International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge and Practice Regarding Bronchial Asthma among Mothers of Asthmatic Children in Institute of Child Health and Hospital for Children, Egmore, Chennai - 08

O.S. Priya

Clinical Instructor, Saveetha College of Nursing, SIMATS, Thandalam, Chennai 602105, India

Abstract: ***Asthma is a chronic inflammatory disease of airways characterized by recurrent attacks of shortness of breath associated with wheezing and may get worse during physical activity or at night time. Asthma affects more than 6 million children, of whom over half suffer from an asthma episode annually. In India, the estimate burden of asthma is believed to be more than 15 million. Objective is to evaluate the effectiveness of structured teaching program and to associate knowledge and practice with demographic variables regarding bronchial asthma among mothers of asthmatic children. The Non – experimental study was conducted among mothers of children with bronchial asthma, the samples were selected through Purposive Sampling technique. Data was collected after obtaining informed consent, by semi structured questionnaire method and assessed their level of knowledge and practice and educated using structured teaching module. Results of the study depicts that around 65% of mothers were having deficient knowledge and 35.0% of mothers were having poor practice before providing teaching module and after implementation of STP 83.3% of mothers were having adequate knowledge, none of the mothers were having poor practice. The conclusion of the study findings shows significant association between level of knowledge and practice regarding bronchial asthma among mothers of asthmatic children with selected demographic variables at P= 0.005.***

Keywords: Bronchial Asthma and asthmatic children.

1. Introduction

Asthma is a public health problem and a chronic disease affecting pediatric population. In susceptible children, inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and cough, especially at night or in the early morning. These asthma episodes are associated with airflow limitation or obstruction that is irreversible either spontaneously or with treatment. Asthma is a complex disorder involving biochemical, genetic, immunologic, environmental, infectious, endocrine, and psychologic factors. In the United States, it is estimated that about 15 million of asthma patients are under the age of 18 years[2]. Asthma can develop at any age but about fifty percent of people develop it before the age of ten years while about twenty five percent of people develop it before the age of forty years[3]. A study done by **Rastogi D, Gupta S, Kapoor R, (2009)** found the caregivers understanding of asthma Pathophysiology to be sub- optimal. A study on knowledge and preventive asthma care measures found that parents of children with persistent asthma had inadequate understanding of appropriate inhaled corticosteroid use and parents who received a written action plan were more confident in their ability to provide care for their child during an asthma exacerbation (Deis JN et al.,2010)[4].Need of the study is although asthma can be controlled with appropriate medical treatment, self-management education and by avoiding exposure to environmental allergens and irritants that can trigger an attack. Mostly the complications of bronchial asthma could be influenced by poor knowledge, poor use of inhaler technique, noncompliance and negative attitude toward the illness and the drugs. The proper management of bronchial asthma of children requires attention to the behaviour of mothers of asthmatic children and also to the underlying beliefs which derive that behaviour is concluded by a study conducted in United States showed that an average, a child with active asthma missed 2.6 percent of school days per year.[5]

Marilyn Karam,MD,Bani P. Kaur , MD &Alan P. Baptist, MD, MPH, (2017) conducted a study that evaluated a simple, modified breathing exercise program regarding ease to perform and effectiveness as an adjunctive therapy. A program that incorporated three different breathing exercises (yoga pranayama techniques, diaphragmatic breathing and pursed lip breathing) was taught to subjects. Totally the intervention improved breathing for 52.9% of the subjects, while 67.6% felt that their daily activity was improved and 66.1% noted that the exercises allowed decreased use of a rescue inhaler. Most subjects (80.9%) recommended breathing exercises as a complementary therapy for asthma and 79.4% of the subjects stated the exercises took less than 10 minutes per day total. Overall, A simple program of breathing exercises was found to be effective and could be completed in less than 10 minutes per day. Furthermore, there was a statistically significant improvement in ACT scores post-exercise.[8]

2. Objectives

Licensed Under Creative Commons Attribution CC BY

The aim of the study is to assess the effectiveness of structured teaching program and to associate knowledge and practice regarding Bronchial Asthma among mothers of asthmatic children with their selected demographic variable.

3. Materials and methods

A Quantitative research approach with Pre experimental one group pre test and post test design was used to conduct the Study in Pulmonology department at Institute of Child Health and Hospital for Children, Egmore, Chennai – 08. Study Population is mothers of children with bronchial asthma who met the inclusive criteria. The data were collected using Non -probability – Purposive Sampling Technique, Sample size was 60 mothers with asthmatic children who met the inclusive criteria. Inclusion Criteria Mothers of children admitted with asthmatic attacks, who are willing to participate in the study and who can understand Tamil or English language. Exclusion Criteria – The study excludes, mothers whose children are less than 2 years of age and more than 12 years of age, mothers of children admitted with some other illness. Description of tools includes three section such as demographic variables, knowledge and practice based semi structured questionnaire. The study was conducted in medical ward and Pulmonology ward , after obtaining permission from the Director and Head of the Department of ward in Institute of Child Health and Hospital for Children, Chennai -08. Before the data collection, the researcher introduced herself, explained the purpose of the study to the ward staff nurse and mothers of children with bronchial asthma. The confidentiality was assured and consent was obtained from the participants then the mothers were interviewed and educated using structured teaching module. Three to five participants were selected everyday and assured that at anytime they can withdraw from the study. The period of study extended for four weeks, the data was collected from Monday to Saturday between to 8am to 4 pm. Using purposive sampling technique 60 samples were collected who fulfilled their selection criteria. Pre test was conducted 25 minutes, the structured teaching programme was implemented on the same day for 45 minutes using flash card, pamphlets and demonstration of straw breathing exercises which was prepared by the researcher after consulting with the specialist. The mothers participated with interest and they were alert and enthusiastic. Certain points were repeated for better understanding and doubts were cleared and given a self instructional module to each mothers of children with bronchial asthma. After seven days of interval the post test was administered to the same sample for 20 to 25 minutes regarding the knowledge and practice of bronchial asthma, using the same questionnaire, and evaluates the effectiveness of structured teaching programme on bronchial asthma. The data were analyzed using descriptive and Inferential statistics • Frequencies and percentages for the analysis of the demographic data, Mean and standard deviation for pre-test and post test score. Paired t test used to compare the pre test and post test knowledge and practice. Chi square test used to associate post test knowledge and practice regarding bronchial asthma among mothers with selected demographic variables.

4. Results and Discussion

The major findings of the study, Age group of 18-24 years 63.3% of mothers, educational status 40.0% of mother's were Primary Education, occupation status of mothers 71.7% were house wife, Monthly income of the family 55.0% were less than Rs. 5000, Place of residence 56.7% of mothers were urban, Family History of asthma those doesn't have are 86.7%, Type of fuel used in home is 58.3% were LPG gas, Pet animals those don't have in their home 66.7%, Kind of pet animals in home is 40.0% were dog, bird, Age of children were in 1-3 years was 50.0%, 65.0% of children are male gender,63.3% of child were first in order of the birth.

Table 1: Comparison of Pretestand Posttest Level ofKnowledge Score

	Level	Pretest		Posttest		Generalized Mc Nemar' s test
		n	%	N	%	
Knowledge	Inadequate knowledge	39	65.0%	0	0.0%	□ 2=37.13 P=0.001*** (S)
	Moderate knowledge	21	35.0%	10	16.7%	
	Adequate knowledge	0	0.0%	50	83.3%	
	Total	60	100.0%	60	100%	
Practice	Poor practice	21	35.0%	0	0.0%	□ 2=53.00 P=0.001*** (S)
	Moderate practice	35	58.3%	9	15.0%	
	Good practice	4	6.7%	51	85.0%	
	Total	60	100%	60	100%	

***significant at p≤0.001 level

Licensed Under Creative Commons Attribution CC BY

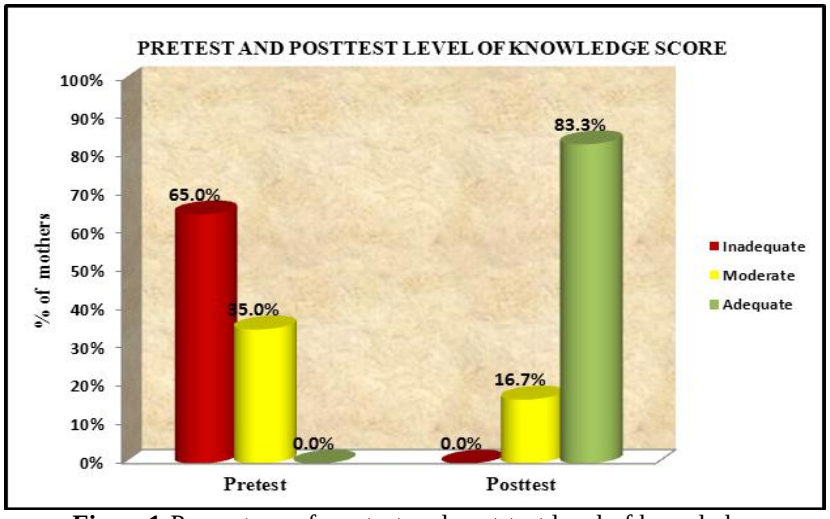

Figure1: Percentage of pre-test and post-test level of knowledge

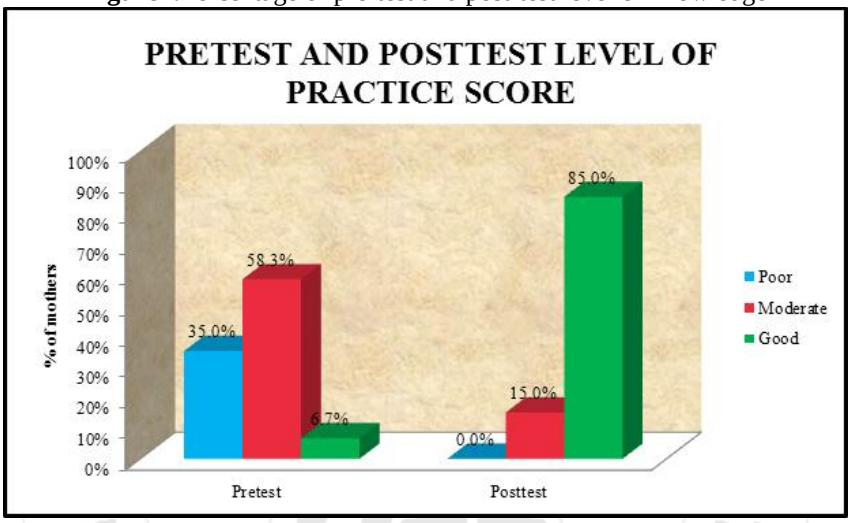

Figure 2: Percentage of pre-test and post-test level of practice

Table 2: Comparison of Overall Knowledge Score &Practice Score before andAfter Structured Teaching Programme.

	No.of *mothers*	Pretest Mean ± SD	Posttest Mean ± SD	Mean difference Mean ± SD	Student's paired t-test
Overall Knowledge Score	60	12.53 ± 2.84	20.85 ± 1.96	9.32 ± 3.14	t=22.92P=0.001*** DF = 59,significant
Overall Practice Score	60	6.17± 1.56	8.50 ± 1.26	2.33 ± 1.47	t=12.30 P=0.001*** DF = 59,significant

*** very high significant atP≤0.001

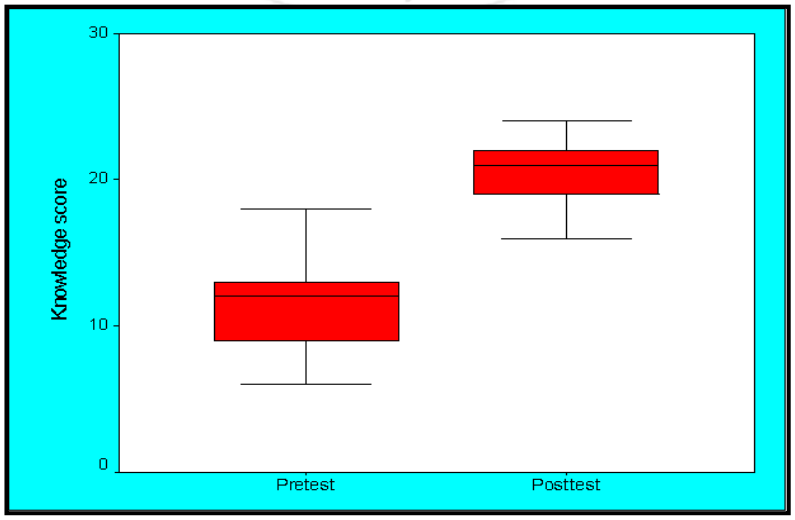

Figure 3: Box Plot Compares the mother'spre-test and post-test knowledge score

Licensed Under Creative Commons Attribution CC BY

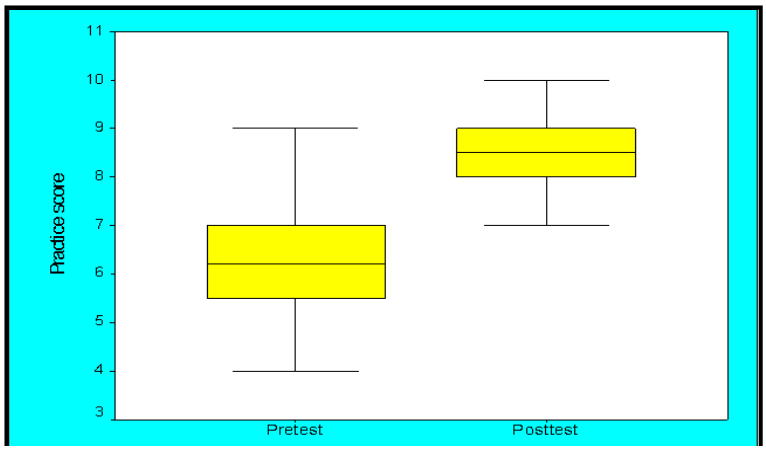

Figure 4: Box Plot Compares the mother'spre-test and post-test practice score

Table 4: Correlation between knowledge gain score and practice gain score

	Correlation between	Mean gain score± SD	Pearson correlation coefficient	Interpretation
Knowledge Vs Practice	Knowledge	9.31 ± 3.15	r=0.59 p=0.001*** significant	There is a significant, positive moderate correlation between knowledge and Practice score. It means knowledge increases their practice also increases moderately.
	Practice	2.33 ± 1.46		

*** very high significant atP≤0.001

Effectiveness of structured teaching programme in **meaning** mothers gained 35% **etiology** and **types** gained 31% in **signs and symptoms** mothers gained 41**% management** 36.8% overall they gained 37.28% and practice gained 23.3% after intervention. This shows effectiveness of structure teaching programme intervention.

The analysis revealed that there was significant difference in the level of knowledge and practice who received structure teaching programme. Hence hypothesis **H1** stated that there is significant difference between the mean pre test and post test knowledge and practice regarding Bronchial Asthma among mothers of asthmatic children who received the structure teaching programme.

The association between knowledge gain score and their demographic variables. Elders, more educated, private employee, family history of asthma and urban mothers who have gained more knowledge score than others. Statistical significance was calculated using one way analysis of variance F-test and student independent t-test.

H2 There is a significant association between the post test knowledge score of mothers of asthmatic children with their selected demographic variables.

The analysis revealed that there was high significant association between demographic variables such as age, education, occupation place of residence and pet animals in home
□ 2=37.13 P=0.001*** (knowledge) and □ 2=53.00 P=0.001***(practice)

The analysis revealed that there was significant association between the knowledge and practice regarding bronchial asthma among mothers of asthmatic children with selected demographic variables. Hence H2 was accepted.

5. Conclusion

Mothers must have holistic knowledge regarding care of children with dog bite. . Data analysis and results, it was found that structured teaching programme on management of dog bite and prevention of rabies is effective intervention to prevent the complication of rabies.

6. Acknowledgement

I express my whole hearted gratitude to my esteemed guide, **Mrs.A.Thahira Begum, M.Sc(N)., MBA., M.Phil., Principal,** College of Nursing, Madras Medical College, Chennai-03

7. Authors Contribution

All the authors actively participated in the work of the study. All authors read and approved the final manuscript.

8. Conflict of Interest

The authors declare no conflict of interests.

References

[1] Hockenberry MJ, Wilson D, Rodgers CC. Wong's Essentials of Pediatric Nursing. Elsevier Health Sciences; 2016 Sep 1.
[2] Huda Anwar NH, Jaffer N, Al-Sadri E. Asthma knowledge among asthmatic school students. Oman medical journal. 2008 Apr;23(2):90.
[3] Bazzi MD, Sultan MA, Al Tassan N, Alanazi M, Al-Amri A, Al-Hajjaj MS, AlMuhsen S, Alba-Concepcion K, Warsy A. 9 Interleukin 17A and F and Asthma in Saudi Arabia: Gene Polymorphisms and Protein Levels.

Licensed Under Creative Commons Attribution CC BY

Journal of Investigational Allergology and Clinical Immunology. 2011 Jan 1;21(7):55
[4] AL-RIYAMI B, AL-RAWAS OA, AL-RIYAMI AA, Jasim LG, Mohammed AJ. A relatively high prevalence and severity of asthma, allergic rhinitis and atopic eczema in schoolchildren in the Sultanate of Oman. Respirology. 2003 Mar 1;8(1):69 7
[5] Cabana MD, Chaffin DC, Jarlsberg LG, Thyne SM, Clark NM. Selective provision of asthma self-management tools to families. Paediatrics. 2008 Apr 1;121(4):e900 8
[6] Nadhem R, Mohammed N, Hundhal A. Assessment of Mother's Knowledge Concerning Recurrent Wheezy Chest among Children under Age five years old at AL-Hilla Hospitals/Iraq. Journal of Pharmaceutical Sciences and Research. 2018;10(1):114-7
[7] Sharma CM, Bhatia SS, Sharma D, Agrawal RP, Meghwani MK, Kumar B. Prevalence of asthma in school children of rural areas of Kanpur, Uttar Pradesh. JEMDS. 2013 Jul 22;29(2):5298-01.
[8] Karam M, Kaur BP, Baptist AP. A modified breathing exercise program for asthma is easy to perform and effective. Journal of Asthma. 2017 Feb 7;54(2):217-22.
[9] Institutional statistics (Institute of Child Health and Hospital for Children) for bronchial asthma
[10] Lalu JS, Rakesh PS, Leelamoni K. Prevalence of bronchial asthma and factors associated with it among higher secondary school children in Ernakulum district, Kerala, Southern India. Journal of family medicine and primary care. 2017 Apr;6(2):311. 11. Jaikumar M, Vaijayanthimala D. Effectiveness of stp on knowledge and practice regarding prevention of bronchial asthma among the mothers of under five children. Indian journal of applied research. 2018 Feb 10;7(8).

Licensed Under Creative Commons Attribution CC BY