



"PULMONARY REHABILITATION AWARENESS IN SUBJECTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN NORTH KARNATAKA; A SURVEY"

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ABSTRACT

Background and Objective: The chronic obstructive pulmonary disease is the fourth leading cause of death worldwide. Awareness among these patients about pulmonary rehabilitation is necessary. It affects health care system and enhances expenditure. Patient's awareness will also reduce hospitalization. The quality of life improves by this awareness program. The aim of this study is to make people aware about the pulmonary rehabilitation and in chronic obstructive pulmonary disease patients. **Materials and Methods:** A cross sectional survey done by using self made awareness questionnaire. It contains 15 items. This was validated for its content. It includes awareness and barrier questions. Patients were given the questionnaire and ask to fill. The patients were taken on outpatient basis. **Results and Discussion:** Two hundred patients were included in the study. Referring patients for pulmonary rehabilitations not given much importance by the physicians. In patients point of view they are unaware about vaccinations, effects of smoking on physical conditioning, breathing exercises, airway clearance techniques, effect of exercise on endurance, pulmonary rehabilitation and respiratory physiotherapy. Patients were only aware about smoking cessation and ill effects of smoking. Patients were having ease of access; economical stability and family support are 88.50%, 88% and 67.50% respectively. We found that there is strong need to make patients aware about pulmonary rehabilitation and the disease process. This will help them to improve quality of life and stop the disease process. **Conclusion:** The present study found that majority of the COPD patients was unaware about the important components of pulmonary rehabilitation.

KEYWORDS : COPD, pulmonary rehabilitation, awareness.

INTRODUCTION

Chronic obstructive pulmonary disease is a gradually progressive disease that involves the airways or lung parenchyma or both which grades in airflow obstruction. It is defined as a preventable and treatable disease, with some significant extra pulmonary effects which may lead to the severity in individual patients. The feature of its pulmonary factor is airflow limitation that is not fully reversible. The restriction of airflow is usually progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases.¹

The acute exacerbations of Chronic obstructive pulmonary disease classically presents an increase in cough, changes in sputum volume, increased breathlessness, chest tightness and wheezing. Increased exacerbation is owing to narrowing of airway and increased ventilation perfusion mismatch. Other manifestations of chronic obstructive pulmonary disease comprise dyspnoea, poor exercise tolerance, and chronic cough with or without sputum production, respiratory failure and Cor pulmonale which results in decrease in the lung functions.²

Pulmonary rehabilitation is defined as "a multidimensional continuum of services directed to persons with pulmonary disease and their families , usually by an interdisciplinary team of specialist, with the goal of achieving and maintaining the individual's maximum level of freedom and performance in the community"²

The pulmonary rehabilitation team includes physicians, physiotherapist, specialist respiratory, occupational therapist, dietetic staff, social worker and smoking cessation counselor.^{3,4}

Pulmonary rehabilitation programs have been suggested as an integral part of nurse managing of patients with Chronic obstructive pulmonary disease.1-3 Randomized controlled trials have shown pulmonary rehabilitation program to reduce symptoms of dyspnea, and develop exercise capacity and in general quality of life in

patients with chronic obstructive pulmonary disease. Summary and advice of practice of pulmonary rehabilitation programs have been available.4-6 in all these strategy, the suggested pulmonary rehabilitation programs are based on a multidisciplinary team approach. Activities in a complete program can include exercise training, education, nutritional advice, and psychosocial and behavioral involvement. Such programs require a high level of resources and are costly.⁵

The aims of pulmonary rehabilitation are to:

- Promote physical fitness.
- Better quality of life.
- Boost participant's power to cope with the acute and chronic phases of chronic lung disease.
- Cut down hospital admissions and length of stay on hospital.⁶

The gateway in the pulmonary rehabilitation is the counsel for smoking cessation to avoid exacerbations. The interventions patient is subjected to be breathing exercises, humidification, nebulisation, oxygen therapy, family retraining. To inhibit episodes of acute exacerbations of chronic obstructive pulmonary disease, dyspnoea relieving techniques should be trained to the patients. The upper extremity training along with self care, ambulation training, lifestyle modification, sexual counselling, acceptance of the disease, positive thinking, self esteem should be taught.⁷

MATERIALS AND METHODS:

Source of data: Outpatients and inpatients of medicine and pulmonology departments of SDM College of medical sciences and hospital, Dharwad. A Cross sectional Study was done using 200 patients. And patients who are diagnosed as chronic obstructive pulmonary disease by pulmonologist or physicians.

The **inclusion criteria** includes diagnosed patients of Chronic obstructive pulmonary disease by pulmonologist or physicians, patients with an age group between 53 to 73 of either gender, who

are capable of understanding questionnaire and those are keen to participate will be included in the study. And **exclusion criteria** includes any other lung condition other than chronic obstructive pulmonary disease, cardiac disorders, h/o metabolic disorders, any neurological conditions, any severe musculoskeletal disorders, subjects reluctant to participate, vascular disorders, end stage chronic obstructive pulmonary disease patients. Technique of application Ethical clearance for the study will be obtained from ethical committee of S.D.M College of medical sciences and hospital, Dharwad. Chronic obstructive pulmonary disease patients will be recruited based on inclusion and exclusion criteria of the study. Subjects willing to participate shall be in brief explained about the study and written consent will be taken. The completed questionnaires will be subjected to statistical analysis.

RESULTS AND DISCUSSION

Table 1: Distribution of patients by age groups

Age groups	No of patients	% of patients
50-59yrs	72	36.00
60-69yrs	93	46.50
70+yrs	35	17.50
Total	200	100.00
Mean age	62.76	
SD age	7.04	

Table 2: Distribution of patients by gender

Gender	No of patients	% of patients
Male	100	50.00
Female	100	50.00
Total	200	100.00

Table 3: Item wise responses of patients

Questions	No of patients	% of patients
Are you Smoker?		
Yes	93	46.50
No	107	53.50
Importance of Smoking cessation.		
Yes	121	60.50
No	79	39.50
Explanation of airway clearance techniques.		
Yes	28	14.00
No	172	86.00
Vaccinations (pneumococcal, influenza) to prevent further exacerbations.		
Yes	48	24.00
No	152	76.00
Effect of Smoking on physical conditioning.		
Yes	45	22.50
No	155	77.50
Barrier of support/referral from doctor.		
Yes	52	26.00
No	148	74.00
Familiarity with breathing exercises.		
Yes	43	21.50
No	157	78.50
Efficacy of physiotherapy in cardio respiratory endurance.		
Yes	40	20.00
No	160	80.00
Awareness of pulmonary rehabilitation program.		
Yes	52	26.00
No	148	74.00
Ill effects of smoking and polluted environment on health.		
Yes	119	59.50
No	81	40.50
Can exercises improve your endurance?		
Yes	78	39.00
No	122	61.00

Ease of access to physiotherapy centre.(distance, transport facility)		
Yes	177	88.50
No	23	11.50
Economical stability towards pulmonary rehabilitation.(cost)		
Yes	176	88.00
No	24	12.00
Referral for respiratory physiotherapy care.		
Yes	51	25.50
No	149	74.50
Family support to seek to pulmonary rehabilitation.		
Yes	135	67.50
No	65	32.50
Total	200	100.00

DISCUSSION

As per table 1; Shows age wise distribution of study subjects. This shows age group range from 50-70 years. Furthermore, it also shows the inter distribution; 50-59 years were 72 patients(36%), 60-69 years were 93 patients(46.50%) and 70 years and more were 35 patients(17.50%). The mean age is 62.76 years and standard deviation is 7.04.

A study done on chronic obstructive pulmonary disease: Indian guidelines and the road ahead. This shows that India contributes a major and rising percentage of COPD mortality which is likely to be amid the highest in the world. In this study they have chosen the mean age of 64.7 which exactly similar to our study.⁸

The coexistence of asthma and chronic obstructive pulmonary disease (COPD): prevalence and risk factors in young, middle-aged and elderly people from the general population. This study shows that a physician diagnosis of asthma or COPD (emphysema/chronic bronchitis/COPD) was reported by 13% and 21% of subjects aged, 65 and 65–84 years respectively.⁹

As per table 2; shows gender wise distribution of study subjects. In that it shows equal distribution of male and female i.e. 100 male and 100 female.

In a study, done to find out the incidence of chronic obstructive pulmonary disease and its association with tobacco smoking and environmental tobacco smoke exposure among rural population; showed frequency rates unstable from 2% to 22% in men and from 1.2% to 19% in women have been revealed in different reports. In the present study, out of 1400 subjects, 693 (49.5%) were males and 707 (51.5%) were females. The majority of the subjects i.e., 599 (42.79%) were in the age group of 35-44 years. The frequency was rising among the age groups, i.e., 2.5%, 3.85%, 6.72% and 9.52% in 35-44 years, 45-54 years, 55-64 years and 65-74 years correspondingly which was found to be statistically significant ($\chi^2 = 29.88, P = 0.0001$).¹⁰

In another study, done on gender and chronic obstructive pulmonary disease. The prevalence of chronic obstructive pulmonary disease (COPD) in women is escalating as is hospitalization for COPD. The numeral of women dying of COPD in the United States now surpasses men. Despite this, research suggests that physicians are still more to be expected to correctly diagnose men with COPD than women.¹¹

However, nearly all recent survey from an economically advanced country, Austria, using charily standardized methods equal to the methods used in the Latin American surveys, found an identical occurrence of COPD in men and women, and equal tobacco use. This study conclude that COPD prevalence in women is likely to increase markedly as women in all countries adopt the similar lifestyle way of life as men.¹²

Table no 3 screening item wise responses of patients. Out of 200, 93

are smoker and 107 are non smoker i.e. 46.50% and 53.50 % respectively. A good number of people know about the smoking cessation, ill effects of smoking which came approximately 60.50% and 59.50% respectively. The people don't know about the airway clearance techniques, vaccinations, breathing exercises, respiratory physiotherapy, pulmonary rehabilitation which was found to be 14%, 24%, 21.50%, 20%, 26% respectively.

CONCLUSION

The current study is to check the awareness among chronic obstructive pulmonary disease patients about the pulmonary rehabilitation. The present study concluded that there is lack of awareness among the people about the disease and pulmonary rehabilitation.

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Conflicts Of Interest: none.

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