

# Effectiveness of An Awareness Program regarding Home Care Management on Knowledge and Practice of Mothers of Children with Bronchopneumonia

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**Abstract:** *This quasi-experimental study evaluated the effectiveness of an awareness program on the knowledge and practice of 50 mothers regarding the home care management of bronchopneumonia in children at ICH, Kottayam. Using a pretest-posttest control group design, the researchers found that the experimental group which received the educational intervention, achieved significantly higher post-intervention scores compared to the control group with a median practice score of 18 versus 15. The results revealed a moderate positive correlation ( $r = +0.70$ ) between knowledge and practice, while also identifying that family type and economic status were significant factors ( $p < 0.05$ ) influencing baseline knowledge. Ultimately, the study concludes that targeted educational programs are a highly effective tool for empowering caregivers and reducing child morbidity in resource-limited settings.*

**Keywords:** Bronchopneumonia; Knowledge; Practice; Effectiveness; Awareness program

## 1. Introduction

Globally several studies have reported the significance of adequate maternal knowledge in preventing delay in health seeking behavior for children with acute respiratory infections. Improved maternal knowledge enables early symptom recognition, appropriate home management, timely accessibility of health care facilities and thereby reducing complications of this disease and thereby mortality rate.<sup>1</sup> Pneumonia is a leading cause of mortality in children worldwide and a higher burden of childhood pneumonia is noticed in India and it accounts 20% of pneumonia deaths. National Family Health Survey (NFHS – 4) in India estimate 565 cases per 1000 children in Uttar Pradesh, 563 cases per 1000 children in Madhya Pradesh and a lower incidence of pneumonia in Kerala ie, 137 cases per 1000 children and 169 cases per 1000 children in Tamil Nadu. It shows a considerable need for progress still remaining throughout India. National Family Health Survey report again shows 90% of people in rural Kerala seek care for pneumonia compared with 60% of people in rural Bihar.<sup>2</sup>

## 2. Need and Significance of the Study

Acute respiratory tract infection is responsible for more than two million deaths of under five children every year globally. A study aims to highlight the perception and management of ARI in slum community of Delhi indicated that majority of the caretakers could recognize chest indrawing as a key indicator of bronchopneumonia whereas very few care takers recognized fast breathing as early symptom of pneumonia. Hospital was the last resort for seeking emergency care among this slum community.<sup>3</sup>

A cross sectional study aimed to assess the knowledge, attitude and practice of mothers regarding pneumonia was conducted in urban and rural communities of Gujarat indicated health education can change healthcare seeking

behaviours, attitude of parents and other family members to take care of children during ARI and pneumonia. It was noticed that low utilisation of basic health services and lack of maternal education especially in prevention and control of ARI and pneumonia needs further evaluation.<sup>4</sup>

## Statement of the problem

Effectiveness of awareness program regarding home care management on knowledge and practice of mothers of children with bronchopneumonia attending a tertiary care hospital in Kottayam.

## Aim

The aim of the study was to assess the influence of awareness programme in raising the knowledge and practice among mothers of children with bronchopneumonia under the age of five regarding home care management in order to prevent frequent recurrence of pneumonia and to improve their quality of life. It also enhances evidence based practice for prevention and control of bronchopneumonia in children.

## 3. Material and methods

### Setting of the study

The study will be conducted in the Medical wards and OPD at Institute of Child Health, Kottayam.

### Population

The population of the study comprised of mothers having children with bronchopneumonia admitted in medical wards and OPDs of ICH, Kottayam.

### Sample

Fifty mothers of children with bronchopneumonia attending outpatient department and medical wards of ICH, Kottayam who satisfy the inclusion criteria.

**Sampling technique**

The sampling technique adopted in this study was nonprobability purposive sampling technique.

**Data collection process**

**Control Group:** Pretest data was collected by using socio personal and clinical data, structured knowledge questionnaire and practice assessment checklist was used to assess the knowledge and practice of 25 mothers regarding home care management of children with bronchopneumonia. Posttest was conducted after 21 days of pretest to collect data regarding knowledge and practice of mothers regarding home care management of their children with bronchopneumonia after the data collection of control group.

**Experimental group:** Data was collected by using socio personal data sheet of mothers, socio personal data sheet of children and clinical data sheet of children. Knowledge and practice of 25 mothers of children in experimental group was assessed by using structured knowledge questionnaire and practice assessment checklist on the first day of visit in the hospital. The intervention ie; awareness program regarding home care management of bronchopneumonia was administered to experimental group on the second day after the pretest. Two mothers from the Outpatient Department (OPD) in the experimental group were contacted via WhatsApp video call and received education through an awareness program. It includes a computer assisted teaching program on home care management of bronchopneumonia for 20 minutes duration. Post test was conducted after 21 days of pretest to assess the knowledge and practice of mothers regarding home care management of bronchopneumonia.

**4. Results****Socio personal data of mothers**

The study participants' baseline characteristics showed some differences between the experimental and control groups. In the age group of 20 to 30 years, the experimental group had more mothers (56%) than the control group (44%). Similarly, for pre-degree education, the experimental group also had a higher percentage (52%) compared to the control group (44%). The majority of mothers in both groups were not employed. However, there was a notable difference regarding family type, as 60% of the experimental group and a significantly higher 80% of the control group belonged to nuclear families. Most mothers in both groups resided in panchayats. Finally, considering economic status, a slightly higher percentage of the control group (72%) compared to the experimental group (68%) belonged to the Below Poverty Line (BPL) category.

**Clinical data of children**

In summarizing the baseline health history of the children, the control group had a slightly higher rate of past hospitalization due to bronchopneumonia (56%) compared to the experimental group (52%). Regarding hospitalization in the past year, the experimental group had a marginally higher percentage of children who were not hospitalized (44%) compared to the control group (40%). A significant difference was observed in the treatment history, as 72% of children in the control group had received bronchodilator and antibiotics,

whereas only 48% of the experimental group had received this treatment. Furthermore, symptoms like cough, fever, and breathlessness were present in 48% of the children in the control group compared to a lower 28% in the experimental group.

**Knowledge & Practice regarding home care management of bronchopneumonia in children among mothers****1) Knowledge regarding home care management among mothers of children with bronchopneumonia**

**Table 1:** Frequency distribution and percentage of mothers based on knowledge regarding home care management of bronchopneumonia

Knowledge	Control group		Experimental group	
	f	%	f	%
Good (16 – 20)	3	12	1	4
Average (10 -15)	18	72	19	76
Poor (0 – 9)	4	16	5	20

**2) Practice of mothers regarding home care management of children with bronchopneumonia.**

**Table 2:** Frequency distribution and percentage of practice among mothers regarding home care management of children with bronchopneumonia

Practice	Control group		Experimental group	
	f	%	F	%
Good (16 – 20)	9	36	5	20
Fair (10 -15)	14	56	11	44
Poor (0 – 9)	2	8	9	36

**3) Effectiveness of awareness program regarding home care management on knowledge of mothers of children with bronchopneumonia.**

The obtained U value was significant at 0.01 levels. Hence the null hypothesis H01 was rejected. It was interpreted that there was statistically significant difference in the post test scores of knowledge between control and experimental group. Hence it can be concluded that awareness program was effective in improving the knowledge of mothers regarding home care management of children with bronchopneumonia.

**Table 3:** Mean rank, sum of ranks and U value of posttest knowledge scores among mothers of children with bronchopneumonia in control and experimental group.

Knowledge	Mean rank	Sum of ranks	U value	P value
Control group	15.96	399	74	0.001
Experimental group	35.04	876		

**4) Effectiveness of awareness program regarding home care management on practice of mothers of children with bronchopneumonia.**

The obtained U value showed that the difference was statistically significant at 0.01 level. Hence the null hypothesis, (H02) was rejected and it can be interpreted that there was significant difference in practice among mothers between the control and experimental group. Hence it was concluded that awareness program was effective in improving the practice of mothers regarding home care management of children with bronchopneumonia.

**Table 4:** Mean rank and U value of posttest practice scores among mothers of children with bronchopneumonia in control and experimental group

Practice	Mean rank	Sum of ranks	U value	P value
Control group	18.68	467	142	0.001
Experimental group	32.32	808		

### 5) Correlation between knowledge and practice of mothers regarding home care management among children with bronchopneumonia.

The obtained rho value ( $\rho +.70$ ) shows a moderate positive correlation between knowledge and practice of mothers regarding home care management of children with bronchopneumonia which was statistically significant at 0.01 level. Hence null hypothesis, (H03) was rejected and it was interpreted that there was significant correlation between knowledge and practice of mothers regarding home care management of children with bronchopneumonia. It is further inferred that as the knowledge of mothers regarding home care management of children with bronchopneumonia increases, their practice also improves.

**Table 5:** Correlation between knowledge and practice of mothers regarding home care management of children with bronchopneumonia

Variable	$\rho$	P
Knowledge	+.70	0.001
Practice		

### 6) Association between knowledge among mothers regarding home care management of children with bronchopneumonia and selected socio personal variables

**Table 6:** Association between knowledge among mothers regarding home care management of children with bronchopneumonia with type of family and economic status

Socio personal variables of mothers	df	$\chi^2$	p
Type of family	4	11.51	0.02
Economic status	2	6.71	0.03

## 5. Discussion

The current study found that 16% of mothers in the control group and 20% in the experimental group had poor knowledge of home care management for children with bronchopneumonia. This finding aligns with a prior descriptive study involving 50 caretakers, which revealed that a majority (72%) were unaware of bronchopneumonia management, with only 28% possessing adequate knowledge about caring for their infants with the condition.<sup>5</sup>

In the current study, a higher percentage of mothers in the experimental group (36%) demonstrated poor practice regarding home care management for children with bronchopneumonia, compared to only 8% in the control group. This finding is contrasted by a cross-sectional study of 300 mothers, which showed generally high rates of correct practices for pneumonia prevention and management, including 84.3% managing fever effectively, 82% following nutritional guidelines, and high compliance with temperature monitoring (75.7%) and proper hygiene (77.7%). However,

practice was lowest for supportive measures for cough management (50%).<sup>6</sup>

The present study concluded that the awareness program was effective in significantly improving the practice of home care management among mothers of children with bronchopneumonia ( $p=0.001$ ). This finding is supported by a related study that found a significant difference between pre-test and post-test scores, demonstrating the effectiveness of a structured teaching program in enhancing the knowledge and attitude of caregivers regarding bronchopneumonia and its prevention.<sup>7</sup>

## 6. Limitations

- Generalization of the findings could not be made due to limited area of setting and linguistic criterion
- The tools used in this study measured only the particular domain such as knowledge and practice of mothers having under five children with bronchopneumonia regarding home care management
- Study assessed only the knowledge and practice of under five children on home care management of bronchopneumonia

## 7. Scope for Future Studies

- Similar study can be replicated in large samples to find out the effectiveness of awareness program on knowledge and practice among mothers regarding home care management of children with bronchopneumonia
- A similar study can be replicated to other age group children
- A comparative study can be conducted to determine the prevalence rate between urban and rural mothers of children with bronchopneumonia regarding home care management
- Similar studies can be conducted by using other educational methods like video assisted teaching, information booklet, demonstration etc

## 8. Conclusion

The study on effectiveness on awareness program regarding home care management on knowledge and practice of mothers of children with bronchopneumonia attending Institute of Child Health, Kottayam was a successful research work done by the investigator. With empirical evidence, the research highlighted a significant increase in knowledge and practice of mothers regarding home care management of children with bronchopneumonia after the intervention. The present study summarized the need of awareness program regarding the knowledge and practice of mothers regarding home care management of bronchopneumonia and its prevention for complication reducing management of the disease. In conclusion, educational program and strategies can significantly improve the knowledge and self-efficacy of mothers in caring their children during illness.

## 9. Summary

The study on effectiveness of awareness program on knowledge and practice regarding home care management among mothers of children with bronchopneumonia attending Institute of Child Health, Kottayam was a successful research work done by the investigator. The statistical value revealed that the awareness program was significantly effective in improving the knowledge and practice among mothers regarding home care management of children with bronchopneumonia. The study utilized a quasi experimental design, focusing on enhancing maternal knowledge and practices to prevent pneumonia recurrence and improve children's quality of life. The study concluded that adding educational interventions along with routine care will help to enhance the knowledge and practice of mothers in caring their children with bronchopneumonia at home. It helps to decrease the burden of the disease, if mothers possess good knowledge with appropriate practice on the prevention and management of bronchopneumonia in their children. This study successfully demonstrated a significant increase in maternal knowledge and practice regarding home care management of bronchopneumonia following an awareness program. These findings suggested that the establishment of multidisciplinary collaborative empowerment education might be considered as an innovative means of community or clinical family education to improve health outcomes in children with bronchopneumonia.

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