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Effectiveness of Educational Program on Self-efficacy Behaviors of Asthmatic Patients

Halemaneyavaradananagowda[1], Dr. B. A Yathikumar Swamy Gowda[2]

[1]Ph. D. Scholar, Rajiv Gandhi University of Health Sciences, Navodaya College of Nursing, Raichur, Dist, Raichur, Karnataka, India.
[2]Research Guide, Rajiv Gandhi University of Health Sciences Principal, Alva's College of Nursing, Karnataka, India

Corresponding Author- Halemaneyavaradananagowda

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ABSTRACT

Asthma is a common chronic respiratory disease that affects around 300 million people of all ages worldwide so that it has an impact on patients both physically, activity restrictions, and psychosocially, in terms of quality of life. Objective: This study aims to assess the effectiveness of Educational Program on Self-efficacy Behaviors of Asthmatic Patients. Study was based on quasi experimental with experimental and control design; by adopting purposive sampling technique sample were selected and data was collected by Asthma Self-efficacy Behavior measures Questionnaire (ASQ). Findings showed Self-efficacy scores in pre and post-test. The overall pre-Self-efficacy mean scores were 17.26 and post-test Self-efficacy mean scores was 18.58 and mean difference of Self-efficacy scores was 1.320. The obtained t- test value was 3.146 which shows statistical significance at $p<0.05$. The educational intervention appears to be an effective method to improve asthma control self-management behaviors and self-efficacy in asthma patients.

Key words: Asthma, Patients, Asthma Self-efficacy Questionnaire (ASQ)

INTRODUCTION

Asthma is the world's most severe chronic condition and the primary source of morbidity and disability across all age groups. The prevalence of allergic illnesses is rising worldwide, which adds to the financial burden.1. All age groups—roughly 334 million people worldwide—are impacted by asthma. Asthma case incidence has been documented more frequently in study, and by 2025, it is predicted that there will be 100 million more asthma sufferers worldwide.

In China, the prevalence of influenza was 4.2%, or 45.7% of the population overall, of which 1.1%, or 13.1 million people, had airflow restriction as a result of inadequate diagnosis and treatment.

Based on self-reported data, the Indian National Family Health Survey indicates that 1.8% of adults have asthma.4 According to the worldwide asthma burden study, Pakistan's asthma prevalence is estimated to be 4.3%. The prevalence of asthma in Asia is reported to vary between 0.7% and 11.9%, yet there have also been notable variations in the diagnosis of the condition.5. Hypersensitivity to airway triggers include smoke, dust, pollens, both hot and cold food items, tobacco, excessive physical activity, fragrances, pet dander, humidified air, and unstable emotions. Patients who are exposed to these triggers experience severe asthma attacks, which

cause inflammation of the airways and are followed by symptoms such as coughing, shortness of breath, and spams.

The World Health Organization, also known as the WHO, estimates that 300 million people globally suffer with asthma as of 2020, and by 2025, there will be 400 million people suffering from the condition. With a 17.4% fatality rate, asthma is among the most prevalent 5 causes of mortality globally. It's true that the illness has gotten worse over the last 20 years; during the next ten years, mortality is expected to rise by 20%. According to WHO estimations, 255,000 asthmatic patients passed away in 2005 (Kweon, 2017). Restrepo Klinge (2019) reports that the study was conducted in the Klungkung Hospital Emergency Room, where it was explained that 24 individuals (35.3%) had asthma that was under control, and 44 individuals (64.7%) had asthma that was uncontrolled. Of those with bronchial asthma, 41 (60.3%) reported having problems with their quality of life, whereas 27 (397.7%) reported not having any issues. Asthma that is poorly or uncontrollably managed can negatively impact quality of life.

Teaching patients about their asthma is a crucial part of all-encompassing treatment.1. In an ideal world, this instruction would include subjects that are relevant to each patient and lay a foundation of knowledge.2. Patients learn from a variety of sources in addition to their doctors, including the media and anecdotal experiences of others. Because the information from these various sources may not always be accurate, doctors should assess their patients' understanding of asthma in order to fill in any information gaps, promote best practices, and clear up any misconceptions.

This study aims to assess the Effectiveness of Educational Program on Self-efficacy Behaviours of Asthmatic Patients. The selected intervention is effective as an educational method in improving lung function, asthma control, Self-efficacy, and behaviour change which are important components of asthma sufferers. The application of interventions to asthma sufferers can be used as an educational program to increase behaviour change that can control asthma symptoms non pharmacologically.

MATERIALS & METHODS

The present study is based on quantitative research approach with pre-experimental research design with one group pre and post-test design was adopted in ordered to achieve the objectives of the study, after gathering permission from authority study was carried out for the period for one months. The Educational Program for asthma patient was developed by author is independent variable, Self-efficacy Behaviors in asthma patient is the dependent variable. By adopting non-probability convenient sampling technique. Total 50 asthma patient were included in the study with following sampling criteria

Inclusion criteria

Asthma patients who are

1. Willing to participate in the study.
2. Available during the time of data collection.

Exclusion criteria

Asthma patients who are

1. Critically ill on the day of data collection
2. Suffering with other complication

Data collection tool

The data collection tool consists of three sections, Section A – Socio-demographic Variables of Asthma patients Section B: Asthma Self-efficacy Questionnaire (ASQ) tool contains 20 items was used to assess the asthma-related Self-efficacy. The participant's Self-efficacy was assessed by rating 1 as not at all, 2 as mildly, 3 as moderately, 4 as severely and 5 as very severe and quality was be described as poor, average and good. The participant's Self-

efficacy was be described as poor, average and good. It was categorized a Poor Self-efficacy: <50%, moderate Self-efficacy: 51-70%, Good Self-efficacy: >75%.

Data collection procedure

Data collection was divided into 2 Steps. In first phase the participant was introduced about the program after the self-introduction of researcher. Written and informed consent was taken and patient demographic data was recorded.

Step 1: The pre intervention data was assessed through structured schedule questionnaire. Patient's Self-efficacy behaviours were assessed using Asthma Self-efficacy Questionnaire (ASQ), asthma Self-efficacy questionnaire was used.

Step II: In this step patients were given intervention through educational programme which lasts for 5 weeks. The duration of each session ranged between 30-45 minutes. At the beginning of each session researcher starts by giving a summary about previous session and explaining the objective new one. Different strategies were used including brain storming, instructions, lectures, role play and group discussions. After one-month of intervention post-test data was collected through same instrument.

Data was entered and analysed by using SPSS version 21. Frequencies and percentages were calculated for demographic data. Dependent t-test was applied to find the mean differences of Self-efficacy behaviours of asthmatic patients before and after the intervention. Differences was considered statically significant if $p \leq 0.05$.

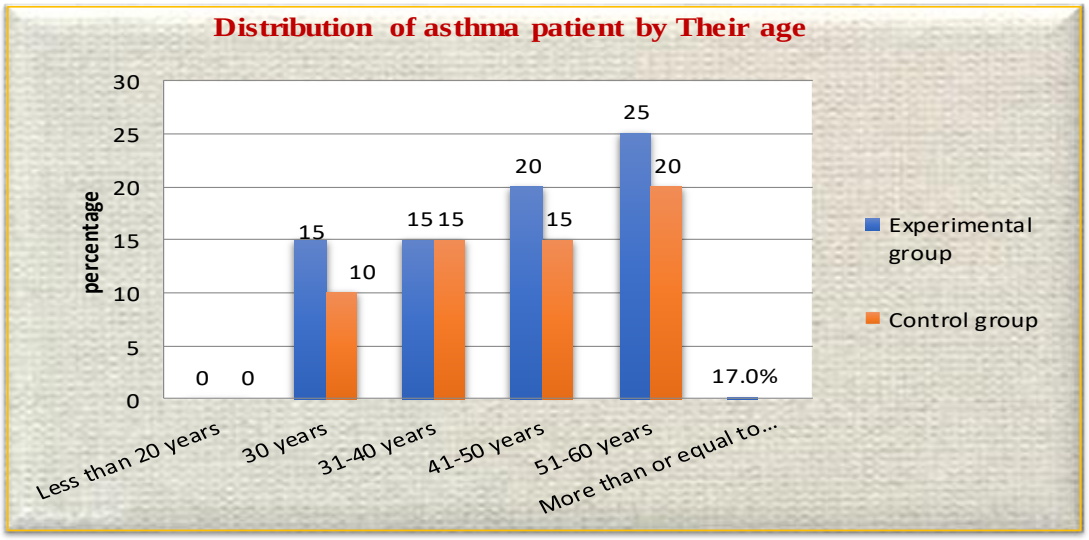
RESULT

Table 1: Demographic characteristics Asthma patient

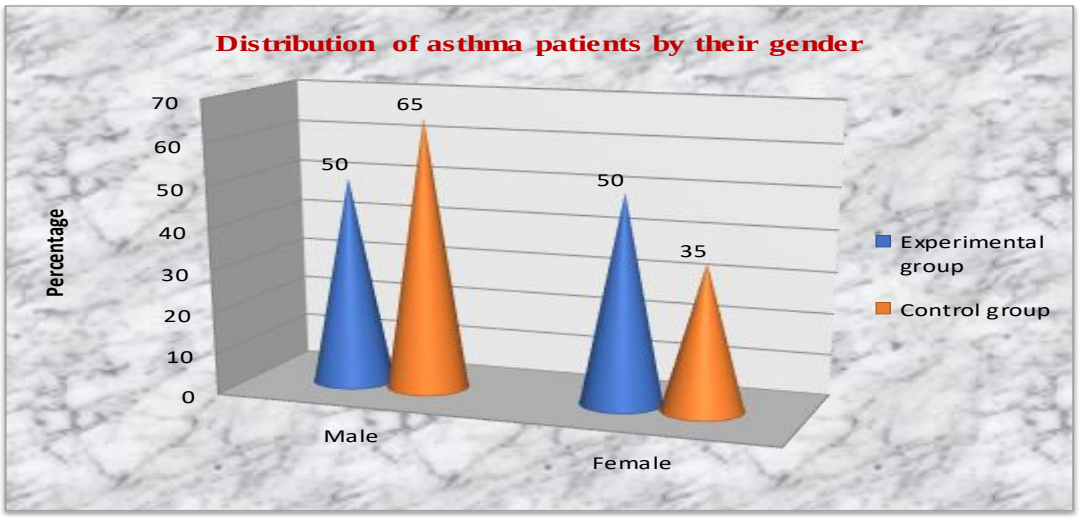
Variable	Experimental group		Control group	
	Frequency	%	Frequency	%
1. Age in years				
Less than or equal to 20 years	0	0.0	0	0.0
30 years	3	15.0	2	10.0
31-40 years	3	15.0	3	15.0
41-50 years	4	20.0	3	15.0
51-60 years	5	25.0	4	20.0
More than or equal to 61 years and above	5	25.0	8	40.0
2. Gender				
Male	10	50.0	13	65.0
Female	10	50.0	7	35.0
3. Religion				
Hindu	13	65.0	11	55.0
Christian	3	15.0	4	20.0
Muslim	4	20.0	5	25.0
4. Languages Known				
Kannada	12	60.0	8	40.0
Hindi	6	30.0	10	50.0
Marathi	2	10.0	2	10.0
5. Type of Family				
Nuclear family	15	75.0	13	65.0
Joint family	5	25.0	7	35.0
6. Total Members in family				
1-2	5	25.0	3	15.0
3-4	5	25.0	5	25.0

5-6	5	25.0	4	20.0
>6	5	25.0	8	40.0
7. Marital Status				
Married	18	90.0	16	80.0
Single	1	5.0	3	15.0
Widow	1	5.0	1	5.0
8. Education Qualification				
Illiterate	2	10.0	5	25.0
Primary Education	3	15.0	4	20.0
Secondary Education	4	20.0	4	20.0
Graduate	4	20.0	2	10.0
Post graduate	1	5.0	2	10.0
Others	6	30.0	3	15.0
9. Occupation				
Labourer	3	15.0	3	15.0
Self employed	4	20.0	3	15.0
Unemployed	4	20.0	3	15.0
Business	3	15.0	3	15.0
Private and Government job	3	15.0	3	15.0
On contract basis	3	15.0	2	10.0
10. Family Income			3	15.0
Rs. 4001-7000	5	25.0	1	5.0
Rs. 7001-10000	15	75.0	4	20.0
Above Rs. 10001	0	0.0	15	75.0
11. Triggers				
Dust	1	5.0	1	5.0
Pollution	2	10.0	1	5.0
Climate	4	20.0	3	15.0
Animal dander	3	15.0	3	15.0
Dust+Pollution	3	15.0	3	15.0
Dust +Climate	3	15.0	3	15.0
Dust+Pollution+Climate	3	15.0	3	15.0
Others (GERD, Medicines)	1	5.0	3	15.0
12. Family history of Asthma				
Yes	8	40.0	8	40.0
No	12	60.0	12	60.0
13. BMI				
<18.5	4	20.0	4	20.0
18.5-24.9	5	25.0	5	25.0
25-29.9	5	25.0	3	15.0
>30	6	30.0	8	40.0
14. Duration of Asthma				
<5	3	15.0	10	50.0
6-10	7	35.0	3	15.0
11-15	6	30.0	5	25.0
>16	4	20.0	2	10.0
15. Frequency of Hospital visit				
1-3 weeks	11	55.0	12	60.0
4-6 weeks	9	45.0	8	40.0

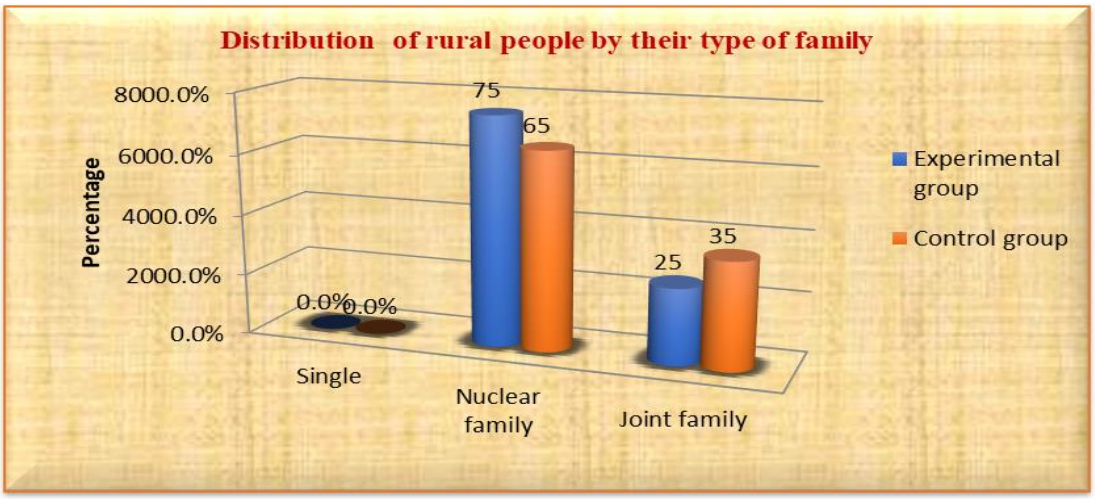
Graph – 1: Bar diagram showing %distribution according to their age



Graph – 2: Conical diagram showing %distribution according to their Gender



Graph – 3: Cylindrical diagram showing % distribution according to their type of family.



Above table shows majority of subjects 25% were in the age group of 51-60 years where as in control group also 20% were in the age group of 51-60 years. In relation to gender of asthma patient males and female both equally participated in experimental group where as in control group majority 65% were males. Religion of asthma patient showed majority 65% of participants were belongs to Hindu religion and in control group also 55% were Hindus. Language knows to the participants showed in experimental group majority 60% was speaking Kannada and only 50 % were speaking Hindi. In both the group majority were residing in nuclear family. Total Members in family showed in experimental group majority 25% had above 6 members in family and in control grope also same. Majority asthma patient in both the group belongs to nuclear family. In relation to education Qualification in experimental group majority 30 % completed diploma and in control group 25% were illiterate. Occupation of asthma patient showed 20% were self-employed and in control group 15% were laborers. In relation to the family income in experimental group 75% had Rs. 7001-10000 and in control group majority 755 had above Rs. 10001. Triggers showed majority 20% due to climate in experimental group and in control group 15% were triggered due to Dust + Pollution. Family history of Asthma showed in both the group 60% had no history. Body mass index of Participants showed in experimental group majority 30% had >30 BMI and in control group majority 40% had >30 BMI. Frequency of Hospital visit showed in experimental group majority 55% is to visit 1-3 weeks and in control group also majority 60% is to visit 1-3 weeks.

Table –2: Distribution overall Self-efficacy level of asthma patient in pretest in both experimental and control group N=50

SL. NO	Self-efficacy LEVEL	FREQUENCY	%
1.	Poor Self-efficacy	35	70.0
2.	Moderate Self-efficacy life	15	30.0
3.	Good Self-efficacy	0	0.0
	Total	50	100.0

Above table depicts overall Self-efficacy level of asthma patient's majority 35 (70.0%) were had Poor Self-efficacy followed 15 (30.0%) Moderate Self-efficacy and none of the participant had good Self-efficacy in pretest.

Table- 3: Comparison of Self-efficacy scores of pre and posttest among asthma patient in experimental group N=25

Sl. no	Asthma patient Self-efficacy scores	Mean	SD	Mean Difference	t value	Inference
1	Pre	17.26	4.656	1.320	3.146	S
2	Post	18.58	4.725			

Above table depicts overall means Self-efficacy scores in pre and post-test. The overall pre-Self-efficacy mean scores were 17.26 and post-test Self-efficacy mean scores was 18.58 and mean difference of Self-efficacy scores was 1.320. The obtained t- test value was 3.146 which shows statistical significance at $p<0.05$.

Table- 4: Comparison of Self-efficacy scores of pre and post-test among asthma patient in control group N=25

Sl. no	Asthma patient Self-efficacy scores	Mean	SD	Mean Difference	t value	Inference
1	Pre	39.63	10.870	0.07	0.075	NS
2	Post	39.7	10.702			

Above table depicts overall means Self-efficacy scores pre and post-test. The overall pre-self-efficacy mean scores were 39.63 and post Self-efficacy mean scores was 39.7 and mean difference of Self-efficacy scores was 0.05. The obtained t- test value was 0.07 which shows no statistical significance at $p<0.05$.

DISCUSSION

Asthma regular care is thought to include an important role for education programme. The failure to utilize education processes and motives in operating educational programmes is related to the failure to train patients for managing chronic diseases. Therefore, to improve the efficacy of educational interventions for Self-efficacy, effective behavioural techniques are required. Therefore the objective of the study is to evaluate the effectiveness of educational program on Self-efficacy behaviours of the asthmatic patients.

In the present study educational intervention was provided for 4 weeks from their day of admission to discharge and follow up visit. Patients were guided to fulfil the educational requirements. Patient's demographic data was collected. Asthma Self-efficacy Behaviour measures Questionnaire (ASQ) tool were used. Pre and post intervention data was collected. The findings of current study reveal that out of 50 participants 35 (70.0%) were had Poor Self-efficacy followed 15 (30.0%) Moderate Self-efficacy and none of the participant had good Self-efficacy in pretest.

The overall pre-Self-efficacy mean scores were 17.26 and post-test Self-efficacy mean scores was 18.58 and mean difference of Self-efficacy scores was 1.320. The obtained t- test value was 3.146 which shows statistical significance at $p<0.05$. The study's results were in line with those of Nadeem et al. (2022), who investigated the effectiveness of educational programs on asthma patients' self-management behaviors. Their research revealed that educational interventions can help asthma patients control their self-management behaviors, as well as their quality of life, self-efficacy, and knowledge about their disease.

CONCLUSION

The educational intervention appears to be an effective method to improve asthma control self-management behaviours, disease knowledge, quality of life, and self-efficacy in asthma patients. A better understanding of the differences between knowledge and behavior and the factors that affect them could result in asthma educational interventions that are more successful. By encouraging and supporting changes in health behaviour, giving patients with chronic diseases timely access to health information and individualized notifications when action is required may enable people to self-efficiency themselves more effectively.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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