

## ORIGINAL PAPER

# Effectiveness of information booklet on knowledge regarding acute respiratory infection among mothers

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## ABSTRACT

**Introduction:** Acute respiratory infection (ARI) is a serious infection that prevents normal breathing function. **Objective:** To evaluate the effectiveness of information booklet on knowledge regarding acute respiratory infection among mothers of fewer than five children. **Methods:** A pre-experimental design (one group pre test post test design) was undertaken in Dhirenpara, Guhawati, Assam. 60 mothers of under five children and purposive sampling technique was used. Pre-test knowledge was checked with structured questionnaires followed by distribution of information booklet and post test were conducted after 7 days. **Results:** Out of 60 mothers in pre-test knowledge, 15(25%) had inadequate knowledge, 30(50%) had moderately adequate knowledge and another 15(25%) mothers had adequate knowledge. After administration of information booklet during post test majority 48(80%) mothers had adequate knowledge, 12(20%) mothers had moderately adequate knowledge regarding ARI. The mean knowledge score in pre test was 11.56 with SD 4.33 and mean post test score was 17.43 with SD 2.83. The calculated value of "Z" is 8.89 which was higher than the tabulated value 2.33 at 0.01 level of significant. **Conclusion:** The information booklet was effective in increasing the knowledge on acute respiratory infection of mothers of fewer than five children

**Keywords:** Quasi experimental study, assess, urban community, under five children

## INTRODUCTION

Children are the foundation of a nation; they contribute effectively in the nation building process.<sup>1</sup> Many children die before they could reach five year of age. In India about 27 million children are born each year out of which nearly 2 million of them die before the age of five years. Acute respiratory infections are one of the leading cause of child mortality (30%) in India.<sup>2</sup> Because of the high morbidity and

mortality rate ARI poses a major challenge to the health system in developing countries.<sup>3</sup>

In India (2011), about 26.3 million cases of ARI were reported, with an incidence rate of about 2,173 cases per lakh population. In Indian slums, more than two-third of all childhood illness are due to ARI. Hospital records from states with high infant mortality rate shows that upto 13% of inpatient deaths in wards are due to ARI.<sup>4</sup>

National Family Health Survey (NFHS-3) revealed that the percentage of children with ARI symptoms varies greatly by state, 1 % in Himachal Pradesh, 13 % in West Bengal, 14 % in Tripura and 7.3% in Assam.<sup>5</sup> A study revealed that formal education of mothers had a positive influence on care of their children with acute respiratory tract infections. So it can be observed from other reviews that mother's illiteracy is one of the risk factors of respiratory tract infection in children.<sup>6</sup>

The child rearing practices play an important role in determining the health of children. Today information about prevention and health promotion are considered essential components of comprehensive health care. Since "Prevention is better than cure" giving information and involving the parents in the caring for the sick child will minimize complications.

**Objectives:** 1. To assess the knowledge of mother of under five children regarding acute respiratory infection before and

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after providing information booklet. **2.** To evaluate the effectiveness of information booklet regarding acute respiratory infection of under five children among mothers. **3.** To determine the association between the pre test knowledge and selected demographic variables like age, educational qualification, number of children and type of family.

## METHODOLOGY

**Hypothesis:** H1: The mean post test knowledge score of the mothers will be significantly higher than the mean pre test knowledge score of the mothers regarding acute respiratory infection after distribution of information booklet.

A Pre experimental design (one group pre test post test design) was used to assess the effectiveness of information booklet on knowledge regarding acute respiratory infection of under five children among mothers. The study was conducted in Dhirenpara, Guhawati, Assam. In this study, the sample were 60 mothers of under five children in selected urban community of Guwahati who fulfil the inclusion criteria. The researcher used the purposive sampling technique. A structured questionnaire was used to assess the knowledge of mothers regarding acute respiratory infection of under five children. A structured questionnaire was developing to assess the level of knowledge among mothers of under five children on acute respiratory infection. The information booklet on acute respiratory infection was developed. Contents organised in different aspect like: introduction to acute respiratory infection, risk factors, causes, routes of transmission, signs and symptoms, complication, treatment and prevention of ARI. The draft was validated by experts comprising of seven nursing experts, three medical experts. The tools used for the study consisted of two section:

### Section I Demographic variables

It consisted of age of mother, educational qualification of mother, occupation of mother, number of children, type of family, monthly family income, housing type, type of fuel used for cooking, history of smoking by mother, history of smoking by father and previous knowledge.

### Section II Structured questionnaire to assess knowledge regarding acute respiratory infection

It consists of 24 questions related to knowledge about acute respiratory infection, its risk factors, signs and symptoms, danger signs, management and prevention.

The correct answer was given score '1' (one) and wrong answer score '0' (zero). The total score on knowledge regarding acute respiratory infection was 24.

The knowledge score was interpreted as,

<33% = inadequate knowledge

33% -66% = moderately adequate knowledge

>66% = adequate knowledge

The reliability of the tools was done by Split Half method. Findings of the study revealed that the tool was found to be reliable. The reliability of knowledge was 0.88. Before starting

the final data collection procedure for the present study; the investigator obtained permission from the Ethical Committee INS Trust, (GNRC), Dispur, Guwahati, Assam. Permission was taken from concerned authority of selected urban community to carry out the study. The data collection period was scheduled from 4th to 30th July 2016. A brief self-introduction and purpose of the study was explained to the sample prior to data collection and keeping in mind the ethical aspect of research, data was collected after obtaining informed consent of the sample for their willingness to participate in the study. A pre- test was conducted by administration of structured questionnaire to assess the knowledge regarding acute respiratory infection by using self-report technique. The respondents were given 25-30 minute to complete the questionnaires. On the same day after pre test information booklet regarding acute respiratory infection was provided to the sample. The post-test was conducted by using the same structured questionnaire on 7th day of introduction of information booklet. The data analysis was consisted of descriptive and inferential statistics.

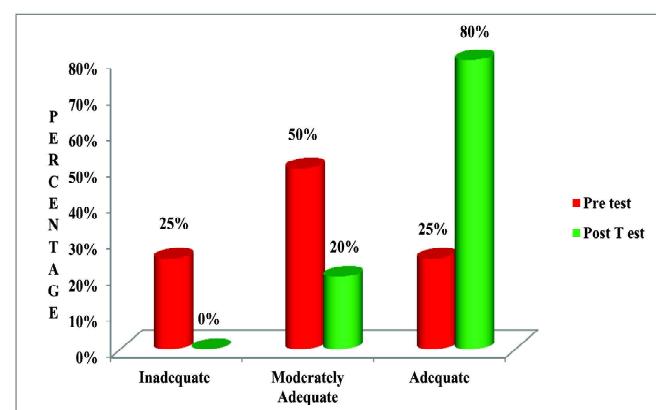
## RESULTS

The data were grouped and analysed under the following sections

### Section I Frequency and percentage distribution of mothers according to demographic characteristics.

A total of 60 mothers responded for the study. Out of 60 respondents majority of mothers i.e, 30(50%) belonged to 25-30 age group, 30(50%) respondents had primary level of educational status, 54(90%) were housewives, 26(43%) had only one child, 29(48%) belongs to nuclear family, 46(77%) had a family income of less than Rs10,000, 23(38%) were living in kutcha house, 51(85%) uses gas for cooking, 36(60%) had a history of smoking by father at home, 54(90%) mothers do not have history of smoking, 33(55%) mothers do not have any previous knowledge on ARI, 14(52%) mothers have received the information about ARI through health personnel.

### Section II Knowledge on acute respiratory infection before and after distribution of information booklet



**Figure 1** Distribution of mothers according to their level of knowledge

The data presented in figure 1 depicts that out of 60 mothers in pre test, 15(25%) had inadequate knowledge, 30(50%) had moderately adequate knowledge and another 15(25%) mothers had adequate knowledge. After administration of information booklet during post test, 48(80%) mothers had adequate knowledge, 12(20%) mothers had moderately adequate knowledge and no one had inadequate knowledge regarding acute respiratory infection.

**Table 1** Knowledge of mothers regarding acute respiratory infection

Aspect	Mean	Standard deviation (SD)	Range of score	Total Score
Pre-test knowledge	11.56	4.33	4 – 18	24
Post-test knowledge	17.43	2.83	9 – 21	24

Overall knowledge of the mothers before and after administration of information booklet with mean score 11.56, SD score was 4.33 and range of score was from 4 - 18 during pre test. Mean score was 17.43, SD score was 2.83 and range of score was from 9 - 21 during post test.

### **Section III Evaluation of effectiveness of information booklet on knowledge regarding acute respiratory infection of under five among mothers**

**Table 2** Evaluation of effectiveness of information booklet

Knowledge	Mean	SD	Z-value	P- value	Table value
Pre test	11.56	4.33			
Post test	17.43	2.83	8.89	0.01	2.33

The **table 2** depicts that the mean knowledge score in pre test was 11.56 with SD 4.33 and mean post test score was 17.43 with SD 2.83. The improvement was statistically tested by “Z” test. The calculated value of “Z” is 8.89 which was higher than the tabulated value 2.33 at 0.01 level of significance. It indicates that the mean post test knowledge is significantly higher than the mean pre test knowledge. Hence, the information booklet on acute respiratory infection is effective.

### **Section IV Association of pre test knowledge with selected demographic variables**

The study showed that there was no significant association between pre test knowledge score and selected demographic variables.

**Age:** The calculated value was 4.04 and the tabulated value was 5.99 at 0.05 level of significance. Since the calculated value was less than the tabulated value there was no significant association between pre test knowledge and age.

**Educational qualification:** The calculated value was 0.12 and the tabulated value was 5.99 at 0.05 level of significance. Since the calculated value was less than the tabulated value there was no significant association between pre test knowledge and educational qualification.

**Number of children:** The calculated value was 0.76 and the tabulated value was 5.99 at 0.05 level of significance. Since the calculated value was less than the tabulated value there was no significant association between pre test knowledge and number of children.

**Type of family:** The calculated value was 0.78 and the tabulated value was 5.99 at 0.05 level of significance. Since the calculated value was less than the tabulated value there was no significant association between pre test knowledge and type of family.

## **DISCUSSION**

The first objective was to assess the knowledge of mother of under five children regarding acute respiratory infection before and after providing information booklet

In pre-test knowledge, out of sixty mothers, 30(50%) mothers had moderately adequate knowledge on acute respiratory infection, and 15(25%) mothers had adequate knowledge and 15(25%) mothers had inadequate knowledge. In post- test knowledge, out of sixty mothers 48(80%) mothers had adequate knowledge and 12(20%) mothers had moderately adequate knowledge.

The present study was supported by the study conducted by Meena Gyawali *et al.*<sup>7</sup> and it was found that 77.9% of women had no opportunity to take part in any training related to ARI. Statistically significant relationship was found on level of knowledge with education of mother ( $p=0.002$ ). Study revealed that 83.9% of respondent had satisfactory level of knowledge and 10.7% had poor level of knowledge and only 5.5% had excellent level of knowledge regarding ARI. Similar findings were reported by Joseph Jophin and George Jyothy<sup>8</sup>, who found the mothers had inadequate knowledge with a mean of 29.25% and standard deviation of 2.26 in pre test where as in post test there was a significant mean knowledge gain of 77.77% and standard deviation of 1.68.

### **The second objective was to assess the effectiveness of information booklet regarding acute respiratory infection of fewer than five children among mothers.**

The improvement was statistically tested by “Z” test. The calculated value of “Z” is 8.89 which is higher than the tabulated value 1.645 at 0.01 % level of significance. It indicates that the mean post test knowledge is significantly higher than the mean pre test knowledge. Hence the information booklet on acute respiratory infection is effective.

A similar study was conducted by Jena Mamata<sup>9</sup> to evaluate the effectiveness of information booklet on knowledge and practice about prevention of pneumonia among mothers of fewer than five children. The study was conducted on 50 mothers and it shows that 52% of mothers had no knowledge regarding prevention of pneumonia. The ‘t’ value for knowledge and practice test are 35.78 and 14.68 respectively which are much greater than calculated t value at 0.05 significance level (2.01) in both indicating effectiveness of information booklet in increasing knowledge & knowledge on practice.

The present study supported by Sachin Mali<sup>10</sup> and the findings of the study showed that none of the mothers from both the groups had adequate knowledge score in the pre test. Overall pre tests mean knowledge scores of Control and Experimental group was 42.2% and 48.8%. The obtained 't' value was 0.29 is statistically non-significant at  $p > 0.05$  level. Overall post-test mean knowledge scores of control and experimental was 49.1% and 79.7%. The obtained 't' value is 16.78 is statistically significant at  $p < 0.05$  level.

**The third objective was to find out association between the pre-test knowledge and selected demographic variables.**

In the present study there is no significant association between pre-test knowledge score and selected demography like age, educational qualification, number of children and type of family.

A similar study conducted by MeenaGyawali, Rama Pahari, SafalaMaharjan and Ravi RoshanKhadka<sup>7</sup> and study found that there was no association between knowledge on ARI and demographic variables like age of mother and occupation.

**CONCLUSION**

Majority of the mothers i.e. 30(50%) had moderately adequate knowledge on acute respiratory infection, 15(25%) mothers had adequate and 15(25%) mothers had inadequate knowledge before administering of information booklet regarding acute respiratory infection. Majority of the mothers i.e. 48(80%) had adequate knowledge and 12(20%) mothers had moderately adequate knowledge after administering of information booklet regarding acute respiratory infection. The mean of knowledge before and after intervention were 11.56 and 17.43 respectively. The information booklet was proved effective as tested by Z test at 0.01 level of significance as the calculated value of "Z" of knowledge was 8.89 was highly significant at 0.01% level. So, it signifies that the information booklet was effective as it increases the post-test level of knowledge. There was no significant association of knowledge and selected demography of the under-five mothers. The study concluded that the information booklet was effective in increasing the knowledge on acute respiratory infection of mothers of fewer than five children.

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elsewhere in any form, except as provided herein. All authors have contributed sufficiently in the article to take public responsibility for it. All authors have reviewed the final version of the above manuscript and approve it for publication.

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