Original Research Paper

Volume-8 | Issue-12 | December-2018 | PRINT ISSN No 2249-555X

Nursing

EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON SELF CARE MANAGEMENT OF ASTHMA

P. Ponnarasi Vice principal, Acharya College of Nursing, 51Cholanagar, R.T Nagar Post, Bangalore

ABSTRACT

BACKGROUND AND PURPOSE OF THE STUDY: Asthma is one of the most common chronic diseases worldwide . The most common reasons are non adherence to treatment, poor knowledge and skills in disease management . One of the primary goals of this study is to educate the patients with asthma regarding self care activities of asthma. Hence the investigator decided to evaluate the knowledge level among patients with asthma and educate to follow self care activities.

OBJECTIVES: 1) To assess the existing level of knowledge regarding self care activities of asthma among patients with asthma.2) To evaluate the effectiveness of self instructional module on knowledge regarding self care activities of asthma among patients with asthma.3) To determine the association between the pre-test levels of knowledge regarding self care activities of asthma with their selected demographic variables.

DESIGN: One group pre test -post test pre experimental design was selected for the study.

SUBJECTS: The participants were 60 patients with asthma admitted in selected hospitals, Bangalore.

SAMPLING METHOD: A purposive sampling technique was used to select the sample of the study.

DATA COLLECTION TOOL: A structured knowledge questionnaire was used to collect data from the subjects.

DATA ANALYSIS: The obtained data were analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypotheses of the study. The level of significance was set at 0.05 levels.

RESULT: In the pre test, the subjects had low level of knowledge with a mean score 18.56 with SD 1.35. Further, the mean post test knowledge found to be 29.46 with SD 1.29. However, the enhancement was proved as mean score of 8.53 and SD of 1.64. Further, the paired t-test value of 2.9662** shows statistical significance at level 1% establishing the effectiveness of self instructional module on self care activities of asthma among patients with asthma. A significant association was found between gender ($\chi 2$=6.0328*), educational level($\chi 2$=9.1369*), occupation($\chi 2$=19.5657**)dietary pattern($\chi 2$=6.8899**), and Duration of medicine intake($\chi 2$=11.4713**) at 1% & 5% level of significance.

CONCLUSION: These findings indicate that the structure teaching programme was effective in enhancing the knowledge of the patients with asthma regarding self care activities of asthma.

KEYWORDS : Self instructional module, Knowledge, self care activities, and patients with asthma.

INTRODUCTION

Asthma is characterized by recurrent episodes of wheezing, shortness of breath, chest tightness, and coughing. Sputum may be produced from the lung by coughing but is often hard to bring up. Symptoms are usually worse at night and in the early morning or in response to exercise or cold air. Some people with asthma rarely experience symptoms, usually in response to triggers, whereas others may have marked and persistent symptoms. The asthma attack may last from 30 minutes to several hours and may subside spontaneously. Although asthma are rarely fatal, occasionally a more severe continues reaction occur. This is called _status asthmatics'. This condition is life threatening and also other complications are rib fracture, pneumonia and atelectasis. A number of other health conditions occur more frequently in those with asthma, including gastro-esophageal reflux disease (GERD), rhino sinusitis, and obstructive sleep apnea. Psychological disorders are also more common, with anxiety occurring in between 16-52% and mood disorders in 14-41%. However, it is not known if asthma causes psychological problems or if psychological problems lead to asthma.

Five thousand people die each year from asthma. Each year, asthma isresponsible for 1.5 million emergency department visits, 500,000 hospital admissions, and 100 million days of restricted activity. In lost work and productivity, asthma is responsible for approximately $13 billion each year. Asthma accounts for more school absences and more hospitalizations of children than any other chronic illness.

Dorothea Orem (1971) defined nursing with emphasis on client's self-care needs. Self-care, according to Orem, is a learned, goal-oriented activity directed towards the self in the interest of maintaining life, health, development and well-being. Thus, the primary role of a nurse is to increase the client's ability to independently meet their needs i.e., the self care of the client. Patient education on asthmatic symptom management by careful monitoring of the symptoms and peak expiratory flow measurements is an effective way in asthma management towards this self care of the client. Self-management education can decrease the cost of care in high-risk patients. Nurse-led asthma education provides positive outcomes and cost savings.

NEED FOR STUDY

Worldwide prevalence estimates for asthma is 334 million. Approximately 14% of the world's children & 8.6% of young adults (aged 18-45) experience asthma symptoms.

Approximately 4.5% of young adults have been diagnosed with asthma and/or are taking treatment for asthma. The burden of asthma is greatest for children aged 10-14 and the elderly aged 75-79. Asthma is the 14th most important disorder in the world in terms of the extent and duration of disability.

In India, asthma imposes a substantial burden; though there is a paucity of appropriate epidemiological data to determine prevalence for asthma or the allergic asthma. In the year of 2014 a multicenter study by the Asthma Epidemiology Study Group of the Indian Council of Medical Research found the prevalence of bronchial asthma in Indian adults to be 2.38%.6 In India 20 to 26% people suffer from allergic rhinitis and symptoms of rhinitis were present in 75% of children and 80% of asthmatic adults. With present Indian population estimated to 1 billion plus, number suggest enormity of the burden of rhinitis and asthma in the country. But despite imposing substantial burden both diseases still remains under-recognized, underestimated and under-treated, in India.

In south Karnataka state has the first position in the incidence of asthma that is 3.849 in 29.5% among total population (5.27.33.950) this may due to pollution, urbanization & industrialization, cold air humidity and rainfall.

STATEMENT OF PROBLEM

A study to evaluate the effectiveness of self instructional module on knowledge regarding self care activities of asthma among patients with asthma admitted in selected hospitals, Bangalore.

OBJECTIVES

- To assess the existing level of knowledge regarding self care activities of asthma among patients with asthma..
- To evaluate the effectiveness of self instructional module on knowledge regarding self care activities of asthma among patients with asthma.
- To determine the association between the post-test levels of knowledge regarding self care activities of asthma with their selected demographic variables.

OPERATIONAL DEFINITIONS

1. Effectiveness -.In this study, it refers to the gain in knowledge as

determined by the statistical difference between pre-test and post-test knowledge score on self care activities of asthma.

2. Self instructional module-In this study, it refers to a systematically organized printed booklet that consists of information about general lnformation about asthma & self care activities like measures for control of asthma attack & life style modification to prevent the complication of asthma.
3. Knowledge - In this study, it refers to the level of understanding of information about self care activities of asthma among patients with asthma which will be measured by structured knowledge questionnaire. ~ 14 ~
4. Self care activities of asthma- In this study, it refers to self care measures taken by patient with asthma to control and eliminate triggering factors by predicting signs and symptoms of bronchial asthma himself, self monitoring, adopting lifestyle modification which includes healthy diet and nutrition, proper exercise and maintenance of healthy environment & taking medications.
5. Patient with asthma - In this study, it refers to Persons who is suffering from asthma & medically diagnosed to have asthma.

HYPOTHESIS

H_1:-The mean post test knowledge score regarding self care activities of asthma among

patient with asthma is significantly higher than the mean pre-test knowledge score.

H_2:- There will be significantly association between the pre-test level of knowledge

regarding self care activities of asthma with their selected demographic variables.

ASSUMPTION

- The patients with asthma may not have basic knowledge regarding self care activities of asthma.
- Self instructional module may help to enhance the knowledge level of patients with asthma regarding self care activities of asthma & help to prevent the complication, resulting from asthma.

DELIMITATIONS

- The sample size is limited to 60 patients with asthma.
- The period of study is limited to 4-6 weeks.
- The study is limited to measurement of knowledge aspect only.
- The study is limited to patient admitted in selected hospitals.

CONCEPTUAL FRAMEWORK:-

Ernestine Widenbach conceptual model elaborately explained of patients need, ministration of help that is needed and validation of that help which is suitable for the present study.

REVIEW OF LITERATURE

Review of literature refers to activities involved in identifying and researching for information on a topic and developing an understanding of the state of knowledge on that topic.

Review of literature is categorized under the following headings:
6.2.1: Studies related to prevalence of asthma.
6.2.2: Studies related to knowledge of patient regarding self care activity of asthma .
6.2.3: Studies related to effectiveness of self instructional module on knowledge regarding self care activity of a patient with asthma.

4. METHODOLOGY

Research approach

- An evaluative approach was used for this study .

Research Design

- The research design used in this study was one group pre test and post test design.

Variables

Dependent Variable

In this study knowledge level of patients with asthma regarding self care activities of asthma is the dependent variable

Independent Variables

In this study, the self instructional module regarding self care activities of asthma is the independent variable.

Socio Demographic Variable

Baseline characteristics such as age, gender, religion, education level, marital status, Occupation, Monthly Family Income, dietary pattern, Family history of asthma, Duration of illness, Duration of intake of medicines. are the socio demographic variables.

Setting of the study

The study was conducted at Lakshmi hospital, Poornima hospital, Chaitanya hospital, and Shanmuga nursing home, Manohora Hospital Bangalore.

Population

The study population consists of: Target population: In this study, target population consists of all patients with asthma.

Accessible Population: In this study, accessible population consists of patients with asthma in selected hospitals who meet the inclusive criteria.

Sampling

Sampling refers to the process of selecting a portion of population to represent the entire population.

Sample

Sample consists of the subjects selected to participate in a research study. In the present study, samples are the patients with asthma admitted in selected hospitals who fulfill the inclusion criteria.

Sampling technique

In this study, purposive sampling technique was used to select the samples based on inclusion and exclusion criteria.

Sample size

Sample comprises of 60 patients with asthma admitted in selected hospitals, Bangalore.

Sampling criteria

Inclusion criteria

The study includes the patients who are willing to participate in the study

- available at the time of data collection.
- able to understand English or Kannada or Hindi.

Exclusion criteria

The study excludes clients who are-

- critically ill
- health care professionals.
- underwent similar intervention recently.

Instruments of Data Collection

In this study the data collection will be done with help of structured interview schedule.

The tool consists of two sections.

- Section A-It consist of socio demographic profile like Age, Gender, Education, Occupation, Marital status, Income, Dietary of asthma, Duration of illness, Duration of intake of medication.
- Section B-It consists of structured knowledge questionnaire regarding self care activity of asthma.

Content Validity:

In order to ensure content validity of the data collection tool, the prepared instrument, along with the problem statement, objectives, operational definitions and criteria checklist designed for validation were submitted to 9 experts. The experts were post graduates in Medical Surgical Nursing (6) medical officer (2) and statistician (1).

There was 100% agreement on most of the items. Minor suggestions were given. Modification of item was done according to the suggestions given by experts.

Reliability of the tool:

The reliability of the structured knowledge questionnaire was established by using split half method. In order to establish the reliability, the tool was administered to 6 patients with asthma in Lakshmi hospital who fulfilled the inclusion criteria. The reliability quotient obtained for the tool was 0.87.

Data Collection Procedure:
Formal written permission was obtained from concerned authorities before data collection. The data collection period was one month at the convenience of the respondents. The subjects were assembled. The purpose of the study was explained to them and consent was taken from all the patients with asthma by explaining the purpose of study. The data was collected in the following phases:

Phase 1:
In this phase, pre-test was conducted on a total of 60 patients with asthma by a structured method of gathering self reported information from respondents through self administration of the questionnaire in a paper and pencil format regarding self care activities of asthma and instructions were given on answering the questionnaire and doubts were clarified. Each patients took 20-30 minutes to answer demographic data and the questionnaire.

Phase II:
In this phase, a SIM regarding selected self care activities of asthma was conducted to the subjects and explained to them. All the questions or queries were clarified which were asked by the subjects.

Phase III:
In this phase, post test was conducted on 7th day after administration of the SIM; The same structured method of gathering self reported information from respondents through self administration of the questionnaire in a paper and pencil format was used. During the conduction of the study there was no problem aroused and subjects were co operative to conduct the study. The investigator thanked and appreciated all the subjects for their goodwill. The collected data was compiled for analysis.

Processing of the data:
Data collected was processed every day. Missed out data were identified and immediately rectified on the next day.

Plan for Data Analysis:
Data analysis is the evaluation of information and its pertinence to the study variable.

The data was analyzed by using both descriptive and inferential statistics based on the objectives and hypotheses of the study. The plan of data analysis was as follows:

Descriptive statistics:
- Baseline proforma containing sample characteristics were analyzed by using frequency and percentage distribution.
- The knowledge level of patients with asthma regarding self care activities of asthma, before and after administration of SIM was calculated using descriptive statistics like frequency, mean, mean percentage and standard deviation.

Inferential statistics:
- The effectiveness of SIM regarding self care activities of asthma was analyzed by paired t' test.
- Association between mean pre and post-test knowledge scores with their selected demographic variables were analyzed by chi-square test.
- Ethical Consideration: Written permission from the authorities of the hospital and informed consent from the subjects were obtained before conducting the study. No ethical issue confronted while conducting the study.

RESULTS

Description of socio- demographic profile of the sample

TABLE:1 Frequency and Percentage distribution of socio demographic variables of patients with Asthma

N=60

Characteristics	Category	Respondents	
		Number	Percentage
Age	31 - 40	8	13
	41 - 50	23	38
	51 - 60	26	44
	Above 60	3	5
Sex	Male	43	72
	Female	17	28
Religion	Hindu	46	77
	Muslim	12	20
	Christian	2	3
Educational level	Under higher secondary	4	7
	Under Graduate	14	23
	Graduate	32	53
	Post Graduate	10	17

TABLE:2 Frequency and Percentage distribution of socio demographic variables of patients with asthma

N=60

Characteristics	Category	Respondents	
		Number	Percentage
Marrital status	Unmarried	4	7
	Married	56	93
Occupation	Government Employee	24	40
	Private Employee	19	32
	Self Employed	14	23
	Unemployed	3	5
Monthly Family Income(Rs)	5000 - 10000	3	5
	10000 - 15000	20	33
	15000 - 20000	29	49
	Above 20000	8	13
Dietary Pattern	Vegetarian	38	63
	Non vegetarian	22	37

TABLE:3 Frequency and Percentage distribution of socio demographic variables of patients with asthma

N=60

Characteristics	Category	Respondents	
		Number	Percentage
Family history of Asthma	Yes	46	77
	No	14	23
Duration of illness	Less than 3 months	4	7
	More than 3 months	12	20
	1 to 3 years	28	46
	More than 3 years	16	27
Duration of Medicine intake	Less than 3 months	3	5
	More than 3 months	14	23
	1 to 3 years	30	50
	More than 3 years	13	22

TABLE-8 Overall Pre and Post test knowledge on self care activities of asthma among patients with asthma

Aspects	Max Score	Respondents Knowledge				Paired _t' Test
Pre Test	30	18.56	1.35	61.87	4.5	
Post Test	30	29.46	1.29	98.2	4.3	
Enhancement	30	8.53	1.64	28.43	5.46	2.9662**

** Significant at 1% level P value 0.0036

The above Table-8 projects the overall pre test, post test and enhancement of mean knowledge scores regarding self care activities of asthma . The pre test mean score was 61.87% with SD 4.5%. Further, the mean post test knowledge found to be 98.2% with SD 4.3%. However, the enhancement was proved as mean score of 28.43% and SD of 5.46%. Further, the paired t-test value of 2.9662** shows statistical significance at level 1% establishing the effectiveness of self instructional module on self care activities of asthma among patients with asthma.

TABLE-10Association between Demographic variables and Pre test knowledge level of self care activities of asthma

N=60

Demographic Variables	Category	Sample	Knowledge level						Significance of Chisquar	P Value
			Inadequate		Moderate		Adequate			
			No.	%	No.	%	No.	%		
Age	31 - 40	8	4	7	4	7	-	-	0.8189 NS	0.8449
	41 - 50	23	13	22	10	17	-	-		
	51 - 60	26	10	28	9	15	-	-		
	Above 60	3	2	3	1	2	-	-		

Gender	Male	43	30	50	13	22	-	-	6.0328*	0.0140
	Male	17	6	10	11	18	-	-		
Religion	Hindu	46	26	43	20	33	-	-	1.7874NS	0.4091
	Muslim	12	8	13	4	7	-	-		
	Christian	2	2	3	-	-	-	-		
Educational level	Under higher secondary	6	3	5	1	2	-	-	9.1369*	0.0275
	Under Graguate	32	20	33	12	20	-	-		
	Graduate	32	10	33	12	20	-	-		
	Post Graduate	10	2	5	8	13	-	-		
Marital Status	Unmarried	4	3	5	1	2	-	-	0.4017NS	0.5262
	Married	56	33	55	23	38	-	-		
Occupation	Government Employee	24	23	38	1	2	-	-	19.5657**	0.0002
	Private Employee	19	6	10	13	22	-	-		
	Self Employed	14	7	12	7	12	-	-		
	Unemployed	3	-	-	3	5	-	-		
Monthly family income	5000-10000	3	3	5	-	-	-	-	5.8692NS	0.1181
	10000 - 15000	20	15	25	5	8	-	-		
	15000 - 20000	29	14	23	15	25	-	-		
	Above 20000	8	4	7	4	7	-	-		
Dietry Pattern	Vegetarian	38	18	30	20	33	-	-	6.8899**	0.0086
	Non Vegetarian	22	18	30	4	7	-	-		
Family history of asthma	Yes	46	26	43	20	33	-	-	0.9937NS	0.3188
	No	14	10	17	4	7	-	-		
Duration of illness	Less than 3 months	4	2	3	2	3	-	-	0.5257NS	0.9132
	More than 3 months	12	8	13	4	7	-	-		
	1 to 3 years	28	26	27	12	20	-	-		
	more than 3 years	16	10	17	6	10	-	-		
Duration of medicine intake	Less than 3 months	3	2	3	1	2	-	-	11.4713**	0.0094
	More than 3 months	14	10	17	4	7	-	-		
	1 to 3 years	30	12	20	18	30	-	-		
	more than 3 years	13	12	20	1	2	-	-		

** Significant at 1% level * Significant at 5% level NS Not significant

The Table-presents the association of pre test knowledge level with selected demographic variables. The Chi-square test was carried out to determine the association between the pre test knowledge level and demographic variables such as age, gender, religion, educational level, marital status, occupation, monthly family income, dietary pattern, family history of asthma, duration of illness, duration of medicine intake .Out of which the variable gender ($\chi 2$=6.0328*), educational level($\chi 2$= 9.1369*), occupation($\chi 2$= 19.5657**)dietary pattern($\chi 2$=6.8899**), and Duration of medicine intake($\chi 2$=11.4713**) were found to be significantly associated with pre test knowledge level at 5% and 1% level and the rest of the demographic variables were found not significant. Hence research hypotheses H^2 is proved and accepted for gender, education level, occupation, dietary pattern, and duration of medicine intake and rejected for other variables such as age, religion, marital status, monthly family income, family history of asthma, duration of illness.

It is evident that pre test knowledge score is better influenced by gender, education level, occupation, dietary pattern, and duration of medicine intake

DISCUSSION

1) To assess the existing level of knowledge regarding self care activities of asthma among patients with asthma admitted in selected hospital In the pre test 60% had inadequate knowledge, 40% of them had moderate knowledge and None of them had Adequate knowledge level regarding self care activities of asthma among patients with asthma. In the present study it was found that the overall pre test knowledge score of patients with asthma regarding self care activities were found to be Inadequate 18.56 with SD 1.35.

2) To evaluate the effectiveness of self instructional module on knowledge regarding self care activities of asthma among patients with asthma admitted in selected hospitals, Bangalore.

In the present study it is observed that mean post test knowledge scores of patients with asthma regarding general knowledge of asthma was 11.68 which was higher than the mean pre test knowledge score of 5.12 with significant t' value 1.9845*. Regarding self care activities of asthma it was found that the mean post test knowledge score was 17.23 which was higher than the mean pre test knowledge score of 10.58 with significant t' value 2.2358* at 0.05 level of significance.

The mean score of post test knowledge score on self care activities of asthma among patients with asthma was 29.46 which was higher than the mean score of pre test knowledge score of
18.56 with an enhancement of 8.53. A paired t' test was done and it was found to be significant (t=2.9662**, p<0.01) which indicates the effectiveness of self instructional module regarding self care activities of asthma. It indicate hypothesis H^1 is proved and accepted.

3) To determine the association between the pre-test levels of knowledge regarding self care activities of asthma with their selected demographic variables In the present study association was sought between pre test knowledge level of significant patients with asthma and selected socio demographic variables where a significant association was found like gender ($\chi 2$=6.0328*), educational level ($\chi 2$= 9.1369*), occupation ($\chi 2$= 19.5657**) dietary pattern ($\chi 2$=6.8899**), and Duration of medicine intake ($\chi 2$=11.4713**). Hence research hypotheses H^2 is proved and accepted.

The other demographic variables like age, religion, marital status, monthly family income, family history of asthma, duration of illness did not show any significant association with the post test knowledge level of patient with asthma.

Nursing Implication The results of the study showed that majority of the patients had low knowledge level regarding self care activities of asthma during pre test. So, the study had several implications for nursing practice, nursing education, nursing administration and nursing research.

Nursing Education

- Nursing education helps the nurse to excel in theoretical as well as practical level. In this present study, the nurse educator gives priority to uphold the value of education. Nurse educators need to pay emphasis on asthma & its self care management.
- Teaching strategies such as demonstration, use of charts, pictures, and power point presentation can be used to train the patients.
- This can be implemented by integrating the knowledge regarding

self care activities of asthma in all level of curriculum in nursing education.

Nursing Practice

- A regular health education programme should be carried out by nurse educator regarding self care activities of asthma.
- Nurses working in hospitals should provide adequate information regarding self care activities of asthma.
- The result of the study will help the nurses to enlighten their knowledge on importance of health education.

Nursing Administration

- Ongoing training can be planned and provided self care activities of asthma to staffs and make everyone conscious and understand rules and issues. They should develop policies, guidelines and relevant information, education and training regarding nutritional management of critically ill patient.
- Nurse administrators have more responsibility as supervisor on creating awareness by facilitating free distribution of booklets, handouts, charts regularly to staff nurses in and outpatient department of hospitals and health clinics.

Nursing Research

- The nurse researcher can utilize this study in developing a nursing model, theory, evidence based care. Present study helps nurses and other health care personnel to understand the level of knowledge of care givers regarding self care activities of asthma.
- Student nurse researcher also can be motivated to conduct studies in this area.

Limitations of the Study

- The sample size is limited to 60 patients with asthma admitted in selected hospitals, Bangalore. Hence generalization is possible only to the selected settings.
- Duration of data collection is limited to 4-6 weeks.
- Randomization was not done. So the sample may not be the true representation of the population.
- Due to time constraint purposive sampling technique was used.

Recommendations

Based on the findings of the study, following recommendations have been made:

A similar study can be undertaken with a large number of samples to generalize the findings.

A similar study can be done with experimental design.

A similar study can be conducted in various settings..

A similar study can be carried out to evaluate the efficiency of various teaching strategies like structured teaching programme, pamphlets, leaflets, videos assisted teaching and computer-assisted instruction on self care activities of asthma.

A comparative study can be done between home based asthma management and hospital based asthma management of patients with asthma.

SUMMARY

Selfmanagement of asthma, achieved through an effective educational program for asthmatic patients, is very important in facilitating adaptation to illness and positive response to treatment. An effective self-management plan helps patients to gain information about and skills in life style modifications, self-monitoring, and environmental control. The increased role of nurse practitioners in asthma care is highly recommended.

REFERENCES

1. Environmental protection agency Indoor air quality Indoor air quality in schools. [Online] 2001[updated 2001 0ct 22].Available from :URL:http://www.epa.gov.aq/schools.
2. Weiss k.b, Sullivan S, d, Lyttle c.s. Trends in the cost of illness for asthma in the United States. Journal of allergy & clinical immunology. 2000; 106. (3):493-500.
3. Smeltzer s c, Bare B G. Brunner And suddarth's, A text book of Medical surgical Nursing, 11th ed. New delhi :Lippincott William & Wilkin. 2008, p 460
4. Available from:URL:http://en.wikipedia.org/wiki/Asthma
5. R. Collins How to Know When You Have Allergy-Induced Asthma[online]04 May 2012. Available from.URL: http://www.healthline.com/health/allergies/allergies-asthma#1