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## **Effectiveness of educational intervention programme on knowledge regarding self care management among patients with chronic obstructive pulmonary disease**

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### **Abstract**

Chronic obstructive pulmonary disease (COPD) is an umbrella term for conditions refers to several disorder that effect the movement of air in and out of the lungs. COPD can occur as a result of increased airway resistance secondary to bronchial mucosal edema or smooth muscle contraction. The study was aimed to find out the knowledge regarding self care management among patients with COPD. A quantitative research approach with Pre-experimental study design was used to assess the knowledge regarding self-care management among patients with COPD at pulmonary ward. The universe of the study population comprised total of fifty COPD Patients were selected by purposive sampling technique. Knowledge questionnaire was used to assess the knowledge regarding self-care management among COPD patients. The result of the study showed that Majority of the patients 60% were having poor knowledge and 40% of the patients were having average Knowledge, After Giving educational interventional programme Majority of the patients 56% were having average Knowledge and 44% of the patients were having good knowledge. Educational intervention programme will promote the knowledge of patients. Educating the patients with COPD about self-care management will help to prevent the progression of COPD.

**Keywords:** Effectiveness, educational intervention programme, self-care management, COPD patients

### **Introduction**

Chronic obstructive pulmonary diseases (COPD) is an umbrella term for conditions refers to several disorder that effect the movement of air in and out of the lungs. COPD can occur as a result of increased airway resistance secondary to bronchial mucosal edema or smooth muscle contraction. Its pulmonary element is characterized by airflow limitation that is not totally reversible. The airflow limitation is sometimes progressive and related with an abnormal inflammatory response of the lung<sup>[1]</sup>.

The Global Initiative for chronic Obstructive Lung Disease (GOLD) Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases<sup>[2]</sup>.

Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory disease that causes obstructed airflow from the lungs. Symptoms include shortness of breath, cough, secretion (sputum) production and wheezing. It's caused by long-term exposure to irritating gases or particulate matter, most often from cigarette smoke. People with COPD are at increased risk of developing cardiovascular disease, carcinoma of lung and a different of other conditions.

It occurs most commonly in older adults and can also affect people with middle ages. It's not common in younger adults. When people are younger, their lungs are generally healthy state. COPD takes several years for to develop. Most commonly people who are at least 40 years old when symptoms of COPD appear first time. It's not impossible to develop COPD in a young adult, but it is rare<sup>[3]</sup>.

COPD is a widespread disease. In USA 11.4 million adults were estimated to have the COPD. It is a leading cause of mortality, particularly in Western countries, and it is estimated that it will be the third leading cause of death worldwide by 2021. The worldwide prevalence of COPD ranges between 7.8 – 19.7 percent<sup>[4]</sup>.

The prevalence of COPD reported in different population based studies from India. Indians About 12million are affected with COPD now, above the age of 30 years. The prevalence rates in males population was 2.12% to 9.4% in studies reported from north India are generally higher than 1.4% to 4.08% from South India. The respective range for female population vary from 1.33% to 4.9% from North and from 2.55% to 2.7% from 1.32:1 to 2.6:1 in different studies with a median ratio of 1.6:1<sup>[5]</sup>.

In Jammu and Kashmir, about 4750 people per lakh population suffer from COPD. This report was published in the most reputed international medical research journal on September 2018 in Lancet, The other states with large prevalence of COPD are Himachal Pradesh, Uttarakhand, and capital of India's in Delhi. The prevalence of COPD in all these states is twice as much in most other states.

The prevalence of COPD is increasing day by day throughout the world and a more rapid increase is occurring among women. It is characterized by a slow progressive loss of physical functions, primarily a loss of lung function but also a loss of exercise capacity, muscle strength and a reduction in physical activity<sup>[6]</sup>.

## Objectives

1. To assess the knowledge regarding self care management among patients with COPD.
2. To determine the effectiveness of educational intervention programme on knowledge regarding self care management among patients with COPD.
3. To find out the association between pretest Knowledge score with selected socio-demographic variables.

## Material and Methods

A Quantitative research approach with Pre-Experimental Research design was used for the study to assess knowledge regarding self care management among patients with COPD. The study was conducted in pulmonary ward. Fifty patients were purposively selected from the population. The Sample of the study was COPD patients with age group of 40 to 80 years. Knowledge Questionnaire was used to measure the knowledge regarding self-care management among patients with COPD. Ethical committee and administrative permission was taken from the concerning authority. Informed consent was obtained from the study participants before commencement of the study.

## Results

**Table 1:** Frequency (f) and percentage (%) distribution of demographic variables of the patients with COPD. N=50

S. No	Socio demographic variables	Frequency(f)	Percentage (%)	
1.	Age	40-50 yr	11	22
		51-60 yr	15	30
		61-70 yr	19	38
		More than 80 yr	5	10
2.	Sex	Male	23	46
		Female	27	54
3.	Religion	Hindu	36	72
		Muslim	9	18
		Sikh	1	2
		Christian/ Others	4	8
4.	Educationl Status	No Formal Education	31	62
		Primary school Certificate	19	38
5.	Marital Status	Married	41	82
		Unmarried	1	2
		Widow/ Widower	8	16
6.	Occupational Status	Govt. Job	12	24
		Farmer	10	20
		Housewife	28	56
7.	Family Type	Nuclear	23	46
		Joint	23	46
		Extended	4	8
8.	Area of Residence	Rural	37	74
		Slums\ Semi Urban	5	10
		Urban	8	16
9.	Type of House	Kuchha	24	48
		Puckka	9	18
		Mixed	17	34
10.	Location Of House	Factory area near by House	18	36
		Road side House	32	64
11.	Kitchen	Seprated	22	44
		Attached	28	56
12.	Fuel Used For Cooking	Wood	29	58
		Gas	15	30
		Fuel	6	12
13.	Personal Habits	Alcohol	13	26
		Smoking	33	66
		Drug abuse	4	8
14.	History of Smoking	No	17	34
		Yes	33	66

15.	No. of Beddi / Cigaratte/ Day	Less than 5	10	20
		More than 5	16	32
		1 Packet	24	48
16.	Dietry Pattern	Vegetarian	21	42
		Non vegetarian	19	38
		Eggetarian	10	20
17.	Total Family Member	1-5 Member	20	40
		6-10 Member	9	18
		11-15 Member	10	20
		More than 16	11	22
18.	Monthly Income	Upperclass( >6254)	1	2
		Middle class( 1876-3126)	14	28
		Lower Middle class ( 938-1875)	18	36
		Lower class( <938)	17	34

Table No 1 Depicts that Majority (38%) of the patients were between the age group 61-70 years. Majority (54%) of the patients were female, Majority (72%) of the patients were Hindu. Majority (62%) of the patients were had no Formal Education. majority (82%) of the patients were married, majority (56%) of the patients were housewife. Majority (46%) of the patients belong to Nuclear and joint family, majority (74%)of the patients were belong to rural area. majority (48%)of the patients were had kuchha house,

majority (64%) of the patients were reside near road side house. majority (56%) of the patients were had attached kitchen, majority (58%) of the patients were used wood for cooking. Majority (66%) of the patients were having history of smoking, majority (42%)of the patients were use one packet of Beddi/Cigaratte per day, majority (42%) of the patients were vegetarian. majority (40%) of the patients were had 1-5 members in family, Majority (36%) of the patients were belong to middle class.

**Table 2:** Frequency (f) and percentage (%) distribution of clinical variables. N=50

S. No	Clinical Variables		Frequency (f)	Percentage (%)
1.	Disease Severity	GOLD stage 1	30	60
		GOLD stage 2	20	40
2.	No Hospitalization	1-3 times	24	48
		4- 7 times	23	46
		More than 8 times	3	6
3.	Reason	Symptoms related to COPD	50	100
4.	Duration of illness	6-12 months	8	16
		13-18 Months	16	32
		More than 18 Months	26	52
5.	Comorbidity	Hypertension	19	38
		DM	9	18
		Osteoporosis	7	14
		Hemothorox	6	12
		Pleural effusion	9	18
6.	Season of Exacerbation	Rainy	11	22
		Winter	34	68
		Summer	2	4
		Not specific to reason	3	6
7.	Sleep Disturbance	Yes	50	100
8.	Treatment	Medication Inhaler	15	30
		Breathing Exercise	15	30
		AYUSH \Traditional	6	12
		Treatment	14	28

Table: 2 depict that majority (60%) of the patients were having GOLD stage 1. majority (48%) of the patients were no hospitalization 1-3 times. Majority (100%) of the patients were admitted related to COPD symptoms. Majority (52%) of the patients were having duration of illness was more than 18 months. Majority (38%) of the patients were having hypertension. Majority (68%) of the patients were having more problem in winter. Majority (100%) of the patients were having sleep disturbance, Majority (30%) of the patients were using Breathing exercise and medication Inhaler for treatment.

**Table 3:** Effectiveness of Educational interventional programme on knowledge regarding self-care management among patients with COPD. N=50

S. No	Score level	Pre-test knowledge score	Post-test knowledge score
1.	0-12 Poor	30(60%)	0(0%)
2.	13-24 Average	20(40%)	28(56%)
3.	25-36 Good	0(0%)	22(44%)

Table: 3 depict that Majority of the patients 60% were having poor knowledge and 40% of the patients were having average Knowledge, after giving educational interventional programme Majority of the patients 56% were having average Knowledge and 44%of the patients were having good knowledge.

**Table 4:** Comparison of Pretest and posttest knowledge score regarding self-care management among patients with COPD. N=50

S. No	Score level	Mean +SD	t value	p value
1.	Pre-test knowledge Score	11.8±2.94	25.2	0.001**
2.	Post- test knowledge Score	24.1± 3.17		

\*\*Highly Significant at  $p < 0.001$

The data presented in table 4 showed that in Pre-test the mean score was 11.8 and after educational intervention programme the mean score was increase to 24.1. t value is 25.2 and p value is significant at the level of 0.05. It can be interpreted there was a significant mean difference between the pretest knowledge score and posttest knowledge score. There was no significant association between pretest Knowledge score with selected socio demographical variables.

### Discussion

Majority of the patients 60% were having poor knowledge and 40% of the patients were having average Knowledge, after giving educational interventional programme Majority of the patients 56% were having average Knowledge and 44%of the patients were having good knowledge. These study findings were consistent with study done on self-care among patients with COPD, Majority of respondents (90.7%) had poor level of knowledge on self -care of COPD [7].

The main outcome of the study depicts that in Pre-test the mean score was 11.8 and after educational intervention programme the mean score was increase to 24.1. t value is 25.2 and p value is significant at the level of 0.05. It can be interpreted there was a significant mean score difference between the pretest knowledge score and posttest knowledge score. These study findings were consistent with study on Knowledge regarding Self Care among COPD patients, in pre-test mean score was 15 and post- test mean score was increased to 18.1. In the control group the mean score of pre-test was 15.4 and in post-test mean score was 15.5. The results of self-care knowledge regression test showed an effect of supportive educative to self-care knowledge of patients with COPD [8].

### Conclusion

The implementation of educational intervention programme on patients with COPD has a positive effect on their self-care management. The importance of educational intervention programme must be sensitized to all the patients with COPD.

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