"Empowering Community Mothers on Asthma Prevention: Assessing the Impact of Structured Education"

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Abstract

Context: Asthma disproportionately affects children and represent the most prevalent childhood non-communicable illness.**Objective:** Assessing the impact of organized education regarding knowledge of prevention of asthma among mothers and to find the statistical significant association between knowledge score of prevention of asthma and selected demographic variables of mothers. **Settings and Design:** The study was conducted at Poonjery village, Chengalpet District, Tamilnadu, the study was designed in Quasi experimental manner. **Materialsand Techniques:** 100 mothers were chosen for the sample using a purposeful sampling strategy. The knowledge on asthma prevention was evaluated using a structured questionnaire. **Results:** According to the mother's pre-test knowledge score, 76% of mothers had insufficient information, while 24% of women had moderate information. The mother's post-test knowledge score showed that, 69% of mothers had adequate knowledge, and 31% of mothers had moderate knowledge. According to the study finding, the pretest's mean knowledge score was 7.67 ±4.46 and the posttest knowledge score was 18.71 ±1.51, and the t value was 21.72. The results revealed that the mother's family type (p=0.0373), and awareness on asthma prevention (p=0.04) had a significant association. Conclusion: The researcher concluded that structured education on prevention of asthma is statistically improving the mother's knowledge and awareness promotes health seeking behaviour and prevent complications pertaining to asthma.

Keywords: Prevention of asthma, Structured Health education and mothers of children.

Introduction

Asthma, the most prevalent non-communicable childhood disease, disproportionately impacts young individuals. It's widely acknowledged that elements in the environment, like exposure to pollution and respiratory viruses, Contribute to the emergence of asthma. Research is ongoing to explore how modifying these contributing factors through interventions during pregnancy and early life could alter the course of the condition. Inflammation is at the core of asthma, causing the narrowing of the small lung airways, which leads to symptoms like wheezing, coughing, difficulty breathing, and chest tightness. This condition affects the quality of life and is often not accurately diagnosed and inadequately treated, particularly in low- and middle-income countries.

Globally, approximately 300 million people are believed to be impacted by asthma, and this figure could rise by an additional 100 million by the year 2025. In central and southern Asia alone, over 50

million individuals are affected by asthma. In India, the estimated number of individuals with asthma is between 15 to 20 million.

In the region of Tamil Nadu, the overall occurrence of asthma was found to be 18%, with diagnosed cases accounting for 5% of the population. Among those under 18 years of age, the prevalence was 22% in urban areas and 9% in rural areas. Asthma leads to a substantial global burden, causing disabilities that affect quality of life and resulting in reported asthma-related deaths. There are frequent hospitalizations, approximately 34.6 occurrences, owing to asthma, for people who are 18 or younger. An estimated 6.2 billion dollars' worth of economic damage is caused by asthma.

Asthma exerts a significant financial burden on both individuals suffering from the condition and the healthcare system as a whole. Besides the evident monetary expenses, the ailment carries societal implications akin to mortality. Asthma can severely curtail one's ability to participate in regular daily activities, including sports and outdoor exercises, leading to disrupted sleep, fatigue, and an ongoing decline in lung capacity. It results in over 10 million school days missed annually and stands as the third leading cause of pediatric hospitalizations.

Objectives

1. To determine mothers current level of knowledge on asthma prevention
2. To determine if organized educational programs are successful in improving mothers' understanding of asthma prevention
3. To ascertain the relationship between the amount of knowledge on asthma prevention and certain demographic factors among mothers.

Materials and Techniques

For this investigation, a quantitative evaluation approach was used. The investigation was carried out using a quasi-experimental approach. In Tamil Nadu, India's Chengalpattu district, Poonjery hamlet served as the site of this study a sample of mothers was selected who satisfied the inclusion requirements and had kids ranging in age from 0 to 18. A method for open epi sample computation was used to calculate the sample size, which resulted in a final sample size of 100 with a 95% confidence level, a 5% confidence interval, and a population size of 250.

Inclusion standards;
Mothers who were participants in the study

1. Having children between the ages of 0 and 18.
2. Being able to comprehend Tamil
3. Accessible at the time data collection was done
4. Open to taking part in the research.

Exclusion standards:
Mothers who were are not included in the study.

1. Experiencing hearing and vision impairment
2. Having mental illness

Tool for Research

PART-1

Mothers of children's demographic characteristics, including their age, education, occupation, living place, family type, and monthly income.

PART – 2

This part focuses on a structured questionnaire for evaluating knowledge of asthma prevention. There are 20 multiple-choice questions in it that ask for knowledge about asthma prevention. Each right response would receive a score of one, while each incorrect response would receive a score of zero. There are 20 possible scores in total.

Scoring interpretation

Score interpretation=Obtain score/Overall score ×100

According to information, data were categorized as

S.no	Obtained score	percentage	Knowledge
1.	<10	<50%	Inadequate level
2.	10-14	50-75%	Moderate level
3.	15 and above	75% and above	Adequate level

Data Analysis

Table 1: Frequency and percentage on demographic variables of mothers

N=100

S.NO	**Demographic variables**	**f**	**%**
1.	Age in years a) 19 – 29 years b) 30 – 40 years c) above 40	 37 39 24	 37% 39% 24%
2.	Educational Status a) Illiteracy b) primary education c) Secondary education d) College	 24 18 36 22	 24% 18% 36% 22%
3.	Occupation a) Agriculture b) Professional c) Business d) Daily Wages	 31 36 9 24	 31% 36% 9% 24%
4.	Residence a) Rural b) Urban	 89 11	 89% 11%
5.	Types of Family a) Nuclear family b) Joint family	 46 54	 46% 54%
6.	Monthly income of the family a) up to 8000 b) 8001- 15000 c) Above 15000	 13 34 53	 13% 34% 53%

Table 2: Effectiveness of structured health education on knowledge regarding prevention of asthma among mother's of children

N=100

Knowledge Level	Adequate level		Moderate level		Inadequate level		Mean	Improvement	T value
	No	%	No	%	No	%		%	
Pre test	0	0	24	24	76	76	7.67± 4.46	11.04 ± 2.95	21.72
Post test	69	69	31	31	0	0	18.71±1.51		

The above table shows that there is a statistical significant improvement in the knowledge level of mothers regarding prevention of asthma after the intervention of structured education.

Table 3: Association between the level of knowledge on prevention of asthma and selected demographic variables of mothers. N=100

S.NO	Demographic variables	Post test Knowledge				Chi-Square value	P-value
		Adequate		Moderate			
		No	%	No	%		
1.	Age in years a) 19 – 29 years b) 30 – 40 years c) above 40	 25 27 17	 25 27 17	 12 12 7	 12 12 7	0.074	0.785 NS
2.	Educational Status a) Illiteracy b) primary education c) Secondary education d) College	 13 11 27 18	 13 11 27 18	 11 7 9 4	 11 7 9 4	5.288	0.071 NS
3.	Occupation a) Agriculture b) Professional c) Business d) Daily Wages	 19 30 5 15	 19 30 5 15	 12 06 04 09	 12 06 04 09	5.554	0.184 NS
4.	Residence						

	a) Rural b) Urban	62 7	62 7	27 4	27 4	0.166	0.683 NS
5.	Types of Family a) Nuclear family b) Joint family	 27 42	 27 42	 19 12	 19 12	4.229	 0.037 S
6.	Monthly income of the family a) up to 8000 b) 8001- 15000 c) Above 15000	 8 23 38	 8 23 38	 5 11 15	 5 11 15	 0.548	 0.459 NS

The above table revealed that there is a statistical association exist between knowledge level on prevention of asthma and mother's family type. The mothers in joint family secured high marks ($p < 0.05$) than the mothers in nuclear family type.

Discussion

Effectiveness of structured health education on asthma prevention among expectant moms

According to the study's findings, the pretest's mean knowledge score was 7.67 ± 4.46. The mean knowledge score on the posttest was 18.71±1.51, and the t value was 21.72.

K. Rekha and colleagues conducted a study titled "Effectiveness of structured teaching program on knowledge regarding bronchial asthma among mothers of children under five," which found that the pretest mean knowledge score was 1.76 and the SD was 0.771, and the posttest mean knowledge score was 7.54 and the SD was 1.446. so that the results of this study (p0.01) are consistent with what we found.

According to O.S Priya done a study on impact of STP on mothers of asthmatic children regarding Bronchial asthma. The level of asthma knowledge among mothers of children was significantly correlated with their demographic variables in the study (0.005).

The result revealed that there is a statistical association exist between knowledge level on prevention of asthma and mother's family type. The mothers in joint family secured high marks ($p < 0.05$) than the mothers in nuclear family type.

Conclusion

The results showed that there was a significant difference in the post-test knowledge scores. concerning asthma prevention subsequent to the integration of organized health education. This educational approach aids in diminishing the burden of morbidity and mortality associated with asthma. This, in turn, has the potential to alleviate the financial strain on both families and the government, while also preempting extended hospital stays and frequent reliance on asthma inhalers. Furthermore, it fosters an environment conducive to optimal growth and development.

Consent

The author(s) have gathered and saved the written consent of the respondents in accordance with international or scholarly standards.

Ethical endorsement

The Institutional Human Ethics Committee approved the study.

Concurrent Interest

There are no competing interests, according to the authors.

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