures of convulsive episodes

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**Table 1:** socio-demographic characteristics of respondents (n=100)

Variable	Frequency (N=100)	Percent (%)
<b>Sex</b>		
Male	25	25.0
Female	75	75.0
<b>Mother's age (years)</b>		
15-25	9	9.0
26-35	70	70.0
36-45	16	16.0
46-55	5	5.0
<b>Father's age (years)</b>		
26-35	42	42.0
36-45	42	42.0
46-55	16	16.0
<b>Child's age (month)</b>		
6-12	28	28.0
13-36	45	45.0
37-48	15	15.0
49-50	12	12.0
<b>Child's sex</b>		
Male	49	49.0
Female	51	51.0
<b>Religious affiliation</b>		
Christian	35	35.0
Muslim	63	63.0
Others	2	2.0
<b>Ethnicity</b>		
Gonja	19	19.0
Akan	16	16.0
Dagomba	51	51.0
Ewe	4	4.0
Others	10	10.0
<b>Educational status</b>		
Primary	18	18.0
Secondary	32	32.0
Vocational	18	18.0
Tertiary	16	16.0
Others	16	16.0
<b>Marital status</b>		
Married	93	93.0
Single	7	7.0
<b>Occupation</b>		
Trader	57	57.0
Farmer	19	19.0
Others	24	24.0
<b>Number of children</b>		
Mean ( $\pm$ SD)	2.95 ( $\pm$ 1.46)	
One child	10	10.0
2-3 children	65	65.0
4-5 children	19	19.0
>5 children	6	6.0
<b>Family History of convulsion</b>		
Yes	56	56.0
No	44	44.0
<b>Relationship</b>		
Brother	15	26.8
Sister	14	25.0
Uncle	7	12.5
Niece	17	30.3
Others	3	5.4

Source: field data (2018) SD: standard deviation

<b>Table 2: parental knowledge regarding febrile convulsion</b>		
<b>Variable</b>	<b>Frequency (N=100)</b>	<b>Percent (%)</b>
<b>Heard of febrile convulsion</b>		
Yes	95	95.0
No	5	5.0
<b>Source of information (n=95)</b>		
Internet	6	6.0
Family member	62	62.0
Health professional	32	32.0
<b>Understanding of febrile convulsion</b>		
Sickness in children which is exhibited by child twitching or fitting	27	27.0
Sickness in children which is normally cause by witchcraft and evil spirit	2	2.0
Associated with high temperature	71	71.0
<b>Signs of convulsions</b>		
Clencing of the teeth and vomiting	67	67.0
Stiffening of the neck	71	71.0
Loss of consciousness	50	50.0
Twitching of the face or an extremity	80	80.0
<b>Untreated convulsion can have complications in children</b>		
Yes	96	96.0
No	4.0	4.0
<b>Complications of untreated convulsion (n=96)</b>		
Epilepsy	46	47.9
Brain damage	57	59.4
Mental illness	56	58.3
Physical injuries	42	43.8
Source: field data (2018)		

**Table 3:** parental beliefs and attitude towards convulsion (n=100)

Variable	Frequency (n=100)	Percent (%)
<b>Beliefs on causes of febrile convulsion</b>		
Witchcraft	38	38.0
Supernatural spirit	38	38.0
Malaria parasite	66	66.0
Sores in the stomach	13	13.0
Abnormal function of the brain	20	20.0
High body temperature	87	87.0
<b>Convulsion can be treated</b>		
Yes	94	94.0
No	6	6.0
<b>Belief witchcraft can cause febrile convulsion</b>		
Yes	26	26.0
No	74	74.0

Source: Field Data (2018)

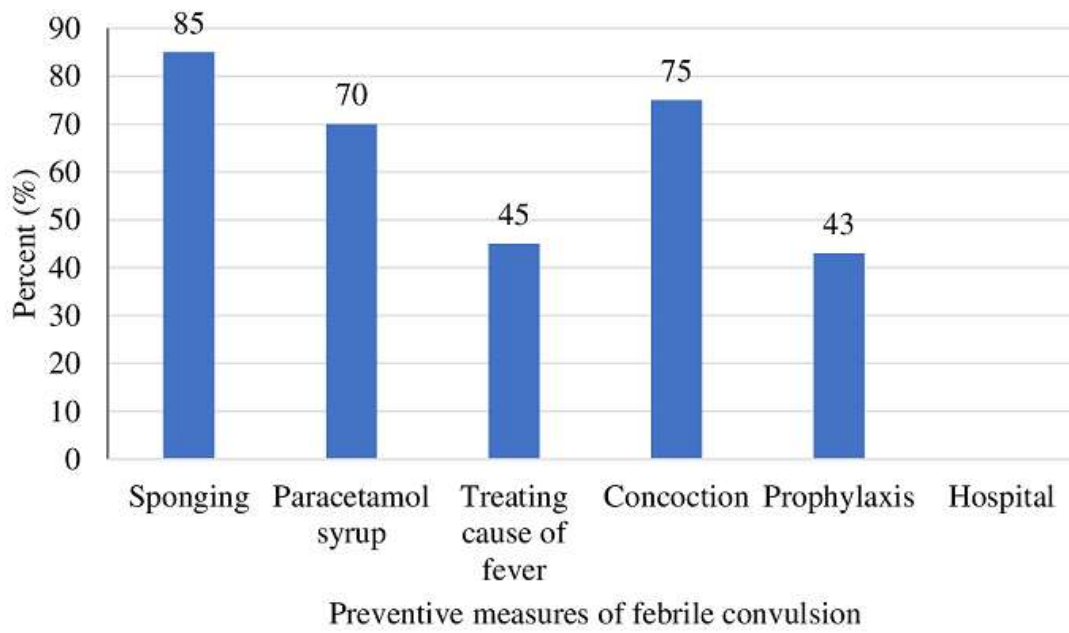
**Table 4:** parental first aid management of febrile convulsion (n=100)

Variable	Frequency (N=100)	Percent (%)
<b>Where febrile convulsion occurred</b>		
Home	71	71.0
Farm	8	8.0
Market	14	14.0
School	4	4.0
Others	3	3.0
<b>First aid given</b>		
Bath the child with cold water	69	69.0
Administered paracetamol	4	4.0
Smeared grinded garlic on the body	15	15
Smeared cow dung	1	1.0
Smeared herbal preparation	3	3.0
Did nothing	7	7.0
Others	1	1.0
<b>Seizure stopped after first aid</b>		
Yes	30	30.0
No	70	70.0
<b>Next intervention after first aid</b>		
Sent child to hospital	91	91.0
Sent child to herbalist	6	6.0
Managed child at home	3	3.0

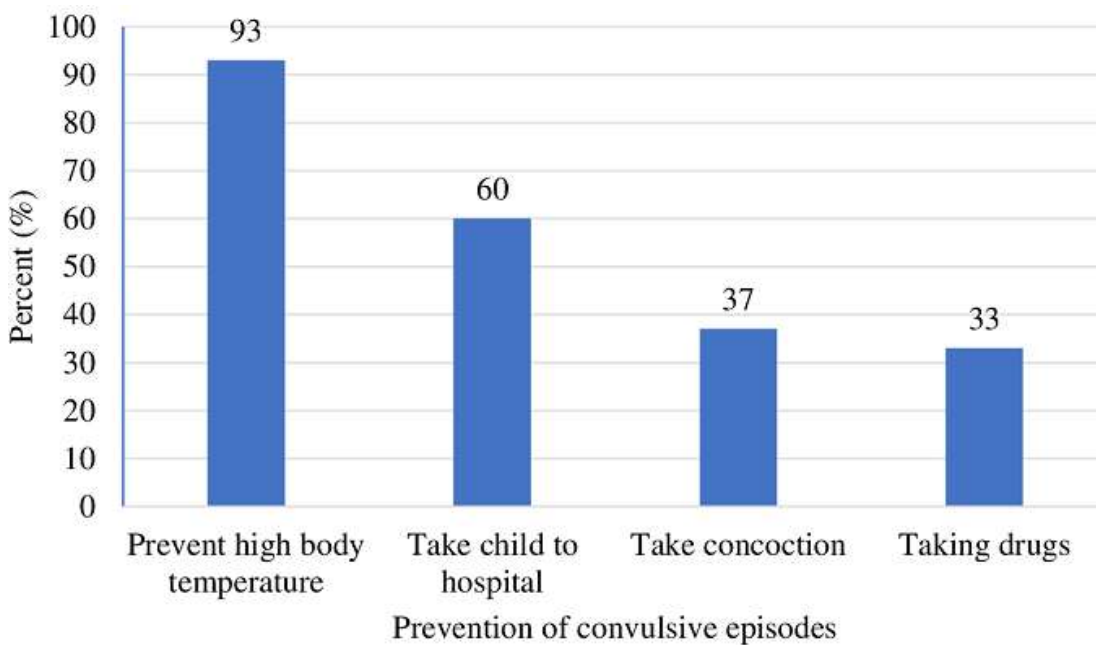
Source: Field Data (2018)

**Table 5:** logistic regression analysis showing factors associated with parental knowledge of febrile convulsion

Variable	Level of knowledge		$\chi^2$	p-value	OR [95%CI] p-value
	Poor N=41 (%)	Good N=59 (%)			
<b>Sex</b>					
Male	12 (29.3)	13 (22.0)			
Female	29 (70.7)	46 (78.0)	0.68	0.411	1.46 [0.59 - 3.64] 0.4121
<b>Mother's age (years)</b>					
15-25	3 (7.3)	6 (10.2)			
26-35	30 (73.2)	40 (67.8)			0.67 [0.15 - 2.88] 0.587
36-45	5 (12.2)	11 (18.6)			1.10 [0.19 - 6.29] 0.915
46-55	3 (7.2)	2 (3.4)	1.69	0.638	0.33 [0.03 - 3.20] 0.341
<b>Educational status</b>					
Primary	6 (14.6)	12 (20.3)			
Secondary	13 (31.7)	19 (32.2)			0.73 [0.22 - 2.44] 0.611
Vocational	5 (12.2)	13 (22.0)			1.30 [0.31 - 5.39] 0.718
Tertiary	6 (14.6)	10 (17.0)			0.83 [0.20 - 3.41] 0.800
Others	11 (26.8)	5 (8.5)	6.91	0.140	0.23 [0.05 - 0.96] 0.044
<b>Convulsion can be treated</b>					
Yes	40 (97.6)	54 (91.5)			
No	1 (2.4)	5 (8.5)	1.56	0.211	3.70 [0.42 - 32.95] 0.240
<b>Belief witchcraft can cause convulsion</b>					
Yes	15 (36.6)	11 (18.6)			
No	26 (63.4)	48 (81.4)	4.05	0.044	2.52 [1.01 - 6.27] 0.047
<b>Place of convulsion</b>					
Home	28 (68.3)	43 (72.9)			
Farm	4 (9.8)	4 (6.8)			0.65 [0.15 - 2.82] 0.566
Market	4 (9.8)	10 (16.9)			1.63 [0.46 - 5.70] 0.446
School	2 (4.9)	2 (3.4)			0.65 [0.08 - 4.89] 0.677
Others	3 (7.2)	0 (0.0)	5.68	0.224	1 (empty)
<b>First aid</b>					
Cold bath	23 (56.1)	46 (78.0)			
<b>Paracetmol syrup</b>	4 (9.8)	0 (0.0)			1 (empty)
Smear	11 (26.8)	8 (13.6)			0.36 [0.13 - 1.03] 0.056
Nothing	3 (7.3)	5 (8.5)	9.52	0.021	0.83 [0.18 - 3.80] 0.814
<b>Intervention after first aid</b>					
Sent child to hospital	34 (82.9)	57 (96.6)			
Sent child to herbalist	4 (9.8)	2 (3.4)			0.30 [0.05 - 1.72] 0.175
Managed at home	3 (7.3)	0 (0.0)	6.45	0.040	



**Figure 1:** knowledge of preventive measures of febrile convulsion



**Figure 2:** knowledge of preventive measures of convulsive episodes