



EFFECT OF A STRUCTURED EDUCATIONAL INTERVENTION ON MATERNAL KNOWLEDGE OF UPPER RESPIRATORY TRACT INFECTIONS AMONG UNDER-FIVE CHILDREN.

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ABSTRACT **Background:** Upper respiratory tract infections are among the most common illnesses affecting children under five years of age and remain a significant contributor to pediatric morbidity worldwide. Inadequate parental knowledge regarding prevention, early recognition, and appropriate home management often leads to unnecessary medication use and delayed care-seeking. Maternal education plays a pivotal role in reducing the burden of URTIs among young children. **Aim:** To assess the effectiveness of a structured teaching programme on knowledge regarding upper respiratory tract infections among mothers of under-five children. **Materials & Methods:** A pre-experimental one-group pre-test and post-test study was conducted among 30 mothers of children under five years old attending Ayaan Institute of Medical Sciences in Telangana. Participants were selected using convenience sampling. Baseline knowledge regarding URTIs was assessed using a structured, pre-validated questionnaire, followed by administration of a structured teaching programme focusing on causes, symptoms, prevention, and basic management of URTIs. Post-test knowledge assessment was conducted using the same tool. Data were analyzed using descriptive statistics and inferential methods to evaluate the effectiveness of the intervention. **Results:** In the pre-test assessment, the majority of mothers (90%) demonstrated moderate knowledge, while 10% had inadequate knowledge regarding URTIs. Following the structured teaching programme, 90% of participants achieved adequate knowledge, and only 10% remained in the moderate knowledge category. The post-intervention findings indicated a marked improvement in maternal knowledge levels, demonstrating the effectiveness of the educational intervention. **Conclusion:** The structured teaching programme significantly improved maternal knowledge regarding upper respiratory tract infections among mothers of under-five children. Incorporation of targeted educational interventions into routine pediatric and community health services may enhance early recognition, prevention, and appropriate management of URTIs, thereby reducing avoidable morbidity in young children.

KEYWORDS : Upper Respiratory Tract Infections; Under-Five Children; Maternal Knowledge; Health Education; Pre-Experimental Study.

INTRODUCTION

Upper respiratory tract infections constitute one of the most frequent causes of illness among children under five years of age and represent a major public health concern globally.¹ These infections include conditions such as the common cold, pharyngitis, tonsillitis, sinusitis, and otitis media, and are predominantly viral in origin and usually self-limiting.^{2,3} However, recurrent episodes and inappropriate management contribute significantly to childhood morbidity and increased healthcare utilization.⁴

Children under five years of age are particularly vulnerable to URTIs due to immature immune responses, close contact in household and community environments, and increased exposure to environmental risk factors.⁵ Although URTIs are generally mild, they may predispose children to secondary bacterial infections or progress to lower respiratory tract involvement, especially in settings with delayed care-seeking and inadequate home management.⁶ Despite declining mortality trends, URTIs continue to account for a substantial proportion of pediatric outpatient visits and disability-adjusted life years worldwide.

Maternal knowledge and caregiving practices play a crucial role in the prevention, early recognition, and appropriate management of URTIs in young children.⁷ Inadequate awareness regarding symptoms, danger signs, preventive measures, and rational drug use often leads to unnecessary antibiotic consumption, inappropriate self-medication, and delayed referral to healthcare facilities. These practices contribute not only to disease complications but also to the growing burden of antimicrobial resistance.

Structured health education interventions have demonstrated effectiveness in improving caregiver knowledge and health-seeking behavior in pediatric illnesses.⁸ Providing mothers with accurate, evidence-based information through organized teaching programmes can empower them to adopt preventive practices, recognize early warning signs, and seek timely medical care. In this context, the present study was undertaken to assess the effectiveness of a structured teaching programme in improving knowledge regarding upper respiratory tract infections among mothers of under-five children attending a tertiary care hospital in Telangana.

MATERIALS & METHODS

Study Design: A pre-experimental one-group pre-test and post-test

study was conducted to assess the effectiveness of a structured teaching programme on maternal knowledge regarding upper respiratory tract infections among under-five children.

Study Setting: The study was carried out at Ayaan Institute of Medical Sciences Hospital and Research Centre, Kankamidi Village, Moinabad Mandal, Ranga Reddy District, Telangana, India. The institution is a tertiary care teaching hospital providing comprehensive paediatric and community health services to the surrounding rural and semi-urban population.

Study Population: The study population comprised mothers of under-five children attending the paediatric outpatient and inpatient services of Ayaan Institute of Medical Sciences Hospital and Research Centre during the study period.

Sample Size and Sampling Technique: A total of 30 mothers were included in the study. Participants were selected using a non-probability convenience sampling technique, based on availability and willingness to participate.

Inclusion Criteria

- Mothers of children aged below five years
- Mothers present at the time of data collection
- Mothers willing to participate and who provided written informed consent

Exclusion Criteria

- Mothers of critically ill children
- Mothers who were unwilling to participate
- Mothers who were unavailable for post-test assessment

Study Tool: Data were collected using a structured, pre-validated questionnaire developed to assess maternal knowledge regarding upper respiratory tract infections. The tool consisted of two sections:

- Section A: Socio-demographic characteristics of the mothers
- Section B: Knowledge-based questions related to definition, causes, clinical features, prevention, complications, and basic management of URTIs

Each correct response was awarded one mark. Based on the total score obtained, knowledge levels were categorized as inadequate, moderate, and adequate.

Intervention: Structured Teaching Programme

Following the pre-test assessment, all participants received a

structured teaching programme focusing on upper respiratory tract infections. The educational content included causes, modes of transmission, common symptoms, warning signs, preventive measures, appropriate home care, and the importance of timely medical consultation. The session was delivered using simple language and interactive discussion to enhance understanding.

Data Collection Procedure: After obtaining written informed consent, baseline knowledge (pre-test) was assessed using the structured questionnaire. The structured teaching programme was then administered to all participants. A post-test assessment was subsequently conducted using the same questionnaire to evaluate the effectiveness of the intervention.

Ethical Considerations: Ethical approval for the study was obtained from the Institutional Ethics Committee of Ayaan Institute of Medical Sciences prior to the commencement of the study. Written informed consent was obtained from all participants. Confidentiality and anonymity of participants were maintained throughout the study.

Statistical Analysis: Data were entered into Microsoft Excel and analysed using standard statistical software. Descriptive statistics such as frequency and percentage were used to summarize socio-demographic variables and knowledge levels. The effectiveness of the structured teaching programme was assessed by comparing pre-test and post-test knowledge scores using appropriate inferential statistical methods. A p-value of <0.05 was considered statistically significant.

RESULTS

A total of 30 mothers of under-five children attending Ayaan Institute of Medical Sciences Hospital and Research Centre were included in the study. The results are presented under the following subheadings: socio-demographic characteristics of the participants, pre-test knowledge levels, post-test knowledge levels, and comparison of pre-test and post-test knowledge scores.

The majority of mothers belonged to the age group of 18–27 years (93.3%). All participants had school-level education and were homemakers. Slightly more than half of the mothers belonged to joint families (53.3%). Most families (60%) reported a monthly income of ₹ 4001 or above. All participants had access to a health facility. Half of the mothers had one to two children, while 46.7% had three to four children. [Table 1]

The pre-test assessment revealed that the majority of mothers (90%) had moderate knowledge regarding upper respiratory tract infections, while 10% demonstrated inadequate knowledge. None of the participants had adequate knowledge prior to the educational intervention. [Table 2].

Following the structured teaching programme, a substantial improvement in knowledge levels was observed. The majority of mothers (90%) achieved adequate knowledge, while only 10% remained in the moderate knowledge category. No participant demonstrated inadequate knowledge in the post-test assessment. [Table 3]

Comparison of pre-test and post-test knowledge levels demonstrated a marked shift from inadequate and moderate knowledge categories to adequate knowledge following the structured teaching programme. The complete elimination of the inadequate knowledge category and the substantial increase in adequate knowledge indicate the effectiveness of the educational intervention. [Table 4]

The findings of the study indicate that the structured teaching programme significantly improved maternal knowledge regarding upper respiratory tract infections among mothers of under-five children. The intervention resulted in a clear and meaningful improvement in knowledge levels, highlighting the importance of targeted health education in pediatric and community health settings.

Table 1: Socio-Demographic Characteristics of the Study Participants

Variable	Category	Frequency (n=30)	Percentage (%)
Age (years)	18 to 22 years	15	50%
	23 to 27 years	13	43.3%
	28 to 32 years	01	3.3%
	> 32 years	01	3.3%

Educational Status	School Education	30	100%
Occupation	Home maker	30	100%
Type of family	Joint	16	53.3%
	Nuclear	14	46.7%
Monthly family income (₹)	<2000	06	20%
	3001–4000	06	20%
	≥4001	18	60%
Type of Religion	Hindu	19	63.3%
	Muslim	11	36.7%
Number of children	1 to 2	15	50%
	3 to 4	14	46.7%
	5 to 6	01	3.3%
Availability of health facility	Yes	30	100

Table 2: Pre-Test Knowledge Levels Regarding Upper Respiratory Tract Infections

Knowledge level	Frequency (n=30)	Percentage (%)
Inadequate	03	10%
Moderate	27	90%
Adequate	0	0%

Table 3: Post-Test Knowledge Levels Regarding Upper Respiratory Tract Infections

Knowledge level	Frequency (n=30)	Percentage (%)
Inadequate	0	0%
Moderate	03	10%
Adequate	27	90%

Table 4: Comparison of Pre-Test and Post-Test Knowledge Levels

Knowledge level	Pre-test (%)	Post-test (%)
Inadequate	3 (10%)	0 (0%)
Moderate	27 (90%)	3 (10%)
Adequate	0 (0%)	27 (90%)

DISCUSSION

Upper respiratory tract infections remain one of the leading causes of morbidity among children under five years of age worldwide, particularly in low- and middle-income countries.^{1,4} Maternal awareness regarding disease recognition, preventive strategies, and appropriate home management is pivotal in reducing unnecessary medication use, preventing complications, and ensuring timely utilization of healthcare services.^{5,7}

In the present study, baseline assessment revealed that the majority of mothers possessed only moderate knowledge regarding URTIs, while a smaller proportion demonstrated inadequate knowledge. Similar observations have been reported in earlier studies conducted in comparable socio-demographic settings, where caregiver awareness regarding common childhood respiratory infections was found to be suboptimal.^{2,7} Limited exposure to structured health education and reliance on informal sources of information have been identified as key contributors to inadequate maternal knowledge.⁸

Following implementation of the structured teaching programme, a marked improvement in maternal knowledge levels was observed, with most participants achieving adequate knowledge in the post-test assessment. These findings are consistent with previous interventional studies demonstrating significant gains in caregiver knowledge following targeted educational programmes.^{8,9} Improved knowledge among caregivers has been shown to positively influence preventive practices and appropriate care-seeking behavior.⁵

The observed improvement in the present study may be attributed to the use of simple language, interactive teaching methods, and focused content addressing common misconceptions regarding URTIs, including inappropriate antibiotic use and delayed medical consultation.^{2,3} Enhanced maternal knowledge has been associated with better adoption of preventive measures such as hand hygiene, early identification of danger signs, and timely healthcare utilization.^{4,7}

The findings of this study underscore the importance of integrating structured health education programmes into routine pediatric outpatient and community health services. Empowering mothers with accurate information regarding URTIs can contribute significantly to reducing avoidable morbidity, irrational drug use, and the overall healthcare burden associated with childhood respiratory infections.^{1,5,9}

CONCLUSION

The present study demonstrated that a structured teaching programme

was effective in significantly improving maternal knowledge regarding upper respiratory tract infections among mothers of under-five children. The intervention resulted in a substantial shift from moderate and inadequate knowledge levels to predominantly adequate knowledge following the educational programme. Incorporation of regular, structured health education sessions for caregivers within pediatric outpatient and community health settings may enhance early recognition, appropriate management, and prevention of URTIs, thereby reducing the burden of respiratory illnesses in young children.

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