

Effectiveness of a Structured Teaching Programme on Mothers' Knowledge of Preventive Measures for Febrile Convulsions in Under-Five Children

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ABSTRACT

Background: Febrile convulsions are among the most common neurological disorders in children under five years of age. Although generally benign, they often cause significant anxiety among mothers due to inadequate knowledge and misconceptions regarding their prevention and management. Educating mothers through structured teaching programmes may improve their knowledge and promote timely preventive practices.

Objective: To evaluate the effectiveness of a structured teaching programme on knowledge regarding preventive measures of febrile convulsions among mothers of under-five children.

Methods: A pre-experimental one-group pre-test-post-test study was conducted among 60 mothers of under-five children at KLE Prabhakar Kore Charitable Hospital, Belagavi. Participants were selected using a non-probability convenience sampling technique. Baseline knowledge was assessed using a structured questionnaire, followed by a structured teaching programme. A post-test was conducted seven days later. Data were analysed using descriptive and inferential statistics.

Results: Before the intervention, 68.4% of mothers had poor knowledge, 31.6% had average knowledge, and none had good knowledge (mean $\pm$ SD: 14.3 $\pm$ 1.9). Following the structured teaching programme, 66.6% demonstrated good knowledge, 28.3% had average knowledge, and only 5.0% had poor knowledge (mean $\pm$ SD: 23.9 $\pm$ 3.4). The increase in knowledge scores was statistically significant (paired $t = 20.6$, $p < 0.001$). No significant association was found between post-test knowledge scores and selected demographic variables.

Conclusion: The structured teaching programme was effective in significantly improving mothers' knowledge regarding preventive measures of febrile convulsions among under-five children.

Keywords: Febrile convulsions; structured teaching programme; knowledge; mothers; under-five children; prevention

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INTRODUCTION

Febrile convulsions are the most common seizure disorder in children aged 6 months to 5 years and are usually associated with fever without evidence of central nervous system infection or other neurological disorders. Although generally benign and self-limiting, febrile convulsions are a major source of anxiety and emotional distress for parents, particularly mothers, who are the primary caregivers of young children.¹⁻³

Globally, febrile convulsions affect approximately 2-5% of children, with a higher incidence reported in developing countries.⁴ In India, inadequate awareness regarding fever management, seizure first aid, and preventive measures contributes to misconceptions and inappropriate practices, such as restraining the child or placing objects in the child's mouth during a seizure, which may increase the risk of injury and complications.⁵

Prompt recognition of fever, appropriate fever management, and correct first-aid measures during a seizure are essential in reducing parental anxiety and ensuring child safety. Mothers who possess adequate knowledge are more likely to respond appropriately and seek timely medical care. However, studies have consistently reported gaps in maternal knowledge regarding the prevention and management of febrile convulsions.^{6,7}

Nurses play a pivotal role in promoting child health through health education. Structured teaching programmes are effective educational interventions that improve caregivers' knowledge, correct misconceptions, and encourage evidence-based practices in managing common childhood illnesses.^{8,9} Enhancing mothers' knowledge through systematic educational interventions can improve their confidence in managing febrile convulsions and contribute to better health outcomes for children.

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Therefore, the present study was undertaken to evaluate the effectiveness of a structured teaching programme on knowledge regarding preventive measures of febrile convulsions among mothers of under-five children attending a selected hospital in Belagavi.

Materials and Methods

A quantitative, pre-experimental one-group pre-test-post-test study was conducted to evaluate the effectiveness of a structured teaching programme on knowledge regarding preventive measures of febrile convulsions among mothers of under-five children. The study was carried out at KLE Prabhakar Kore Charitable Hospital, Belagavi, Karnataka.

The study population comprised mothers of under-five children attending the pediatric outpatient department and pediatric ward. A total of 60 participants were selected using a non-probability convenience sampling technique. Mothers who were willing to participate, available for follow-up, and had children under five years of age were included. Mothers of children with severe illness and those unwilling to participate were excluded.

Data were collected using a structured questionnaire consisting of two sections: (1) socio-demographic characteristics (10 items) and (2) a 30-item multiple-choice knowledge questionnaire on preventive measures of febrile convulsions. Each correct response was awarded one mark, with a maximum possible score of 30. Knowledge scores were categorized as poor (0–10), average (11–20), and good (21–30).

The content validity of the questionnaire and structured teaching programme was established by a panel of ten experts in child health nursing. Reliability was assessed using the split-half method with Karl Pearson's correlation coefficient, yielding a reliability coefficient of $r = 0.80$, indicating good reliability. A

pilot study involving six mothers confirmed the feasibility of the study.

Following the pre-test, participants received a structured teaching programme covering the definition, causes, risk factors, signs and symptoms, preventive measures, home management, and indications for seeking medical care for febrile convulsions. The post-test was conducted seven days after the intervention using the same questionnaire.

Data were analysed using descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics. The effectiveness of the structured teaching programme was determined using the paired *t*-test (or Wilcoxon signed-rank test, if data were non-normally distributed). Statistical significance was considered at $p < 0.05$.

Ethical approval was obtained from the Institutional Ethics Committee, and written informed consent was obtained from all participants before data collection.

RESULTS

Section I: Distribution of Participants According to Socio-demographic Characteristics

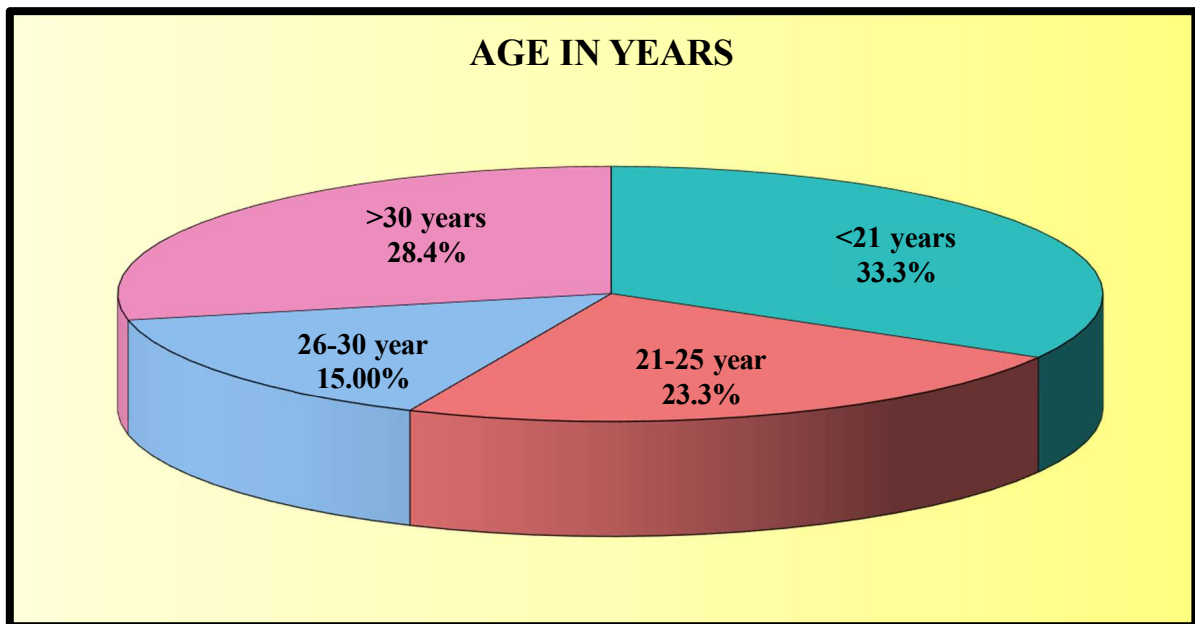
A total of 60 mothers of under-five children participated in the study. Most participants were aged below 21 years (33.3%), belonged to joint families (48.4%), and were Hindu (51.6%). The majority had two children (36.6%) and lived in kaccha houses (71.6%). Regarding education, 28.4% had no formal education, while an equal proportion had pre-university education. Most mothers were engaged in agricultural work (23.4%), followed by housewives (21.6%). Nearly one-third (28.4%) had a monthly family income of ₹20,000–25,000. Social media was the most common source of information regarding febrile convulsions (43.4%), and 51.6% of mothers reported having previous knowledge of febrile convulsions.

SL.no	Socio - Demographic variables	Frequency	Percentage
01.	Age in years		
	a) <21 years	20	33.3
	b) 21-25 year	14	23.3
	c) 26-30 year	09	15
	d) >30 years	17	28.4
02.	Type of family		
	a) Nuclear	22	36.6
	b) Joint	29	48.4
	c) Extended	09	15
03.	Religion		
	a) Hindu	39	51.6
	b) Muslim	13	28.4
	c) Christian	05	20

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04.	Number of children		
	a) One	20	33.4
	b) Two	22	36.6
	c) Three	08	13.4
	d) Four	10	16.6
05.	Type of House		
	a) Kaccha	43	71.6
	b) Pakka	17	28.4
06.	Education of mother		
	a) No formal education	17	28.4
	b) Primary education	11	18.2
	c) Secondary education	15	25
	d) Pre – university	17	28.4
07.	Occupational status of the mother		
	a) House wife		
	b) Agriculture work	13	21.6
	c) Daily wages	14	23.4
	d) Self-employee	12	20
	e) Private or Govt employee	10	16.6
		11	18.4
08.	Family monthly income		
	a) Up to rupees 10000	14	23.4
	b) 10000-20000 rupees	16	26.6
	c) 20000- 25000	17	28.4
	d) Above 25000 rupees	13	21.6
09.	Source of information		
	a) Family and friends	15	25
	b) News media	10	16.6
	c) Social media	26	43.4
	d) Health professionals	09	15
10.	Previous knowledge		
	a) Yes	31	51.6
	b) No	29	48.4

GRAPHICAL REPRESENTATION OF SOCIO – DEMOGRAPHIC VARIABLES



Section II: Assessment of Knowledge Regarding Preventive Measures of Febrile Convulsions

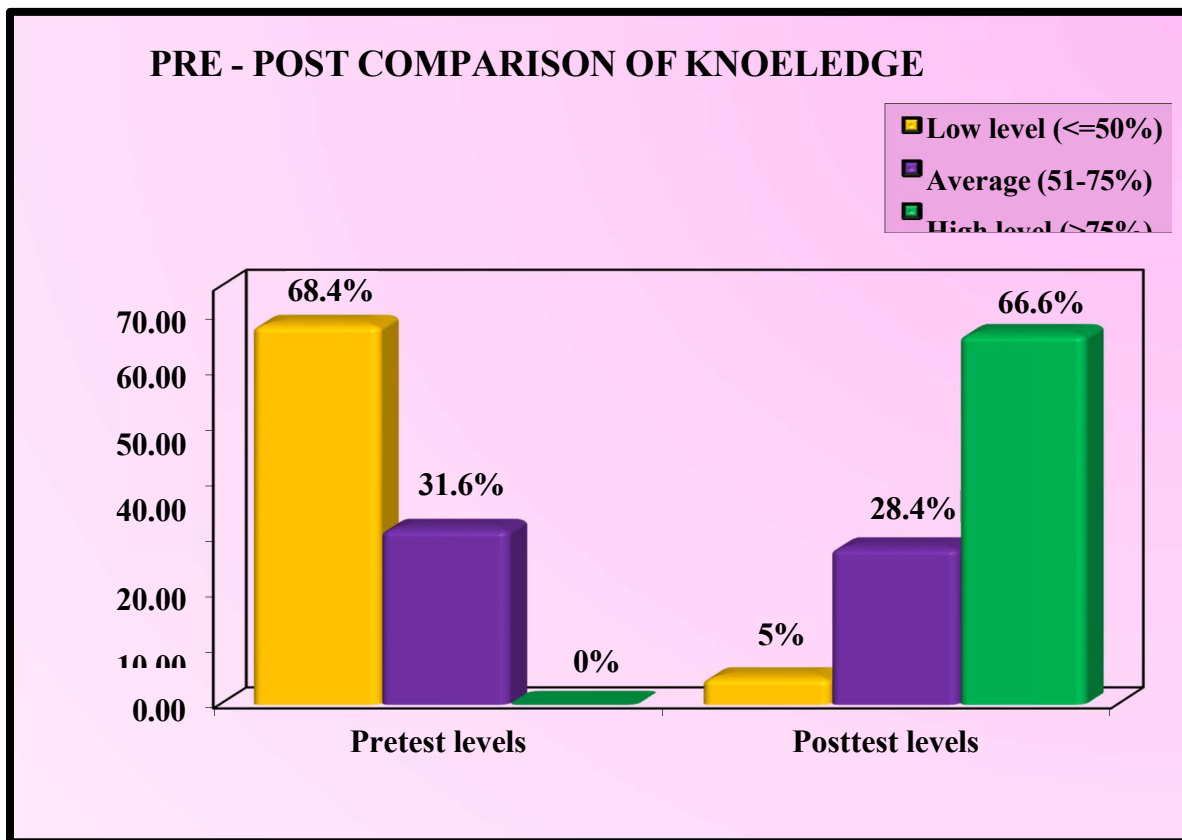
The baseline assessment showed that mothers had limited knowledge regarding preventive measures of febrile convulsions. The mean pre-test

knowledge score was 14.38 ± 1.98 , with a median of 14 and a range of 11–18. Before the intervention, 41 (68.4%) mothers had poor knowledge, 19 (31.6%) had average knowledge, and none demonstrated good knowledge.

Area of analysis	Mean	Median	Mode	Standard deviation	Range
Pre test	14.3	14	14.5	1.9	11
Post test	23.9	25	24	3.4	13
Difference	9.5	11	9.5	1.5	2

Following the structured teaching programme, the mean post-test knowledge score increased to 23.95 ± 3.41 , with a median of 25 and a range of 14–29. In the post-test, 40 (66.6%) mothers demonstrated good knowledge, 17 (28.4%) had

average knowledge, and only 3 (5.0%) had poor knowledge. The mean knowledge score increased by **9.57 points**, representing a **66.51% improvement** over the pre-test score.



Section III: Effectiveness of the Structured Teaching Programme

The effectiveness of the structured teaching programme was assessed using the paired *t*-test. A statistically significant improvement was observed between the pre-test and post-test knowledge scores ($t = 20.64$, $p < 0.001$). The findings indicate that the structured teaching programme was highly effective in improving mothers' knowledge regarding preventive measures of febrile convulsions. Therefore, the research hypothesis (H_1) was accepted.

Section IV: Association Between Pre-test Knowledge and Selected Socio-demographic Variables

The association between pre-test knowledge scores and selected socio-demographic variables was analysed using the Chi-square test. A statistically significant association was found between mothers' knowledge and **educational status** ($\chi^2 = 16.87$, $p = 0.001$), **occupation** ($\chi^2 = 12.48$, $p = 0.014$), and **previous knowledge regarding febrile convulsions** ($\chi^2 = 5.39$, $p = 0.020$). However, no statistically significant association was observed between knowledge scores and age, type of family, religion, number of children, type of house, family monthly income, or source of information ($p > 0.05$). Hence, the second hypothesis (H_2) was partially accepted.

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Hence, the second hypothesis (H_2) was partially accepted.

DISCUSSION

The present study evaluated the effectiveness of a structured teaching programme on mothers' knowledge regarding preventive measures of febrile convulsions among under-five children. The findings demonstrated that the educational intervention significantly improved participants' knowledge.

The socio-demographic profile showed that most mothers were aged below 21 years, belonged to joint families, and had two children. More than half of the participants were Hindus, and social media was the major source of information regarding febrile convulsions. These findings are comparable with those reported by Sonkar and Gaiki (2021), Sambamoorthy (2023), and Kaur et al. (2023), who described similar demographic characteristics among mothers of under-five children.

The baseline assessment revealed inadequate knowledge regarding preventive measures of febrile convulsions, with 68.4% of mothers demonstrating poor knowledge. Following the structured teaching programme, a marked improvement was observed, with 66.6% of mothers achieving good knowledge. The mean knowledge score increased significantly from 14.38 ± 1.98 in the pre-test to 23.95 ± 3.41 in the post-test ($t = 20.64, p < 0.001$), indicating that the structured teaching programme was highly effective. These findings are consistent with those of Kumari et al. (2018), who also reported a significant improvement in mothers' knowledge following a structured educational intervention.

Analysis of the association between pre-test knowledge and socio-demographic variables revealed significant associations with mothers' educational status, occupation, and previous knowledge regarding febrile convulsions, whereas age, religion, type of family, number of children, type of house, family monthly income, and source of information showed no significant association. These findings suggest that educational background and prior exposure to information may influence mothers' baseline knowledge.

Overall, the findings indicate that structured teaching programmes are an effective strategy for improving mothers' knowledge regarding the prevention and early management of febrile convulsions and can be incorporated into routine health education programmes in pediatric settings.

CONCLUSION

The present study demonstrated that mothers of under-five children had inadequate baseline knowledge regarding preventive measures of

febrile convulsions. Following the structured teaching programme, a significant improvement in knowledge was observed, confirming the effectiveness of the educational intervention. The findings suggest that structured teaching programmes are an effective strategy for improving mothers' awareness and promoting appropriate preventive practices for febrile convulsions.

Implications for Nursing: The study highlights the importance of incorporating structured educational programmes into nursing education and clinical practice to improve caregivers' knowledge regarding febrile convulsions. Nurses can play a pivotal role in providing health education, promoting family-centered care, and implementing evidence-based educational interventions in pediatric and community settings. The findings also support the integration of such programmes into continuing nursing education and in-service training.

Limitations: The study was conducted among 60 mothers from a single tertiary care hospital using a non-probability convenience sampling technique, which limits the generalizability of the findings. In addition, the researcher-developed questionnaire, although validated and reliable, may limit comparison with studies using standardized instruments.

Recommendations: Future studies should include larger sample sizes using probability sampling techniques and be conducted in multiple healthcare settings to improve generalizability. Comparative studies using different educational interventions and long-term follow-up are also recommended to assess knowledge retention and changes in caregiving practices.

REFERENCES

1. Steering Committee on Quality Improvement and Management, Subcommittee on Febrile Seizures. **Febrile seizures: Clinical practice guideline for the long-term management of the child with simple febrile seizures.** Pediatrics. 2008;121(6):1281-6. doi:10.1542/peds.2008-0939.
2. Subcommittee on Febrile Seizures. **Febrile seizures: Guideline for the neurodiagnostic evaluation of the child with a simple febrile seizure.** Pediatrics. 2011;127(2):389-94. doi:10.1542/peds.2010-3318.
3. Nelson Textbook of Pediatrics. Kliegman RM, St. Geme JW, Blum NJ, et al. **Nelson Textbook of Pediatrics.** 22nd ed. Philadelphia: Elsevier; 2023.
4. Ghai Essential Pediatrics. Paul VK, Bagga A. **Ghai Essential Pediatrics.**

RESEARCH PAPER

- 10th ed. New Delhi: CBS Publishers & Distributors; 2023.
5. World Health Organization. **Integrated Management of Childhood Illness**

(IMCI): Chart Booklet. Geneva: World Health Organization; 2014.