

*Original Research Article*

# A study to Develop and Evaluate the Effectiveness of an Information Booklet in terms of the Knowledge and Attitude of the parents regarding Management of Asthma in the Children aged 5-12 years attending the asthma clinic in selected hospitals of Delhi

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## Abstract

This study was conducted to develop and evaluate the effectiveness of an information booklet in terms of the knowledge and attitude of the parents regarding management of asthma in the children aged 5-12 years attending the asthma clinic in selected hospitals of Delhi. Education of parents is an important aspect of asthma management.. The research design selected for present study is Pre-experimental “one group pre-test post-test design”. Sample comprised of 40 parents of children with asthma aged 5-12 years and a purposive sampling was used to select the subjects for the study. The data was collected by using structured knowledge questionnaire, attitude scale and opinionnaire. The post-test mean percentage knowledge scores in all the content areas were higher than the pre-test mean percentage knowledge scores. The mean post-test knowledge score 34.55, was higher than the mean pre-test knowledge scores, 16.95, with a mean difference of 17.60. The obtained mean difference was found to be statistically significant as evident from “t” value of 24.1 for degree of freedom 39 at 0.05 level of significance. Thus, it was established that the information booklet was effective in increasing the knowledge of parents regarding management of asthma in the children.

**Key words:** Effectiveness, Structured knowledge questionnaire, knowledge, Attitude, Parents, Information Booklet

## 1 Introduction

Pediatric asthma is a serious global health problem. It accounts for a large number of lost school days. Furthermore, asthma can considerably impair the child’s social interaction and academic achievement. It can affect child’s ability to enjoy and partake in activities such as playing a musical instrument and sporting events, and even affect sleep patterns and their academic and career success because of poor school attendance associated with asthma attacks. Childhood asthma can even lead to severe psychosocial disturbances in the family and also places strain on healthcare resources as a result of doctor and hospital visits and the cost of treatment. An estimated 1.9 disability adjusted life yr (DALYs) are lost every year due to asthma per thousand children under 15 years of age in India. The increase in the prevalence of asthma in children may have serious implications for adults as 40% of children with infrequent trivial wheeze and 70- 90% of those with more troublesome asthma continue to have symptoms in mid-adult life.

Parents through proper education and guidance play a significant role in the management of children with asthma. This study is an attempt to develop an educational program in the form of information booklet to educate the parents about the management of children with asthma. Parents also had a lot of myths regarding the disease and its management. With the help of records and through the personal experience, investigator found that asthma was more prevalent among the age group of 5-12 years. The investigator felt that it was necessary to make the parents aware about the disease, its triggering factors, sign and symptoms and the management so as to reduce the possibility of the recurrence of the symptoms.

## 2 Objective of study

1. To develop the information booklet for the parents on management of asthma in children aged 5-12 years.
2. To assess and evaluate the knowledge of parents on management of asthma in children before and after the administration of information booklet.
3. To assess and evaluate the attitude of parents on man-

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agement of asthma in children before and after the administration of information booklet.

4. To determine the relationship between the knowledge scores and attitude scores of parents on management of asthma in children before and after the administration of information booklet.

5. To determine the acceptability and the utility of information booklet by the parents of asthmatic children.

### 3 Hypothesis

**H1.** The mean post test knowledge score of parents exposed to information booklet on management of asthma in children aged 5-12 years will be significantly higher than their mean pre-test knowledge scores as measured by structured knowledge questionnaire

**H2.** The mean post-test attitude scores of parents exposed to information booklet will be significantly higher than the mean pre-test attitude scores.

**H3.** There will be significant relationship between post-test knowledge scores and post-test attitude scores of parents regarding management of asthma as evident from structured knowledge questionnaire and attitude scale.

### 4 Methodology:

• **Research Approach:** Evaluative research approach

• **Research Design:** The research design selected for present study was Pre-experimental one group pre-test post-test design.

**Independent variable** - Information Booklet on management of asthma in children for parents.

**Dependent variable** - Knowledge and attitude scores of parents regarding management of asthma in children.

• **Setting of the study sample:**

The study was conducted at:

• Asthma clinic of Kalawati Saran Children's Hospital – Pilot Study

• Asthma clinic of Safdarjung Hospital – Final study

• **Target population:** Sample comprised of the parents of children with asthma aged 5-12 years.

• **Sample Size:** 40 parents

• **Sampling Technique** Non probability Purposive sampling was used to select the subjects for the study.

**Inclusion criteria**

1. Parents who have children with asthma in the age group of 5-12 years.

2. One of the parents available at the time of study.

3. Parents who know to read and write Hindi or English.

4. Parents whose children are attending asthma clinic.

5. Parents who were willing to participate in the study.

6. Parents who were available during the time of data collection.

#### Exclusion criteria

1. Parents who were not available at the time of data collection.

2. Parents who do not know how to read and write Hindi or English.

3. Parents whose children are not attending asthma clinic.

4. Parents who were not willing to participate in the study.

#### Variables

**Independent variable** - Information Booklet on management of asthma in children for parents

**Dependent variable** - Knowledge and attitude scores of parents regarding management of asthma in children.

### 5 Development of tools:

**A structured knowledge questionnaire** was prepared to assess knowledge of parents regarding the management of asthma in children aged 5-12 years. The structured knowledge questionnaire consisted of two parts:

**Part I :** Part one had 16 items. This comprised of items seeking information on background data such as – age of parents, education, occupation, income, type of family, type of house, religion, habits of smoking by the family members, type of fuel used for cooking, information about asthma from any other source, child's age, sex, schooling, presence of any other chronic illness and previous hospitalization of child.

**Part II :** This contained 42 knowledge items

All items had multiple choice of questions. There were total 42 items. Each question bore a score of one mark. Total score was 42.

**Attitude Scale:** A five point Likert type of attitude scale was developed

The attitude scale consisted of 26 items on five point scale – strongly-agree, agree, undecided, disagree, strongly-disagree. Positive and negative, both types of items were arranged symmetrically. There were 13 positive items and 13 negative items. Total score of the attitude scale ranged from 26-130. Maximum score was 130 and minimum score was 26. Neutral point was 65.

**Opinionnaire:** Three point Likert type opinionnaire was developed.

The opinionnaire consisted of 10 items on three point scale – to great extent, to some extent and not at all. Total score of the opinionnaire ranged from 10 - 30. Maximum score was 30 and minimum score was 10. Neutral point was 15.

• **Development of information booklet**

An information booklet was developed for the parents on the management of asthma in children. The booklet was developed based on the review of related research and non research literature and the objectives stated for the knowledge.

• **Procedure for data collection**

Formal administrative approval was obtained for conduct-

ing final study from Medical Superintendent of Safdarjung Hospital, Delhi. Data was collected from 24th December 2010 to 15th January 2011. Parents were explained regarding data collection procedure and consent was taken. Structured knowledge questionnaire and attitude scale was used for collecting the data. Pretest was given on first day which was followed by administration of information booklet. Posttest was taken on seventh day which was followed by collecting the opinion with the help of opinionnaire. Confidentiality was maintained.

Assessment of attitude is limited to the response obtained through the developed attitude scale.

**Method of data collection:** The proposed study was conducted after the acceptance of consolation committee of the college and a written permission was obtained from the concerned authorities. Data was collected from 40 samples that fulfilled inclusion and exclusion criteria. The consent of the participant was obtained before data collection and assurance was given to study participants regarding the confidentiality of data. Pre test was administered before giving interventions and then post test was done. The data was collected by using structured Knowledge questionnaire, attitude scale and opinionnaire.

## 6 Results and findings

### 6.1 Description Of Sample Characteristics

TABLE 1: Distribution of samples according to demographic variables

Sl no.	Sample characteristics	Frequency	Percentage
1.	<b>Parents</b>		
	Mother	24	60%
	Fathers	16	40%
2.	<b>Age</b>		
	21-30 years	13	32.5%
	31-40 years	23	57.5%
	41 years and above	4	10%
3.	<b>Religion</b>		
	Hindu	31	77.5%
	Muslim	7	17.5%
	Sikh	0	0.0%
	Christian	2	5%
	Any other	0	0%
4.	<b>Educational level</b>		

	Primary	0	0.0%
	Middle	10	25%
	Higher secondary	15	37.5%
	Senior secondary	8	20%
	Graduate	7	17.5%
	Post graduate	0	0%
5.	<b>Occupation</b>		
	Govt. employee	6	15%
	Private employee	10	25%
	Housewife	19	47.5%
	Daily wage earner	5	12.5%
	Business or others	0	0%
6.	<b>Income (per month)</b>		
	Rs. 10,001 or above	13	32.5%
	Rs. 5001 to 10,000	20	50%
	Rs. 3001 to 5,000	4	10%
	Rs. 3000 or below	3	7.5%

TABLE 2: Frequency and Percentage Distribution of Sample Characteristics of Parents of the Children with Asthma

Sl no.	Sample characteristics	Frequency	Percentage
1.	<b>Type of family</b>		
	Nuclear	24	60%
	Joint	16	40%
2.	<b>Type of house</b>		
	Ventilated	35	87.5%
	Not ventilated	5	12.5%
3.	<b>Smoking habit of the family member</b>		
	Father	10	25%
	Mother	0	0%
	Any other member in the family	2	5%
	None	28	70%
4.	<b>Fuel used for cooking</b>		
	Wood	1	2.5%
	Coal	0	0%
	Kerosene stove	1	2.5%

	Gas	38	95%
5.	<b>Information about asthma from any other source</b>		
	Internet	0	0%
	Television or radio	22	55%
	Relative	12	30
	Neighbor	3	7.5%
	Any other	3	7.5%

TABLE 3: Frequency and Percentage Distribution of Sample Characteristics of Children with Asthma  
N = 40

Sl no.	Sample characteristics	Frequency	Percentage
1.	<b>Age</b>		
	5-6 years	13	32.5%
	7-8 years	10	25%
	9-10 years	9	22.5%
	11-12 years	8	20%
2.	<b>Sex</b>		
	Male	28	70%
	Female	12	30%
3.	<b>Goes to school</b>		
	Yes	38	95%
	No	2	5%
4.	<b>Presence of any other chronic illness</b>		
	Yes	1	2.5%
	No	39	97.5%
5.	<b>Previous hospitalization of the child for asthma</b>		
	Yes	16	40%
	No	24	60%

### 6.2 Evaluation of Effectiveness of Information Booklet In Terms of Knowledge of Parents Regarding Management of Asthma In The Children.

The data presented in the Table-4 revealed that the mean post-test knowledge score 34.55 was higher than the mean

TABLE 4: Mean, Median and Standard Deviation of Pre-test and Post-test Knowledge Scores Of Parents  
N=40

Knowledge Test	Means	Median	SD
Pre-test	16.95	17	3.55
Post-test	34.55	34	2.88

Maximum score = 42

pre-test knowledge score 16.95. The Standard Deviation of the post-test knowledge scores 2.88 was lower than the Standard Deviation of the Pre-test Knowledge Scores 3.55 indicating that the group became more homogeneous in post-test in terms of their knowledge on management of asthma in the children.

In order to determine the significance of difference between means of pre-test and post-test knowledge scores ‘t’ value was computed for correlated means and these are shown in Table-5.

TABLE 5: Mean, mean difference, standard deviation of difference, standard error of mean difference from pre-test to post-test knowledge scores and “t” value  
N=40

Knowledge Test	Means	Median	SD	SEMD	“t value”
Pre-test	16.95				
Post-test	34.55	17.60	3.67	0.59	24.1

df (39) = 2.03 at 0.05 level of significance

\*Significant at 0.05 level

Data presented in the Table 5 showed that the mean post-test knowledge scores, 34.55, was higher than the mean pre-test knowledge scores, 16.95, with a mean difference of 17.60. The obtained mean difference was found to be statistically significant as evident from “t” value of 24.1 for degree of freedom 39 at 0.05 level of significance.

Thus, it was established that the difference obtained in the mean pre-test and post-test knowledge scores was true difference and not by the chance. Hence, null hypothesis HO1 was rejected and research hypothesis H1 was accepted indicating that the information booklet was effective in increasing the knowledge of parents regarding management of asthma in the children.

### 6.3 Evaluation of effectiveness of information booklet in terms of attitude of parents regarding management of asthma in the children.

TABLE 6: Mean, Median and Standard Deviation of Attitude Scores obtained by Parents  
N=40

Attitude Test	Means	Median	SD
Pre-test	89.55	92	9.3
Post-test	120.65	121	5.05

Maximum score = 130

The data presented in Table 6 showed that the mean of post-test attitude score 120.65 ‘was higher than the mean pre-test attitude score, 89.55. The findings also revealed that the Standard Deviation of the post-test attitude scores 5.05 was lower than the Standard Deviation of the Pre-test attitude scores 9.3 indicating that the group became more homogeneous in post-test in terms of their attitude on management of asthma in the children.

### 6.4 Relationship between Post-Test Knowledge and Post-Test Attitude Scores of Parents Regarding Management of Asthma in the Children

To determine the relationship between pre-test knowledge and pre-test attitude scores as well as post-test knowledge and post-test attitude scores, co-efficient of correlation was computed by product moment co-efficient of correlation and is presented in Table 4

TABLE 7: Correlation between Knowledge Scores and Attitude Scores obtained by Parents  
N=40

Test	Knowledge Mean	Score S.D	Attitude Mean	Score S.D.	R
Pre-test	16.95	3.55	89.55	9.3	0.81”
Post-test	34.55	2.88	120.65	5.05	0.85

r (df = 38) = .444 P 0.05 level

\*Significant at .05 level

The findings in the Table 7 showed that the co-efficient of correlation between pre-test knowledge scores and attitude scores was 0.81, suggesting correlation between pre-test knowledge score and attitude scores of parents regarding

management of asthma in children which indicates when knowledge was less, the attitude was less favorable.

Further findings in table also revealed that co-efficient of correlation between post-test knowledge scores and post-test attitude scores was 0.85, indicating a significant relationship between post-test knowledge scores and post-test attitude scores at 0.05 level of significance. Hence, with increased knowledge, the attitude became more favorable.

### 6.5 Findings Related to the Acceptability and the Utility of Information Booklet Regarding Management of Asthma in the Children by the Parents

TABLE 8: Mean and Standard Deviation of Acceptability and Utility Scores of Parents Regarding Management of Asthma in Children  
N=40

Group	Possible range of scores	Obtained range of scores	Mean	S.D.
Parents	10-30	26 – 30	29.02	0.97

Data presented in Table 8 showed the mean score on acceptability and utility of the information booklet for parents. The mean score of parents was 29.02 which was close to the maximum score of 30. This indicated high level of acceptance of the information booklet by the parents.

## 7 Recommendations

On the basis of the findings of the study, the following recommendations were made :

- The study can be replicated on a large sample, thereby findings can be generalized for a larger population.
- A similar study can be conducted for the teachers in the schools.
- A similar study can be carried out to evaluate the effectiveness of information booklet on knowledge, attitude and practice of the children suffering from asthma.
- A comparative study can be carried out to ascertain the knowledge and attitude of literate and illiterate parents.
- A similar study can be conducted on experimental research approach
- A longitudinal study can be conducted to evaluate the effectiveness of information booklet on management of asthma in the children in terms of prevention of complications.

## 8 CONCLUSION

The following conclusions were drawn on the basis of the findings of the study:

- There was a deficit in knowledge regarding management of asthma in children in selected group of parents in all the content areas in varying degrees.
- Information booklet was effective in enhancing the knowledge of parents regarding management of asthma in children.
- There was a deficit in attitude regarding management of asthma in children in selected group of parents.
- Information booklet was effective in improving the positive attitude of parents for the management of asthma in children.
- There was a significant correlation between the knowledge and attitude scores of parents regarding management of asthma in children before and after the administration of information booklet.
- The information booklet had high acceptability and utility among the parents.

## References

- [1]. Abdellah, F.G. and Levine, G. Better Patient Care Through Nursing Research. 1st edition, New York : Mac Millan, 1979.
- [2]. Basavanhappa, BT. Nursing Research. 2nd rdition, New Delhi: Jaypee Brothers Medical Publishers (P) Ltd., 2007.
- [3].Ball, J. and Bindler, R. Pediatric Nursing. Caring For Children. 2nd edition, USA: Library of Congress, 1999, page no. 426-436.
- [4]. Aggarwal, A. N. et al. "Prevalence of Bronchial Asthma and Association with Environmental Tobacco Smoke Exposure in Adolescent School Children in Chandigarh, North India". Journal of Asthma. 2001, 38 (6): 501-507
- [5]. Ambedkar, Y.K. "Cough and Asthma". Supplement Indian Journal of Pediatrics. 2001, 68 (2): 520.
- [6]. Bandopadhyaya, G. Management of Rural Mothers in the Care of Children with ARI and Relationship with Family Support. Unpublished Master of Philosophy Dissertation, University of Delhi, 1989.
- [7]. Kathuria, O.K. Effectiveness of Teaching Programme for Health Workers on Management of Children with Acute Respiratory Infection , Unpublished Master of Philosophy Dissertation, University of Delhi, 1991.