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Socio-demographic and clinical characteristics of Chronic Obstructive Pulmonary Disease (COPD) patients

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Original article

Socio-demographic and clinical characteristics of Chronic Obstructive Pulmonary Disease (COPD) patients

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Abstract

Chronic Obstructive Pulmonary Disease (COPD) is a crucial health issue and ranks fifth in the global burden of disease. Even though the disease is identified by the symptoms of intensified respiratory manifestations and decline in functional status, exacerbation gives rise to the substantial threat for morbidity and early mortality. COPD also has a considerable influence on quality of life and is the noteworthy cause of health care associated expenses. This study is descriptive analysis of the socio-demographic and clinical variables among COPD patients in a tertiary referral hospital. **Objective:** The objective of this study is to assess the socio-demographic variables and clinical variables of COPD patients. **Methods**: This study is a part of Randomized Control Trial (RCT) on "Effectiveness of Pulmonary Interventions on Health Related Quality of Life and Clinical Outcome among COPD patients." Data were collected using Socio-demographic proforma and clinical proforma. **Results**: Analysis shows that the majority were males 127 (90.7%) aged around 61-86 years (62.14%) and the highest numbers of men were smokers (85.7%). **Conclusion**: Understanding the sociodemographic variables and the clinical variables of patient with COPD is essential in the treatment of COPD.

Key words: COPD, sociodemographic, clinical outcome measures, quality of life, COPD in Karnataka

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a crucial health issue and ranks fifth in the global burden of disease. Even though the disease is identified by the symptoms of intensified respiratory manifestations and decline in functional status, exacerbation gives rise to the substantial threat for morbidity and early mortality. COPD also has a considerable influence on quality of life and is the noteworthy cause of health care associated expenses. (Ramsey & Hobbs, 2006). Worldwide, 210 million people are approximated to have COPD. It is also expected to be the third leading cause of death worldwide by 2020. Both in developing as well as in developed countries the prevalence is increasing, might be due to the tobacco consumption (Monica , et al., 2011). Exacerbations of COPD are characterised by increased dyspnoea and poor quality of life. Hospitalizations and re-hospitalizations are common in acute exacerbation of COPD (John , et al., 2010). Established primary cause of COPD is tobacco smoking. Other causes such as indoor air pollution from biomass fuel are approximated to be associated with 0.4 million deaths from severe symptoms. The studies in Nepal have revealed that smokers have a 70% higher chance of developing COPD and more than 85% of houses still depend on biomass fuel (Bhandari & Sharma, 2012). The objective of the study was to assess the socio-demographic variables, clinical variable and association of the age with these variables.

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Materials and Methods

For the study, the subjects who were admitted for the treatment of COPD in the medical and pulmonary wards were recruited from a tertiary referral hospital, Karnataka, India. This study is a part of Randomized Control Trial (RCT) on "Effectiveness of Pulmonary Interventions on Health Related Quality of Life and Clinical Outcome among COPD patients." The data on socio demographic and clinical characteristics were obtained by using the questionnaire. The study was approved by the hospital authorities and by the institutional ethical committee. Informed written consent was obtained from the patients after explaining the study purpose. The descriptive analysis of the data was done by using SPSS 16 software. Frequency, percentage and chi-square were used for analysing this study.

Results

Socio demographic characteristics

The demographic profile includes age, gender, education, occupation, place of residence, smoking, type of house, marital status. The socio-demographic characteristics are shown in table 1.

Table 1:
Frequency and Percentage of Socio-Demographic Characteristics of COPD Patients

N=140

Variables	Category	Frequency	Percentage
Age	40-60	53	37.85
	61-86	87	62.14
Gender	Male	127	90.7
	Female	13	9.3
Religion	Hindu	125	89.3
	Muslim	8	5.7
	Christian	7	5
Education	Nil	19	13.6
	Primary	61	43.6
	High school	44	31.4
	PUC	11	7.9
	Graduation and post-graduation	5	3.6
Occupation	High risk occupations	85	60.71
	Low risk occupations	55	39.28
Family income	2500-5000	14	10
	5001-10000	86	61.4
	10001-20000	38	27.1
	>20000	2	1.4
Place of residence	Rural	91	65
	Semi urban	35	25
	Urban	14	10
Type of house	Kutcha	72	51.5
	Pukka	23	16.4
	Mixed	45	32.1
Marital status	Unmarried	0	0
	Married	140	100
	Living with	120	85.7
	Separated	4	2.9
	Widow/ widower	16	11.4
Spouse support (N=120)	Yes	120	100

The data in table 1 shows majority of them were males 127 (90.7%) and most 87 (62.14%) of them were between the age group of 61-86 years. Maximum number 125 (89.3%) of subjects were Hindus. With regard to education, 61 (43.6%) had their education till primary schooling. Most 91 (65%) of them were residing in rural area and 85 (60.71%) were under high risk occupations. Family income was rupees 5001-10,000 was for 86 (61.4%) of the subjects and 72 (51.5%) were living in kutcha type of houses. All were married and most 120 (85.7%) of them were living with spouse and had good support from spouse during illness.

Clinical variables of COPD patients

The clinical variables are duration of illness, number of hospitalization for respiratory problem, comorbidity, season of exacerbation, sleep disturbance due to cough and recent stressful event.

Table 2:
Frequency and Percentage Distribution of COPD Patients Based on Clinical Variables

N=140

Variables	Classification	Frequency	Percentage
Duration of illness in years	1-5	100	71.4
	6-10	35	25
	11-15	04	2.9
	16-20	01	0. 7

Variables	Classification	Frequency	Percentage
Number of hospitalizations for respiratory problems	1-5	134	95.7
	5-50	06	4.3
History of smoking (N=127)	Yes	120	94.48
	No	07	5.52
Number of beedi/cigarette per day	1-10	74	52.9
	11-20	11	7.9
	21 and above	35	25
Comorbidity	Yes	93	66.4
	No	47	33.6
Season of exacerbation	Rainy	11	7.9
	Winter	83	59.3
	Summer	20	14.3
	Not specific to any season	26	18.6
Sleep disturbance due to cough	Yes	117	83.6
	No	23	16.4
Recent stressful incident	Yes	21	15
	No	119	85
Treatment measures	Medications	69	48.57
	Medicated inhalers	72	51.42

The data in Table 2 shows that the higher number of subjects 100 (71.4%) were suffering from COPD for the duration of 1-5 years. Majority 134 (95.7%) were admitted in the hospital for 1-5 times with respiratory problems. Majority 120 (94.48%) of them had a history of smoking, out of which 74 (52.9%) were smoking 1-10 beedis per day; whereas 35 (25%) were smoking more than 21 beedis per day. Most 93 (66.4%) were suffering from comorbidities and season of exacerbation was winter for 83 (59.3%) of the subjects. Majority 117 (83.6%) of them had sleep disturbance at night due to cough. Recent stressful events were expressed by 21 (15%) subjects, which may be an exacerbating factor. Treatment modality was medications for 69 (48.57%) and medicated inhalers for 72 (51.42%) subjects upon admission to the hospital.

Association between age and clinical variables of COPD patients

Association of age with various clinical variable like occupation, place of residence, season of exacerbation, comorbidity, sleep disturbance due to cough, recent stressful event, treatment measures, duration of illness and number of admissions due to respiratory problem. Association is shown in Table 3.

Table 3:
Association between the Age and Selected Variables

N=140

Variables	Age group	40-60 years Frequency	61-86 years Frequency	*p* value
Occupation				
	High risk (N=85)	29	56	.572
	Low risk (N=55)	24	31	
Place of residence	Rural (N=91)	37	54	.013
	Semi-urban (N=35)	11	24	
	Urban (N=14)	5	9	
Season of exacerbation	Rainy (N=11)	6	5	.472
	Winter (N=83)	28	55	
	Summer (N=20)	7	13	
	All or any (N=26)	12	14	
Comorbidity	Yes (N=93)	35	58	.696
	No (N=47)	18	29	
Sleep disturbance due to cough	Yes (N=117)	46	71	.780
	No (N=23)	7	16	
Recent stressful event that caused exacerbation of COPD	Yes (N=21)	8	13	.998
	No (N=119)	45	74	
Treatment measures	Medications (N=68)	42	26	.0001
	Medicated inhalers (N =72)	11	61	
Duration of illness	1-5 years (N=100)	51	49	.0001
	6-15 years (N=40)	2	38	
Number of admissions for respiratory problems	≤5 (N=134)	52	82	.719
	>5 (N=6)	1	5	

Data in Table 3 shows association of age with other socio-demographic variables and clinical variables done by using chi-square. The findings reveal that the age was significantly associated with treatment measures, duration of illness and place of residence with p= .001, .001, .013 respectively. There was no association between age and occupation, season of exacerbation and comorbidity.

Discussion

In this study, 140 COPD patients, who were admitted to the medicine and pulmonary wards were recruited, among them 127 (90.7%) were males, most 87 (62.14%) of them were between the age group of 61-86 years. All the patients were married and had good support from the spouse and family during the illness and the season of exacerbation was winter for 83 (59.3%) of the subjects.

In a multinational cross sectional study, which was carried out recently in United States revealed higher prevalence of COPD than reported previously. According to GOLD diagnostic criteria of COPD, the severity was stage II or above was 1.9% among subjects of age between 40 - 49 years and was 19.2% among individuals with age group of older than 70 years. Double increase in the occurrence of COPD was noticed for every 10 year increase in age (Nicola , Gulshan , & Amir , 2010).

The results of a study showed that the prevalence of COPD was less among the people under the age of 40 years. There was an incremental increase in the prevalence with increasing age in the proportion of COPD sufferer, reaching a peak in those aged 60-69 years followed by decrease in those aged older than 70 years. The decline in the rate of COPD after the age of 69 years reflects the average life expectancy of 67.1 years. These findings of age specific distribution were also consistent with international findings (Fletcher et al., 2011).

In a study conducted in New-Delhi on seasonal variation on hospitalization for COPD, they found that acute exacerbation and symptomatic COPD was more common during winter months with a sharp rise in later months of the year. This peaks in winter were higher in some years than others, but the timings of the peak was usually the same (Chandra & Guleria, 2009).

Conclusion

COPD is a chronic condition where factors such as season, smoking etc. may cause acute exacerbations. Understanding the sociodemographic variables and the clinical variables of the patients with COPD is essential in taking care, which may help the health care provider to deliver better care. This article can contribute to the body of knowledge with regard to provide quality care.

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