



PILOT STUDY ON EFFECTIVENESS OF PARENT LED RESPIRATORY ADJUNCTIVE INTERVENTION ON KNOWLEDGE AND SKILL OF PARENTS AND RESPIRATORY PARAMETERS OF CHILDREN WITH BRONCHIAL ASTHMA AT SELECTED SETTINGS.

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ABSTRACT

Background: Bronchial Asthma is the most common chronic respiratory disease among childhood, a leading cause of emergency department visits, and 1 of the top 3 indications for hospitalization in children. **Aims & Objectives:** To study the feasibility of using parent led respiratory adjunctive intervention on knowledge and skill of parents and respiratory parameters of children with bronchial asthma. **Methodology:** The researcher adopted a quasi-experimental non-equivalent control group design for the study. 30 children aged 6-11 years (experimental-15 & control-15), who fulfilled inclusion and exclusion criteria, were selected as samples by using a non-probability purposive sampling technique. Written informed consent was obtained from the parents and assent obtained from their children. Researcher used modified paediatric asthma severity score(M-PASS) tool for screening severity level of asthma among 6-11 years of children. **Results:** Researcher screened 127 children had bronchial asthma problems. The study findings showed that, in experimental group, posttest, parents were gained 86.35% knowledge score, 68.88% and 78.38% of skill-I&II score respectively. In Control group, parents were gained 0.79% & 3.11% of skill-I&II score respectively. This difference shows the effectiveness of study.

Conclusion: The study concluded that the parent led respiratory adjunctive intervention was effective in increasing the knowledge and skill of parents and reducing the respiratory parameters of children.

Keywords: Parent led respiratory adjunctive intervention, Children, Bronchial asthma, Respiratory parameters.

INTRODUCTION

Bronchial Asthma self-management interventions are important for parents of children with bronchial asthma to decide the extent that they will adhere to prescribed medications, limit their activity or avoid exposures that exacerbate their child's asthma.

According to the World Health Organization (WHO), asthma affects an estimated 262 million people globally, with a substantial number of cases reported among the paediatric population.

Children with bronchial asthma are particularly vulnerable to respiratory emergencies, which can arise suddenly and require immediate intervention to prevent serious complications or mortality. Respiratory urgency, often triggered by allergens, infections, environmental pollutants, or non-adherence to prescribed therapy, necessitates rapid assessment and effective management to stabilize the child's condition.

In emergency situations, timely intervention plays a crucial role in reducing morbidity and improving outcomes. While pharmacological treatments such as bronchodilators and corticosteroids are central to emergency management, non-pharmacological and adjunctive interventions—especially those involving parental participation showed promise in enhancing respiratory function and adherence to asthma management plans.

This study focuses on children with bronchial asthma who experience respiratory urgency and evaluates the effectiveness of specific interventions designed to manage such episodes. The aim is to explore not only clinical outcomes but also the role of parents in recognizing early warning signs, administering immediate care, and supporting long-term management strategies. Given the increasing incidence of paediatric asthma and related emergencies, this research seeks to contribute valuable insights into comprehensive, family-centered care approaches for children with asthma.

Statement of the problem

A quasi-Experimental experimental to assess the effectiveness of Parent Led Respiratory Adjunctive Intervention on knowledge and skill of parents and respiratory parameters of Children with bronchial asthma at selected settings.

The objectives of the study were

1. To assess the level of asthma severity score of children with bronchial asthma.
2. To assess and compare the pretest and posttest level of knowledge and skill of parents and respiratory parameters of children with bronchial asthma in experimental and control group.
3. To assess the effectiveness of Parent Led Respiratory Adjunctive Intervention on knowledge and skill of parents and respiratory parameters of children with bronchial asthma in experimental and control group
4. To correlate mean differed knowledge and skill score of parents and respiratory parameters of children with bronchial asthma in experimental and control group
5. To associate the mean differed knowledge and skill score of parents of children with bronchial asthma with selected background variables of parents in experimental and control group.
6. To associate the mean differed knowledge and skill score of parents of children with selected background variables of children with bronchial asthma in experimental and control group.

The null hypotheses formulated were

NH₁: There is no significant difference in the pre and posttest level of knowledge and skill of parents and respiratory parameters of children with bronchial asthma between Experimental and control group.

NH₂: There is no significant association of selected demographic variables with mean differed knowledge and skill score of parents and respiratory parameters of children with bronchial asthma in Experimental and control group.

NH₃: There is no significant association of the mean differed knowledge and skill score of parents and respiratory parameters of children with bronchial asthma in Experimental and control group.

NH₄: There is no significant correlation between the mean differed knowledge and skill score of parents and respiratory parameters of children with bronchial asthma in Experimental and control group

METHODOLOGY

A quantitative research approach was adopted. The researcher adopted a quasi-experimental non-equivalent control group design for the study. children between 6-11 years of age who were fulfilling the inclusion criteria were the sample for the quantitative study. 30 children with bronchial asthma (15 each in experimental and control group) who were fulfilling the inclusion criteria were included for this study. Non-probability purposive sampling technique was adopted. The study conducted at rural areas in Chengalpattu district.

The inclusion criteria were children aged 6-11 years, both male and female children diagnosed with bronchial asthma in the last 6 months and have mild and available at the time of data collection. The exclusion criteria were children with other co-morbidities.

Ethical consideration

Ethical permission was obtained from The Institutional Ethics Review Board from Omayal Achi College of Nursing. Permission was obtained from the Dean, chengalpattu government medical college and commissioner in chengalpattu district. Informed consent was obtained and detailed explanation about the study was given to parents and assent obtained from children with bronchial asthma. Confidentiality and privacy were maintained throughout the study. The participants were given a full freedom of continuing (or) withdraw from the study at any time. Parents and their children convenient timing and day was chosen to conduct the study.

Statistical Analysis

Statistical Analysis Statistical analysis was performed using the Statistical package for Social Sciences Programme (SPSS) version 17.0. Descriptive statistics was used to describe the demographic variables. Student 't' test was used to assess the pre and post-test level of knowledge and skill of parents. Student independent 't' test was used to compare the pre and post-test level of respiratory parameters of children between experimental and control group.

RESULTS AND DISCUSSION.

Researcher screened 127 children and the level of severity of asthma score among children, which shows that majority of the children had moderate level of asthma in both groups. The chi-square test result $p = 0.44$ indicates that there was no significant difference in between the groups.

Table 1: Level of asthma severity score of children with bronchial asthma

N=30

Level of severity	Experimental group		Control group		Chi square test
	n	%	n	%	
Mild	3	20.00	4	26.67	$\chi^2=0.19$ P=0.67 (S) DF=1
Moderate	12	80.00	11	73.33	
Severe	0	0.00	0	0.00	
Total	15	100	15	100	

$p > 0.05$ non-significant NS=non-significant

Table 2: Comparison of Mean Knowledge score in Pretest, Posttest-I and Posttest-II between experimental and control group.

N=30

Knowledge score	Group				Mean Difference	Student independent t-test
	Experimental (n=15)		Control (n=15)			
	Mean	SD	Mean	SD		
Pretest	8.60	2.47	8.87	2.29	-0.27	t=0.20 p=0.85(NS)
Posttest-I	12.47	2.39	9.20	2.34	3.27	t=3.78 p=0.01**(S)
Posttest-II	15.87	2.17	9.67	2.02	6.20	t=8.09 p=0.001*** (S)

$p > 0.05$ non-significant NS=non-significant

Table 3: Effectiveness of parent led respiratory adjunctive intervention and skill gain score.

N=30

Skill-1&2	Group	Assessment	Max score	Mean score	% of Mean score	Mean difference of Skill gain score with 95% Confidence interval	Percentage of skill gain score with 95% Confidence interval
Buteyko technique	Experimental	Pretest	24	9.31	38.79	4.53	68.88%
		Posttest-I	24	11.75	58.96		
		Posttest-II	24	13.84	67.67		
	Control	Pretest	24	9.79	40.79	0.11	0.79%
		Posttest-I	24	9.90	41.25		

		Posttest-II	24	9.98	41.58		
Pap worth technique	Experimental	Pretest	18	7.22	40.11	5.11	78.38%
		Posttest-I	18	10.08	66.00		
		Posttest-II	18	12.33	78.50		
	Control	Pretest	18	7.34	40.78	0.56	3.11%
		Posttest-I	18	7.43	41.28		
		Posttest-II	18	7.90	43.89		

p>0.05 non-significant NS=non-significant

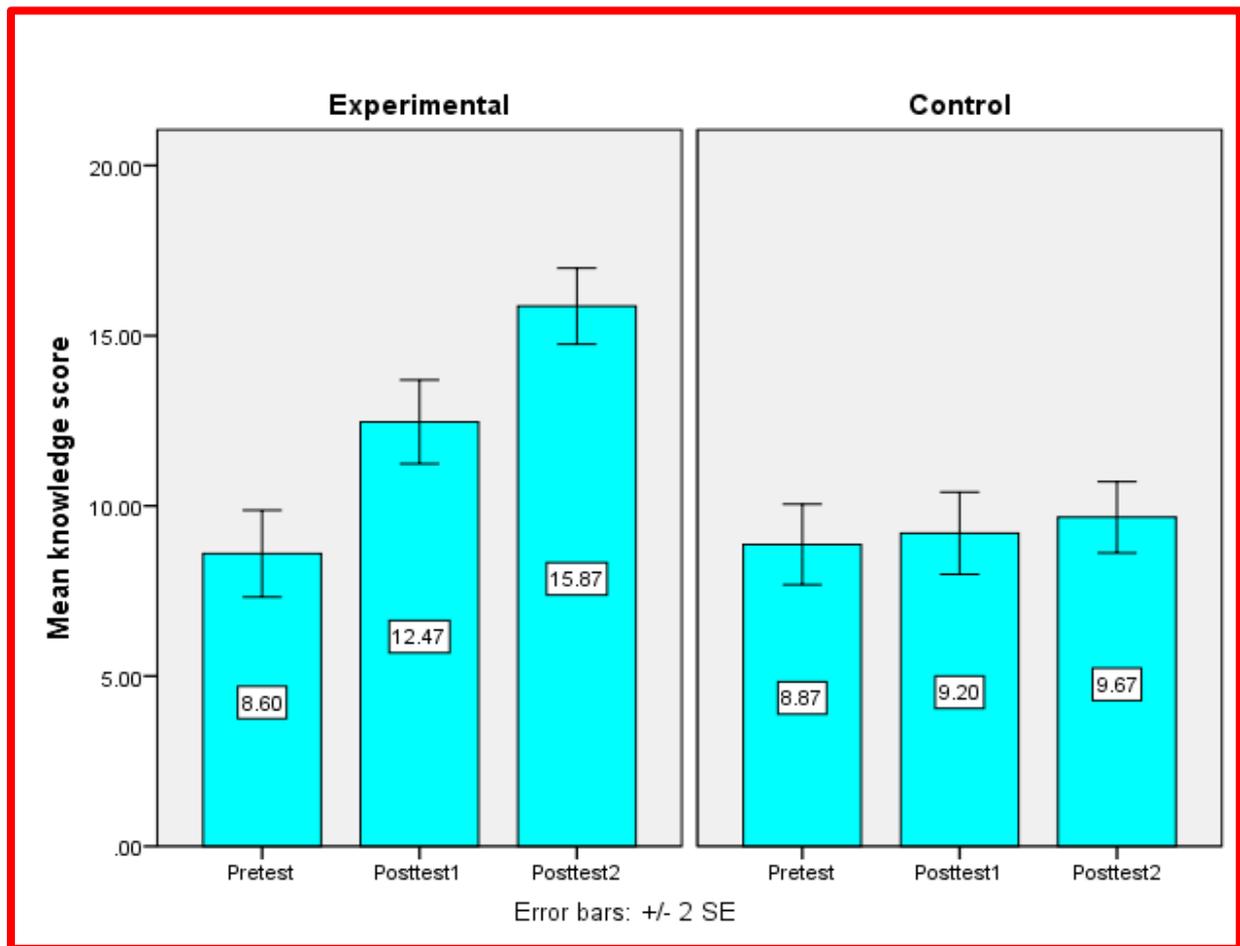


Figure.1 Simple bar with standard error compares the patients Knowledge score between experimental and control group during pretest, posttest-I and posttest-II

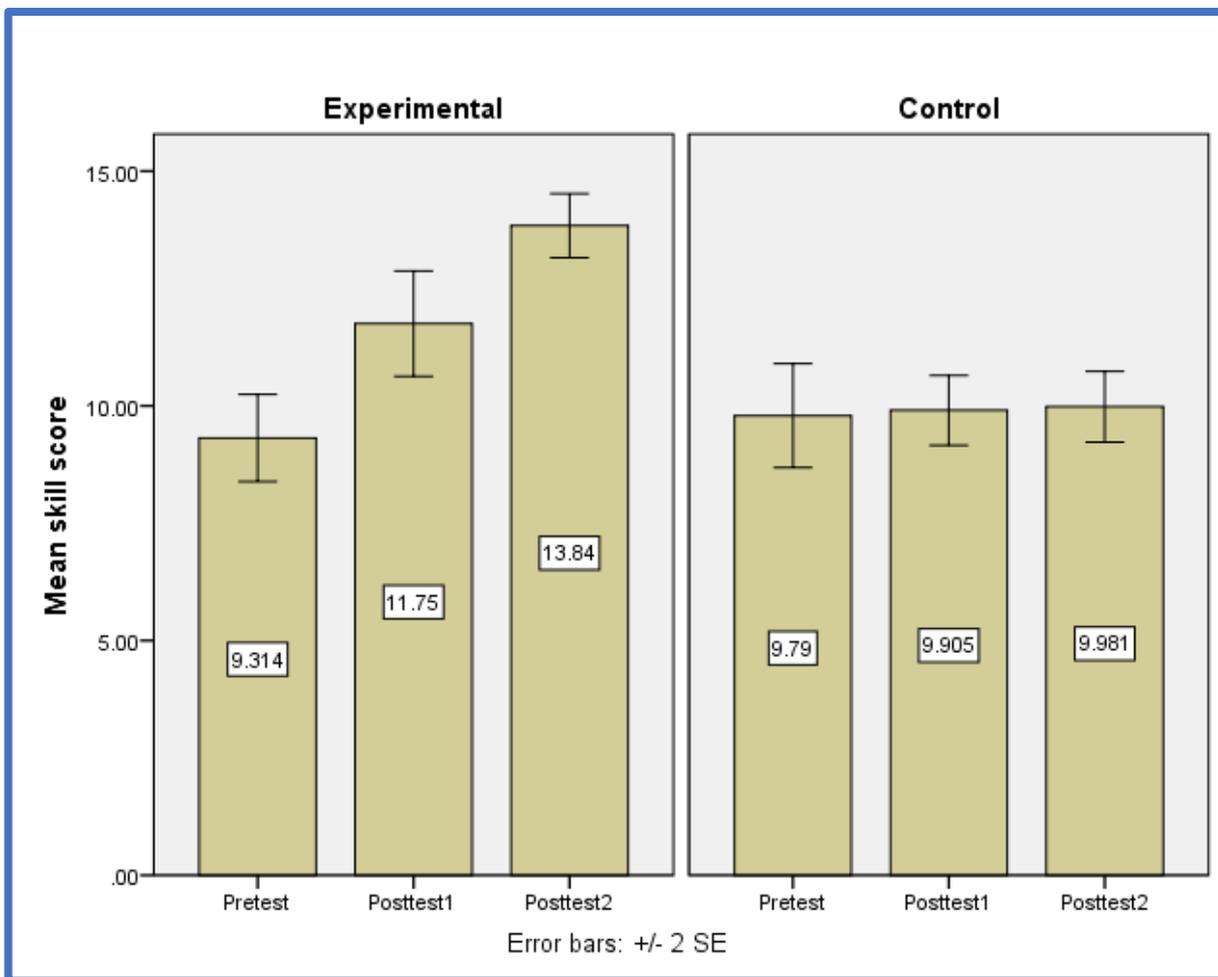


Figure.2:

Simple bar with standard error compares the patients Skill score between experimental and control group during pretest, posttest-I and posttest-II (BUTEYKO TECHNIQUE)

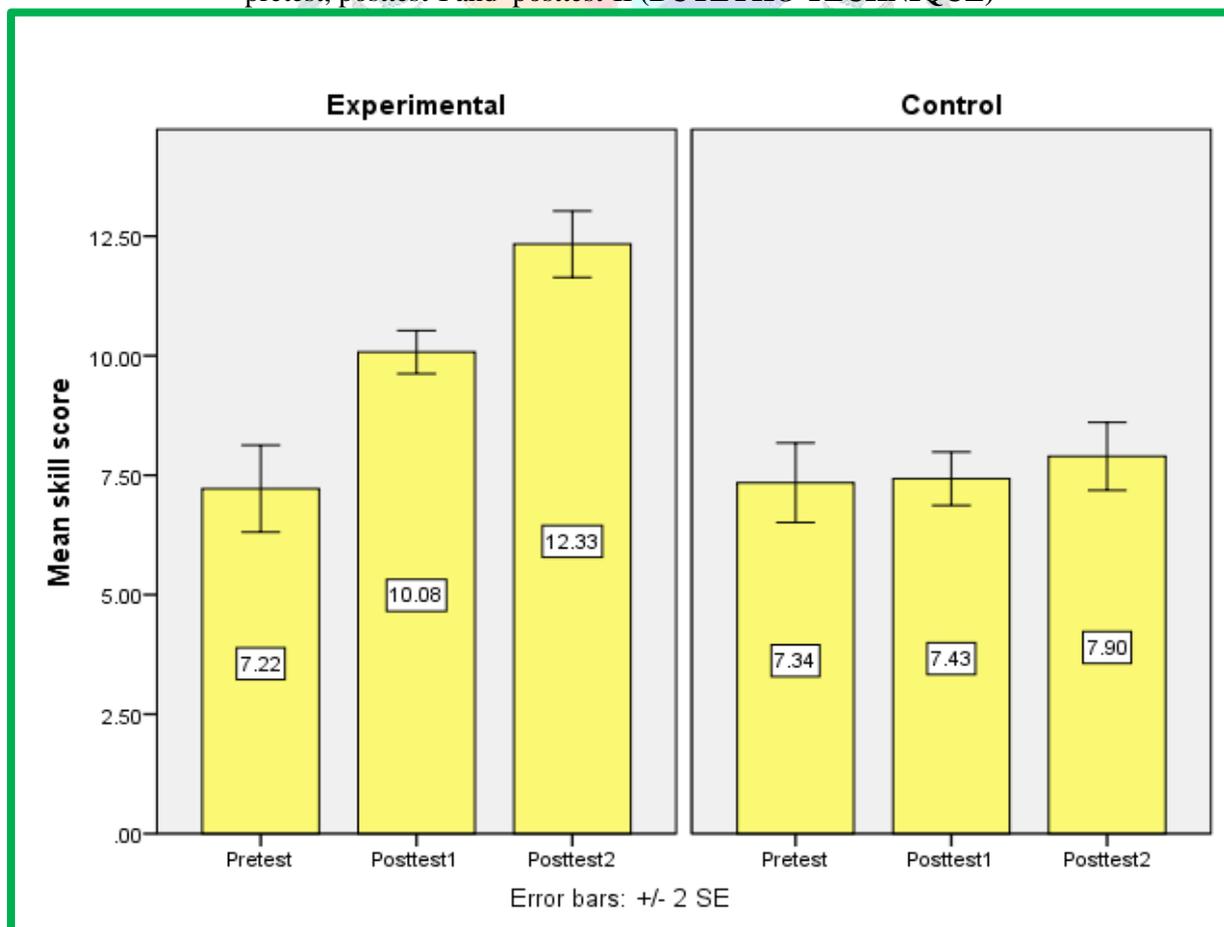


Figure.3 Simple bar with standard error compares the patients Skill-2 score between experimental and control group during pretest, posttest-I and posttest-II.

On assessment and comparison of knowledge and skill of parents, in pretest, the nonsignificant P- values of 0.75 indicates that the level of knowledge was similar in both the groups. However, in Post 1 & 2 there was moderate and adequate level of knowledge score in the experimental group when compared to inadequate level in the control group

Cristian Roncada, 2022, A total of 154 parents of children participated in the experimental; in that, 62 in the Asthma Group, and 92 in the Control Group. 132 were female, and 72 parents studied up to high school. 30.5% parents had knowledge level of asthma, which were more prevalent in the Asthma Group than in the Control Group. The mean score in Newcastle Asthma Knowledge Questionnaire (NAKQ) was higher in the Asthma Group. The result showed that parents with mild and moderate asthmatic children scored more than those of severe asthma.

The effectiveness of Parent Led Respiratory Adjunctive Intervention (PRAI) findings showed that in experimental group the mean score of post-test- I 63.30%, in post-test II 78.65% than the pre-test mean score of 45.10%.

The study result reveals that the parents were gained 73.55% of knowledge score. Parents gained skill-1 score shows 65.31% in Buteyko technique, 62.16% in skill-2 Pap worth technique and gained asthma control score in children were 74.04% than pretest score. The above finding indicates that the Parent Led Respiratory Adjunctive Intervention (PRAI) were more effective to minimizing the level of asthma.

Jennifer L. Perret, (2021), conducted a experimental of buteyko breathing exercise among asthmatic children. One group pre-test post-test design was used. A sample of 80 children diagnosed as asthmatics was selected by using purposive sampling technique. A mini pediatric asthma quality of life questionnaire was used to assess the quality of life of asthmatic school children. The study finding showed that the buteyko breathing exercise is proved to be effective in improving the quality of life of asthmatic children.

Association of Knowledge, Skill and Respiratory Parameters with Background variables of Parents: Parents aged 35 – 40years and had history of respiratory health condition had better knowledge gain score; Parents who were more than 40 years and history of respiratory health condition gained more skill in Buteyko technique and Parents who were more than 40 years and who were in supervisory job gained more skill in papworth technique

CONCLUSION

The main aim of the pilot experimental was to identify the reliability of the tool and feasibility of the experimental. The pilot experimental revealed the tool was reliable, practicable and feasible to carry on with the parents of children with of bronchial asthma. The result of the pilot experimental revealed that there is significant difference in the pre-test and post test score of level of bronchial asthma among children aged 6 to 11 years. The suggestions of the pilot experimental will be incorporated in the main experimental.

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