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# Evaluating the Impact of a Structured Teaching Program on the Knowledge of Mothers with Children Under Five Regarding Upper Respiratory Tract Infections and Home Remedies in a Selected Primary Healthcare Area in Bengaluru

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***Abstract***

***Background:*** *Upper Respiratory Tract Infections are contagious infections involving the nose, throat sinuses, pharynx, larynx, tonsils, and adenoids. The typical upper respiratory tract infections are nasopharyngitis (common cold), tonsillitis, sinusitis, laryngitis, and pharyngitis etc., Precautionary measures in early stages can help to prevent complications. Further, home remedies can offer comfort from symptoms and reduce the duration of illness and these home remedies have no side effects, but also boost up the immune system. These home-remedies are best and suitable even for children below 5 years of age, so, mothers should have the adequate knowledge regarding these simple home remedies.* ***Objectives:*** *The research aimed to assess the impact of a structured teaching program on the awareness of mothers with children under the age of 5 years regarding upper respiratory tract infections and home remedies for such infections.* ***Materials and Methods:*** *The study was undertaken by using one group pre-test and post-test design, a Quantitative research approach, 60 mothers of under-fives were included in the study. Data was gathered through an interview schedule, and subsequent analysis employed both descriptive and inferential statistics. The results were subsequently displayed using tables and graphs.* ***Results:*** *The results depicted that the overall post-test mean knowledge score among the respondents was found to be 78.88% with a SD of 2.01 compared to the overall pre-test mean knowledge score of 49.76% with a SD of 1.95. The results of the study indicated that the structured teaching program successfully enhanced understanding of home remedies for upper respiratory tract infections in children. This is corroborated by a paired 't' value of 52.16, exceeding the critical table value (2.00) at a significance level of 0.05 for all facets investigated in the study.*

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**Keywords:** Effectiveness, knowledge, mothers of under-fives, structured teaching programme and home remedies

## INTRODUCTION

*"It is easier to build strong children than to repair broken men"*

—Frederick Doughass

As one great philosopher said "Look into the future through the children today". The well-being and proper development of children, who symbolize the future, should be a foremost priority for all

 

societies. Infants, in particular, are at a heightened risk, susceptible to malnutrition and preventable or treatable infectious diseases [1].

A family is viewed as lacking without the presence of a child. A child represents the future of humanity, and their arrival brings aspirations and optimism into our lives. The presence of a child introduces new facets to our character of which we may be unaware; a child holds significant importance within the family [2].

The well-being of children is universally recognized as crucial for all societies, as they constitute the fundamental assets shaping the future of humanity and represent the wealth of tomorrow [3].

## NEED FOR STUDY

Acute Respiratory Infection (ARI) stands as a leading cause of illness and death in both developing and developed nations. Approximately 13 million children under the age of 5 years succumb to this condition annually, with 95% of these fatalities occurring in developing countries. A third of the total child deaths are attributed to ARI. Each year, ARI is accountable for an estimated 3.9 million deaths globally among children. The combined contribution of Bangladesh, India, Indonesia, and Nepal to global ARI mortality is estimated to be 40%. Acute respiratory infection encompasses infections that impact different parts of the respiratory system, such as the para nasal sinuses, middle ear, and pleural cavity. Most ARI episodes spontaneously resolve. ARI can be classified into acute upper respiratory infection (AURI) or acute lower respiratory infection (ALRI) based on the location of the infection. The typical upper respiratory tract infections are common cold, tonsillitis, laryngitis, and sinusitis. Early-stage treatment and complete recovery from upper respiratory tract infections can be achieved through straightforward home remedies [4].

Home remedies are the simple ingredients that can be easily accessible in home and used as the treatment to cure common disease or chronic disease. Whether, we call it home remedies or natural remedies as it is all made of natural ingredients which is available in home such as fruits, vegetables, herbs, spices, essential oils, basil, fennel, ginger, garlic and others. These all ingredients are used in curing the disease at initial level [5].

Some of the examples for home remedies are Garlic soup made for children. Use turmeric powder and pepper powder to alleviate sneezing. Consume betel leaf juice with honey to relieve dry cough without phlegm. Keep the throat lubricated by drinking milk and ghee. A mixture of black pepper, ghee, sugar, and honey is an effective remedy for cough. Extract fresh onion juice and combine it with jaggery for cough relief [6].

Significant advancements have been realized in attaining Millennium Development Goal (MDG) 4. Between 1990 and 2011, the worldwide mortality rate for children under the age of 5 years declined from 87 deaths per 1000 live births to 51. However, the pace of this reduction in under-five mortality remains inadequate to achieve the MDG target of a two-thirds reduction from the 1990 mortality levels by 2015 [7, 8]. According to WHO estimates, 10,000 deaths in children are due to acute upper respiratory tract infection (AURI). The burden of disease, quantified in Disability-Adjusted Life Years (DALYs) lost, reached a total of 25.5 million; of which, 2.74 lakhs were associated with Acute Upper Respiratory Infections (AURI) [9, 10].

## MATERIALS AND METHODS

### Research Design

The total disease burden, as assessed through Disability-Adjusted Life Years (DALYs) lost, was 25.5 million, with 2.74 lakhs specifically linked to Acute Upper Respiratory Infections (AURI). Wherein, a pre-test was conducted, followed by Structured Teaching Programme and a post-test conducted for the same group on 8th day.

 

**Samples**

60 Mothers of under-fives living in Doddabele village, Kumbalagudu PHC area, Bengaluru, Karnataka, India, by using Probability sampling technique i.e., simple random sampling.

**The Research Tool**

*Part I:* This section of the instrument comprises inquiries pertaining to demographic information.

*Part II:* It encompasses 36 items, which are multiple-choice questions concerning the awareness of mothers with children under the age of five regarding Upper Respiratory Tract Infections (URTI) and its home remedies.

This part of the tool is further divided into five sections, they are:

*Section A:* Structure and function of respiratory system in under-five children.
*Section B:* Information regarding URTI.
*Section C:* Epidemiology, causes and signs and symptoms of URTI in under-five children.
*Section D:* Home remedies for URTI in under-five children.
*Section E:* Advantages of home remedies, prevention and complications of URTI.

**Scoring of Items**

There were 36 items, each offering four options, with only one being the correct answer. A correct response to each item was assigned a score of "1", while an incorrect response received a score of "0". Consequently, the maximum achievable score for all 36 items was 36, and the minimum was zero.

*The Content validity of the research tool:* The initial draft of research tool and structured teaching programme was given to experts in the field. The suggestions were incorporated in the structured teaching programme and tool. Flash cards were considered as visual aids to increase the impact of teaching. Time and date to implement structured teaching programme was planned in coordination with Anganwadi teachers and leaders of the respective village.

**Data Collection**

After obtaining formal permissions from competent authority. A pre-test was conducted by structured interview schedule followed by Structured Teaching Programme and a post-test was conducted by structured interview schedule for the same group on 8th day to assess the knowledge regarding Upper Respiratory tract infection and its home remedies.

**Data Analysis**

The data obtained was analysed based on the objectives of the study using frequencies and percentages, descriptive statistics like mean, standard deviation etc., and inferential statistics like paired ‘t’ test and Chi-square test.

**RESULTS**

1. The pre-test knowledge scores depicts that in aspect wise mean of knowledge scores, the highest 57% of mean knowledge score was obtained in the aspects of structure and function of respiratory system in under-five children. The participants' average knowledge score in the pre-test was found to be 49.76%, with a standard deviation of 1.95 among the respondents (Figure 1).
2. The post-test knowledge scores reveal that, the 86.66% of knowledge scores was obtained in the aspects of structure and function of respiratory system in under-five children. The participants' average knowledge score in the post-test was determined to be 78.88%, with a standard deviation of 2.01 among the respondents (Figure 2).

Table 1 reveals that, the highest 67.46% enhancement of knowledge was seen in the aspect of home remedies for URTI in under-five children, followed by 58.93% of enhancement was seen in the aspect

 

of the information regarding URTI in under-fives. 55.29% of enhancement was seen in the aspect of advantages of home remedies, prevention and complication of URTI. 51.92% of enhancement was found in the aspect of structure and function of respiratory system, and the remaining 50.31% of enhancement was seen in the aspect of epidemiology. There was an overall improvement of 58.57% in the understanding of causes, signs, and symptoms of Upper Respiratory Tract Infections (URTI) in the children under the age of 5 years.

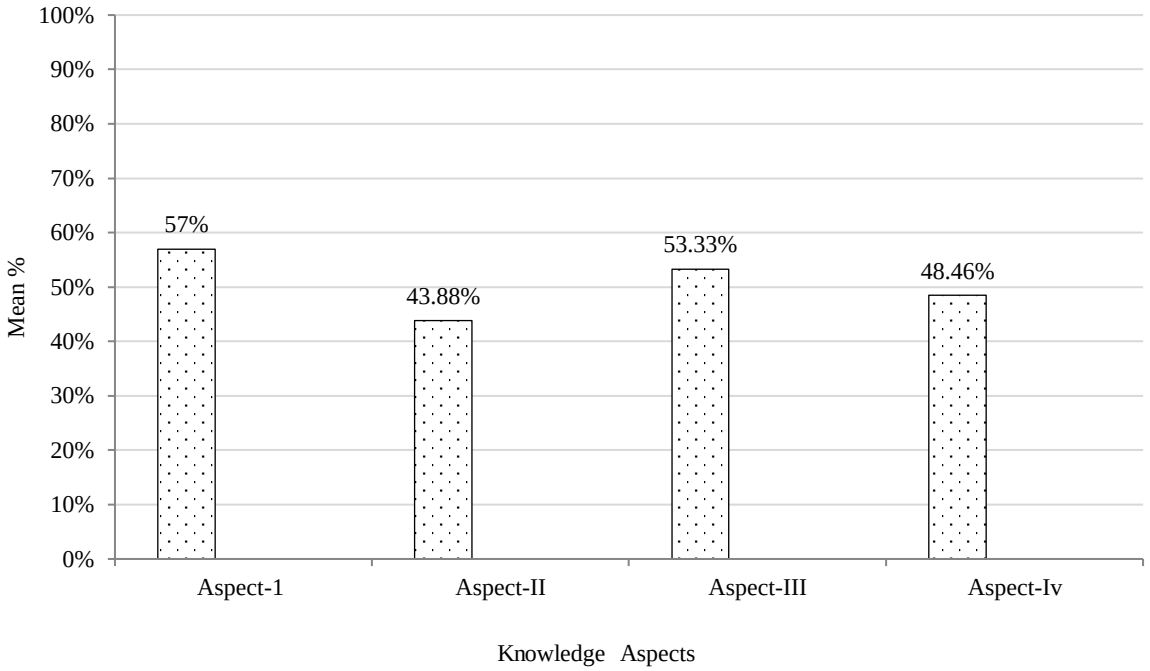


**Figure 1.** Pre-test knowledge scores.

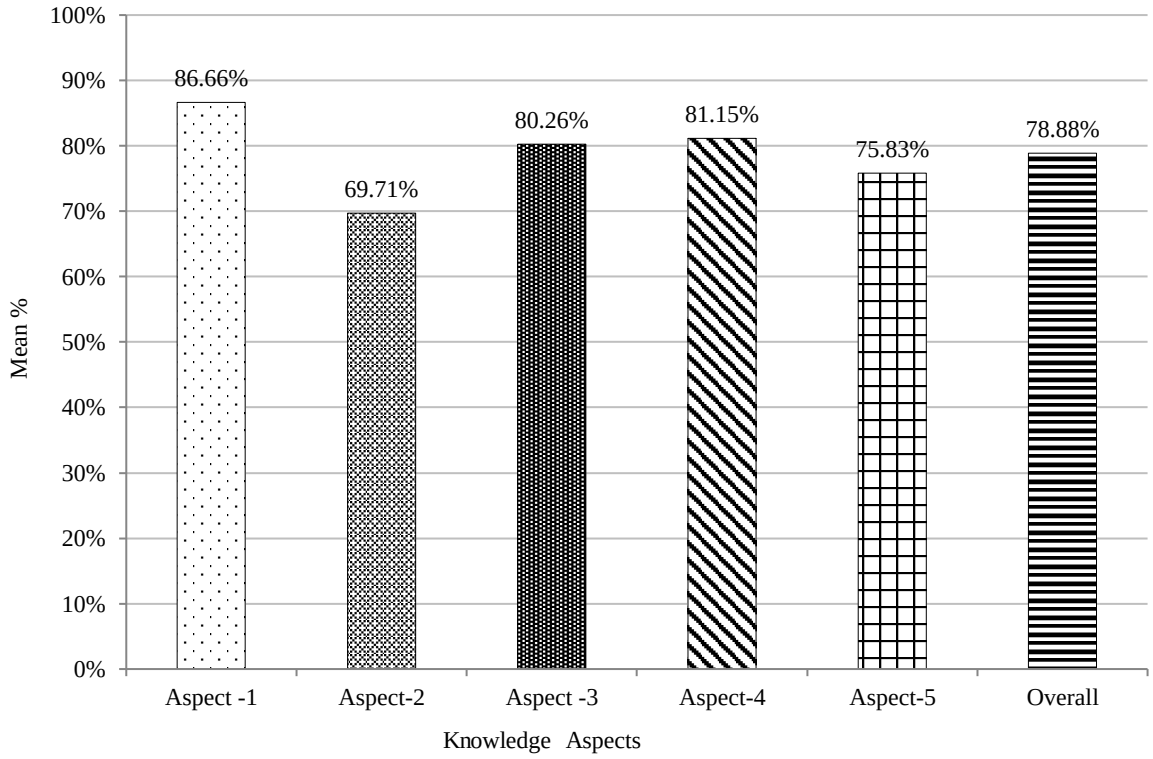


**Figure 2.** Post-test knowledge scores.

 

**Table 1.** Aspect wise enhancement of knowledge scores of respondents on URTI and its home remedies (N=60)

| Knowledge aspects | Pre-test | | | Post-test | | | Enhancement (%) |
|---|---|---|---|---|---|---|---|
| | *Mean* | *Mean %* | *SD* | *Mean* | *Mean %* | *SD* | |
| Structure and function of respiratory system | 2.85 | 57 | 0.86 | 4.33 | 86.66 | 0.68 | 51.92 |
| Information regarding URTI in Under-fives | 2.63 | 43.88 | 0.88 | 4.18 | 69.71 | 0.59 | 58.93 |
| Epidemiology, causes, signs and symptoms of URTI in under-five children | 3.20 | 53.33 | 0.81 | 4.81 | 80.26 | 0.70 | 50.31 |
| Home remedies for URTI in under-five children | 6.30 | 48.46 | 1.40 | 10.55 | 81.15 | 1.04 | 67.46 |
| Advantages of home remedies. prevention and complications of URTI | 2.93 | 48.83 | 0.98 | 4.55 | 75.83 | 0.62 | 55.29 |
| Overall | 17.91 | 49.76 | 1.95 | 28.4 | 78.88 | 2.01 | 58.57 |

## IMPLICATIONS OF STUDY

The significance of this study extends to nursing education, nursing practice, nursing administration, and nursing research.

### Nursing Education

- The study's results could motivate nursing staff to provide mothers with effective education. Nursing education should equip nurses with the ability to convey health information effectively and support individuals in enhancing their self-care capabilities.
- The nursing curriculum should incorporate a dedicated section on theories related to home remedies for Upper Respiratory Tract Infections (URTI).
- Emphasis should be placed on in-service education through workshops, seminars and discussion etc. to increase the knowledge of staff nurses to teach mothers of under-fives on URTI and its home remedies.

### Nursing Practice

- Health professionals, especially community health nurses should be motivated to give health teaching aspects on URTI and its home remedies.
- They should regularly assess the child in order to appraise the health status of their child.

### Nursing Research

- Research should be focused on health promotion programmes using various methods and techniques in evaluating their effectiveness.
- The study aids the nurse researcher in gaining a deeper understanding of creating teaching modules.
- There is a requirement for comprehensive research on Upper Respiratory Tract Infections (URTI) and the remedies that can be administered at home.

### Limitations of the Study

- The study is limited to mothers of under-fives who are residing at selected PHC areas Bangalore.
- The current study focuses solely on one aspect, which is knowledge.
- The study's findings may have limited generalizability due to the small participant sample size of 60.

### Recommendations

- An experimental study may be conducted with structured teaching programme.
- Teachers and the general public could be subjects of a comparable study.
- A comparative analysis could be undertaken involving mothers from urban and rural areas.

 

- A comparative study could be initiated involving both mothers and school teachers.
- A study with an extended duration could be undertaken to evaluate knowledge and practices related to Upper Respiratory Tract Infections (URTI) and home remedies.

## CONCLUSION

The findings underscore the importance of targeted education in enhancing mothers' awareness and understanding of URTI and its home remedies. The statistically significant paired 't' value of 52.16 further supports the notion that the structured teaching programme had a substantial impact on the participants' knowledge levels. Empowering mothers with accurate information on preventative measures and home remedies for URTI is crucial, especially considering the susceptibility of young children to these infections. The study suggests that investing in educational initiatives can contribute to better health outcomes by enabling caregivers to take informed actions in the early stages of upper respiratory tract infections, potentially preventing complications and reducing the duration of illness. These results emphasize the need for ongoing educational efforts to equip caregivers with the necessary knowledge and skills to manage common childhood illnesses effectively. Furthermore, future research could explore the long-term effects of such educational interventions and assess their impact on health-seeking behaviour and overall child well-being.

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