Indonesian Journal of Global Health Research
Volume 2 Number 2, May 2020, pp. 117 - 126
e-ISSN 2715-1972; p-ISSN 2714-9749
http://jurnal.globalhealthsciencegroup.com/index.php/IJGHR

EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING THE USE OF SPACER AMONG PARENTS OF BRONCHIAL ASTHMATIC CHILDREN ADMITTED IN THE PEDIATRIC WARDS IN DIFFERENT HOSPITALS

Midhu Kurian[1], Livana PH[2]
[1]IQ City Institute of Nursing Sciences, IQ City, West Bengal, India, 713206
[2]Nursing Science Program, Kendal College of Health Sciences, Jln Laut 31A Kendal, Jawa Tengah, Indonesia, 51311
*yoothens@gmail.com

ABSTRACT

Use of spacer among bronchial asthmatic children presents a different set of challenges for their parents. Use of spacer in asthmatic children consider being successful, it requires an accurate understanding by the parents of asthmatic children admitted in the pediatric ward to have adequate skills regarding the use of a spacer. The present study "A study to assess the effectiveness of structured teaching program on knowledge regarding the use of spacer among parents of Bronchial Asthmatic children admitted in the pediatric wards in Different Hospitals, Uttarakhand". The Objective evaluate the effectiveness of structured teaching program on the use of a spacer among parents of bronchial asthmatic children by comparing pre and post-test knowledge The nature of the study was pre-experimental. The study was conducted in Different Hospitals, Uttarakhand. The research design used for the study was one group pre-test and one group post-test design. Data collected using non-probability convenient sampling. The pilot study was conducted with a constructed tool with which it as found reliable respectively. The data were collected to evaluate the effectiveness of structured teaching program on knowledge regarding the use of spacer among 30 parents of bronchial asthmatic children. The data collected were analysed and interpreted by using descriptive and inferential statistics. Major findings of the study are the highest percentage (53.3%) and the lowest percentage (10%) of the child had suffered from asthma. There is the highest percentage of children 53.3% in the age group of more than 14 years. The education of parents reveals that the highest percentage of 33.3% of mothers and 40% of fathers had secondary education. Pre-test analysis revealed that 90% of parents are having inadequate knowledge and 10% of the parents are having moderate knowledge regarding the use of spacer and that can cause the problems of an asthma attack in children. It can be concluded that pre-test knowledge score was less among parents on asthmatic children. After implementing a structured teaching program the knowledge score was increased. So it was effective in increasing knowledge.

Keywords: knowledge; use of spacer; parents; bronchial asthmatic; children

First Received	Revised	Accepted
22 December 2019	28 January 2020	02 April 2020
Final Proof Received		**Published**
09 April 2020		08 May 2020

How to cite (in APA style)
Kurian, M,. PH, L. (2020). Effectiveness of structured teaching program on knowledge regarding the use of spacer among parents of bronchial asthmatic children admitted in the pediatric wards in different hospitals. *Indonesian Journal of Global Health Research, 2(2), 117-126.*

INTRODUCTION

Children are the wealth of tomorrow and the growing citizens. Taking care of children will make them to meet the challenges of tomorrow and thereby making a strong India.'Asthma' is a Greek word which means "breathless" or "to breath with open mouth". Global Strategy for Asthma Management and Prevention Guidelines defines asthma as a chronic inflammatory disorder of the airway associated with increased airway hyper responsiveness, recurrent episodes of wheezing, breathlessness and chest tightness. Many children suffer from recurrent coughing, wheezing and chest tightness. In preschool children, one-third of all children have these symptoms before the age of six, but only 40% of these wheezing pre-schoolers will continue to have asthma. In older school-aged children the majority of the children have asthma. Quality of life is affected by asthma control. Sleep disruption and exercised induced airflow limitation have a negative impact on participation in sports and social activities, and may influence family life. The goal of asthma therapy is to achieve asthma control, but only a limited number of patients are able to reach total control. This may be due to an incorrect diagnosis, co-morbidities or poor inhalation technique, but in the majority of cases non-adherence is the main reason for therapy failures. Non-pharmacological measures aim at avoiding tobacco smoke, and when a child is sensitized, to avoid allergens.

Use of spacer among bronchial asthmatic children presents a different set of challenges for their parents. Use of spacer in asthmatic children consider being successful, it requires an accurate understanding by the parents of asthmatic children admitted in the pediatric ward to have adequate skills regarding the use of a spacer. The present study "A study to assess the effectiveness of structured teaching program on knowledge regarding the use of spacer among parents of Bronchial Asthmatic children admitted in the pediatric wards in Different Hospitals, Uttarakhand". The study was adopted to assess the knowledge level of parents regarding the use of spacer for Asthmatic children before and after an intervention. The Second Objective evaluate the effectiveness of structured teaching program on the use of a spacer among parents of bronchial asthmatic children by comparing pre and post-test knowledge score. Another objective of the current study is to find out the association between post-test knowledge scores of parents with their selected demographic variables (such as Age of child, Age of mother and father, Parent's education, Type of family, Occupational status of the father, Area of living, Source of information and knowledge regarding the use of a spacer).

METHOD

The nature of the study was pre-experimental. The study was conducted in Different Hospitals, Uttarakhand. The conceptual framework used for this study is based on King's theory of goal attainment model proposed by Imogene King in the year 1989. The research design used for the study was one group pre-test and one group post-test design. Data collected using non-probability convenient sampling. The pilot study was conducted with a constructed tool with which it as found reliable respectively. The data were collected to evaluate the effectiveness of structured teaching program on knowledge regarding the use of spacer among 30 parents of bronchial asthmatic children. The data collected were analysed and interpreted by using descriptive and inferential statistics. Major findings of

the study are the highest percentage (53.3%) and the lowest percentage (10%) of the child had suffered from asthma.

RESULTS

Effectiveness ff Intervention in Terms of Increasing the Knowledge Level

Table 1.
Frequency and percentage distribution of the pre and post-test score value (n=30)

Level of Knowledge	Score range	Protest		Post-test	
		f	%	f	%
Inadequate knowledge	< 50	27	90	0	0
Moderate knowledge	51 – 74	3	10	6	20
Adequate knowledge	75 – 100	0	0	24	80

Data presented in table 1 revealed 90% sample score ranging <50% inadequate knowledge and 10% had a score between 51-74% moderate knowledge, which shows majority of sample are having inadequate knowledge in pre-test and 80% sample a score ranging between 75-100% adequate knowledge and 20% had a score between 51-74 % moderate knowledge and 0% of sample score <50% inadequate knowledge in post-test. It is clearly indicated that there was increase the level of knowledge after structured teaching program**.**

Effectiveness of Intervention in Terms of Increasing the Knowledge Level

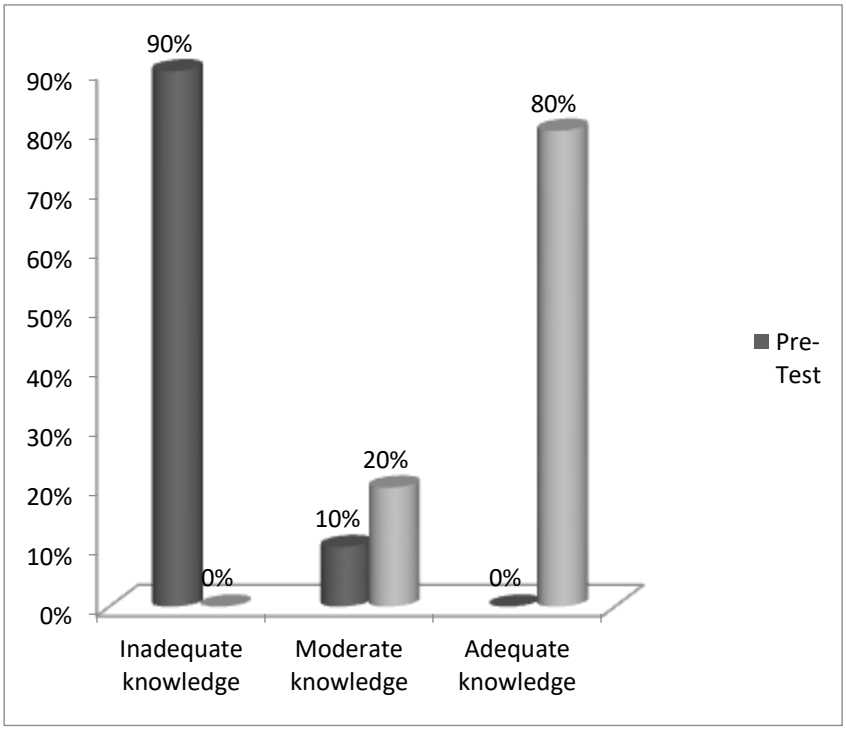

Fig 1. Cylindrical bar diagram depicts the comparison between pre-test and post-test level of knowledge.

Data presented in Fig 1 shows 90% sample score ranging <50% inadequate knowledge and 10% had score between 51-74% moderate knowledge, which shows the majority of the sample is having inadequate knowledge in pre-test and 80% sample score ranging between 75-100% adequate knowledge and 20% had a score between 51-74 % moderate knowledge and 0% of sample score <50% inadequate knowledge in the post-test. It is clearly indicated that there was increase the level of knowledge after the structured teaching program**.**

Comparison ff Pre-Test and Post-Test Knowledge Score

Table 2.

Mean, Standard deviation and "t" value between the pre-test and post-test score value (n = 30)

Knowledge Score Value	Mean	SD	t - value	Level of Significance
Pre test	12.1	2.6725	19.106	Highly Significant
Post test	25.93	2.7418		

Significant at p< 0.05

Data shows in the table 2revealed that the mean post-test knowledge score value among the parents was significantly higher than the mean pre-test value. The calculated "t" value (19.106) is more than the table value at 0.05 level of significance. Therefore it can be said that the structured teaching the program was effective in increasing knowledge level among the parents of bronchial asthmatic children. Hence the hypothesis (H1) is accepted i.e. there is a significant difference in the level of knowledge among the parents of bronchial asthmatic children regarding the use of spacer before and after structured teaching program

Comparison of Pre Test and Post Test Knowledge Score

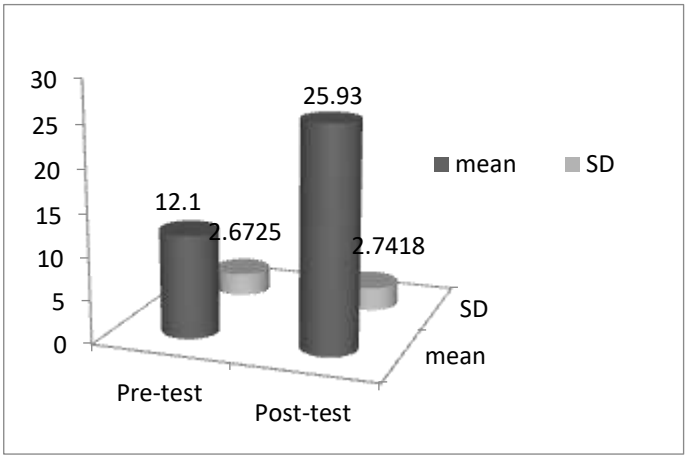

Fig 2.Cylindrical bar diagram depicts the Mean and Standard deviation of pre-test and post test

Data shows in the Fig (13) revealed that the mean post-test knowledge score value among the parents of bronchial asthmatic children were significantly higher than the mean pre-test value.

Association Between Post Test Knowledge Scores with Their Selected Demographic Variables

Table 4.
Association between post-test knowledge scores with their selected demographic variables (n=30}

No.	Demographic Variables	f	df	Chi- square value	Table value	P value	Level of association
1	Age of child –						
	2-5 years	3					
	6-9 years	4	3	1.725	7.815	0.631	#
	10-13 years	7					
	More than 14 years	16					
2	Age of Mother-						
	20-25 years	7					
	26-30 years	11	3	4.091	7.815	0.252	#
	36-40 years	10					
	More than 40 years	2					
3	Age of Father-						
	20-25 years	1					
	26-30 years	11	2	5.000	5.991	0.082	#
	36-40 years	15					
	More than 40 years	3					
4	Education of Mother-						
	Primary education	6					
	Secondary education	10	3	1.944	7.815	0.584	#
	Graduation/ Post-Graduate	5					
	Illiterate	9					
5	Education of Father-						
	Primary education	8					
	Secondary education	12	3	2.135	7.815	0.545	#
	Graduation/Post-graduate	4					
	Illiterate	6					
6	Type of family-						
	Joint family	18					
	Nuclear family	1	2	0.495	5.991	0.780	#
	Extended family	0					
	Others (Hostel, Ashram)	0					
7	Occupational status of father-						
	Farmer	9					
	Labour	10	3	5.278	7.815	0.153	#
	Businessman	6					
	Government employee	5					
8	Area of living-						
	Rural	21					
	Urban	9	2	1.349	5.991	0.509	#
9	Source of information						
	Newspaper / Magazine	0					
	T.V	2	2	0.833	5.991	0.659	#
	Internet	1					
	Others (Hospital)	27					

*Significant at $p > 0.05$ # Not significant at $p< 0.05$ level

This section deals with the testing of the hypothesis to find the association between the post-test levels of knowledge score and their selected demographic variables. Age of the child: Data presented in table displays that the calculated chi-square value for the age of child 1.726 is less than the table value at the 0.05 of significant levels. Age of mothers: Data presented in the table displays that the calculated chi-square value for the age of mothers 4.091 is less than the table value at the 0.05 of significant levels. Age of fathers: Data presented in the table displays that the calculated chi-square value for the age of fathers 5.000 is less than the table value at the 0.05 of significant levels. Education of mothers: Data presented in the table displays that the calculated chi-square value for the education of mothers 1.944 is less than the table value at the 0.05 of significant levels. Education of fathers: Data presented in the table displays that the calculated chi-square value for education of fathers 2.135 is less than the table value at the 0.05 of significant levels. Type of family: Data presented in the table displays that the calculated chi-square value for type of family 0.495 is less than the table value at 0.05 of significant levels. Occupational status of fathers: Data presented in the table displays that the calculated chi-square value for occupation status of fathers 5.278 is less than the table value at 0.05 of significant levels. Area of living: Data presented in the table displays that the calculated chi-square value for the area of living 1.349 is less than the table value at the 0.05 of significant levels of significant levels. Source of information: Data presented in the table displays that the calculated chi-square value for the source of information 0.833 is less than the table value at the 0.05 of significant levels significant levels.

The H2 hypothesis i.e. "There is a significant association between socio-demographic variables and post-test knowledge score regarding use of spacer among the parents of bronchial asthmatic children", and it is rejected because the calculated chi-square value is less than the table value with all demographic variables of pops test i.e. age of the child, age of mothers and fathers, education of mothers and fathers, type of family, occupational status of fathers, area of living and source of information at the0.05 of significant levels.

Data collected revealed that the mean post-test knowledge score value among the parents of bronchial asthmatic children was significantly higher than the mean pre-test value. The calculated "t" value (19.106) is more than the table value at 0.0 5level of significance. Therefore it can be said that the structured teaching program was effective in increasing knowledge level among the parents of bronchial asthmatic children. Hence the hypothesis (H1) is accepted i.e. there is a significant difference in the level of knowledge among the parents of bronchial asthmatic children regarding the use of spacer before and after a structured teaching program

DISCUSSION

A report of finding is never sufficient to convey their significance. The meaning that researcher give to the result plays a rightful and important role in the report. The discussion selection is devoted to a thoughtful and insightful analysis of the finding, leading to discussion of their clinical and theoretical utility. This chapter deals with the discussion in accordance with the objective of the study and hypothesis. The statement of the problem was "A study to assess the effectiveness of structured teaching programme on knowledge

regarding use of spacer among parents of Bronchial Asthmatic children, admitted in Paediatric ward Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand".

Objectives of the study to assess the level of knowledge of parents regarding use of spacer for Asthmatic children before and after intervention, to evaluate the effectiveness of structured teaching programme on use of spacer among parents of bronchial asthmatic children by comparing pre and post test knowledge score, to find out the association between post test knowledge scores of parents with selected demographic variables (such as such as Age of child, Age of mother and father, Parent's education, Type of family, Occupational status of father, Area of living, Source of information and Knowledge regarding use of spacer).

The present study was conducted on knowledge of parents regarding use of spacer in Shri Mahant Indresh Hospital, Patel Nagar, Dehradun Uttarakhand. Data collection period was done over a period of 4 weeks from 6-6-2017 to 6-7-2017. Consent was obtained from subjects. The investigator has selected 30 samples by using non probability convenient sampling technique. Pre test was done on first day for five parents of bronchial asthmatic children in first group to assess the level of knowledge through structured knowledge questionnaire, then another five parents of another group. Total six groups are divided to assess the level of knowledge through structured knowledge questionnaire in pre test. Then structured teaching programme was conducted regarding knowledge of use of spacer on the same day of each group. Then the post test level of knowledge score was assessed after 1 week for first five parents of bronchial asthmatic children then another five groups (five parents each) student knowledge score was assessed respectively.

Structured teaching programme was assessed by paired "t" test and chi square analysis was used to find out association between the pre test and post test of the respondents with selected demographic variables such as Age of child, Age of mother and father, Parent's education, Type of family, Occupational status of father, Area of living, Source of information and Knowledge regarding use of spacer.

The findings of the study have been discussed under the following section about percentage wise distribution of demographic variables and finding the pre-existing knowledge of parents regarding use of spacer by conducting Pre test, evaluate the effectiveness of structured teaching programme on use of spacer among the parents of bronchial asthmatic children by comparing pre and post test knowledge scores, and association between post test knowledge scores of parents of bronchial asthmatic children with selected demographic variables.

Major Finding Of The Study

Percentage wise distribution of demographic characteristics of samples.

1. Age of child: In this study percentage wise distribution of children according to age group depict that 10% of the children were in the age group of 2-5 years. In the age group six to nine years of parents was 13.3%, in the age group of 10-13 years it was 23.3 % and more than 14 years it was 53.3%.

2. Age of mother: In this study percentage wise distribution of mothers age group reveals that 23.3% were in the age group of 20-25 years. In the age group of 26-30 years of mothers was 36.6%, in the age group of 36-40 years of mothers was 33.3% and in the age group of more than 40 years it was 6.66%.

3. Age of father: In this study percentage wise distribution of father's age group reveals that 3.33% were in the age group of 20-25 years. In the age group of 26-30 years of fathers was 36.6%, in the age group of 36-40 years of father was 50% and in the age group of more than 40 years it was 10%.

4. Education of mother: In his study percentage wise distribution of mothers according to their education show that highest 33.3% had secondary education, 30% are illiterate, 20% had primary education and only 16% had graduation or above.

5. Education of father: In this study percentage wise distribution of fathers according to their education reveals that highest 40% had secondary education, 26% are primary education, 20% had illiterate and only 13.3% had graduation or above.

6. Type of family: in this study percentage wise distribution of type of family reveals that highest 60% child belongs to joint family and 40% children are belongs to nuclear family.

7. Occupation status of fathers: In this study percentage wise distribution of fathers according to their occupation status reveals that highest 33.3% fathers are labour, 30% fathers are farmer, 20% are businessman and 16.6% are government employee.

8. Area of living: In this study percentage wise distribution of children according to area of living reveals that highest 70% are belongs to rural area and 30% are belongs to urban area.

9. Source of information: In this study percentage wise distribution of parents according to the source of information show that highest 90% parents got the information from the health personnel's, 6.66% got from the TV and 3.33% got from the internet.

Finding the pre-existing knowledge of parents regarding use of spacer:

1. Finding the pre-existing knowledge level of parents regarding use of spacer for Asthmatic children by conducting pre test.
   Data presented in the table no. (2) shows 90% sample score ranging <50% inadequate knowledge and 10% score between 51-74% moderate knowledge which shows majority of samples are having inadequate level of knowledge in pre test.

2. Evaluate the effectiveness of structured teaching programme on use of spacer among parents of bronchial asthmatic children by comparing pre and post test knowledge scores.

Data shown in the table no. (3) revealed that the mean post test knowledge score value among the parents of bronchial asthmatic children were significantly higher than the mean pre test value. The calculated "t" value (19.106) is more than the table value at 0.0 5level of significance. Therefore it can be said that the structured teaching programme was effective in increasing knowledge level among the parents of bronchial asthmatic children. Hence the hypothesis (H1) is accepted i.e. there is a significant difference in the level of knowledge among the parents of bronchial asthmatic children regarding use of spacer before and after structured teaching programme.

3. Association between post test knowledge scores of parents with selected demographic variables
   Finding reveal that there is no association between pre test level of knowledge with all demographic variables such as Age of child, Age of mother, Age of father, Parent's education, Type of family, Occupational status of father, Area of living, Source of information and knowledge regarding use of spacer at the 0.05 level of significance. Hence the H2 hypothesis was rejected and null hypothesis was accepted so there is a no significant association between socio demographic variables and pre test knowledge score regarding use of spacer among the parents of bronchial asthmatic children is rejected.

CONCLUSION

It can be concluded that the mean post test knowledge score value among the parents of bronchial asthmatic children were significantly higher than the mean pre test value. The calculated "t" value (19.106) is more than the table value at 0.05level of significance. Therefore it can be said that the structured teaching programme was effective in increasing knowledge level among the parents of bronchial asthmatic children.

REFERENCES

American Lung Association. (2000).Trends in asthma morbidity and mortality: Epidemiology and statistics unit.

B.Srilakshmi, "Dietetics", 5th edition, New Age International(p) Ltd,publishers, New delhi, pg.38

Basawanthappa BT., "Community Health Nursing", 1ST edition, Jaypee Brothers Medical publishers (p) Ltd, New Delhi, pg.278-280.

Dorothy R.Marlow, "Text book of pediatric Nursing", 6th edition, W.B.Saunders company,Philadelphia, pg.584-585.

Elizabeth, Rajan., Sabitha Nayak Sabitha Nayak., (2014). NUJHS Vol. 4, No.4, 2014, ISSN 2249-7110 December Nitte University Journal of Health Science,

Ghai.OP.,"Ghai's Essential pediatrics", 6th edition (revised), B.S.publishers & distributors,New delhi, pg.101.

Guilaniu,B Gonzalez-Bermejo ,J. Rgnault A,Barbosa C,D, Arnould B. (2011). Disability related to COPD tool (Direct):toward an assessment of COPD-related disability in routine practice. International journal of chronic obstructive pulmonary disease Dovepress 2011; 6 pp.387-398.

K.park,"Text Book of preventive and social medicine", 17th edition, Banarsi das publications, Jabalpur, pg.374.

Kothari.C.E., "Research Methodology-methods &techniques", 2nd edition, Wishwaprakashanpublishers, New delhi.pg-44

Lexely M Pinto Pereira, Yuri Clement, Cecil K Da Silva,Duane Mc Intosh, Donald T Simeon. (2016). Understanding and Use of Inhaler Medication by Asthmatics in Specialty Care in Trinidad. Chest journal. 121(20);1833 –18 40

Martin Osmond, Maddlen Gazarain, Richard L Henry, Jammy J Clifford, Jennifer Tetzlaff. (2012). Barrier to metered dose inhalers/spacer in Canadian pediatric emergency department. The Annals'Evidence-Based Emergency Medicine. 1;35-39.

One W. Ball, Ruth C. Bindler. (2009). "A text book of paediatrics nursing". 4th edition. Published by Dorling Kindersley (India) pvt. ltd., South Asia.Pp 713- 723.

Palmieri M, Lnogobardi G, Napolitano G, Simonetti DN. (2019). Parental smoking and asthma in childhood. European Journal of Paediatrics. 149(10):738-40.

Park K, "Textbook of preventive social medicine", 16th edition, Banarsidas, Bhanot Publishers, Jabalpur, pg. 386-387.

Piyush Gupta. (2008). "A text book of essential pediatric nursing". 2nd edition. Published by Satish Kumar Jain, New Delhi, 2008. Pp 419- 427.

Santhoshkumar, "Hand book of pediatric", 2nd edition, All India publishers &distributons, pg.12-15

Suraj Gupta. (2016). "Text book of paediatrics", 4th edition, Mehta offset works, New delhi,pg.44.

Suraj Gupta. (2019). "The short text book of pediatric", 10th edition, Jaypee Brothers Medical publishers (p) Ltd, New Delhi , pg.117.

Swati Kambli. (2012). International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064 Impact Factor 2012:3.358 Volume 3 Issue 7, July 2014

UNICEF. (2010). Infant and Child Mortality in India: Levels, Trends and Determinants,

WHO. World Health Statistics. (2006). Geneva: World Health Organization