



STUDY ON SOCIO DEMOGRAPHIC CHARACTERISTICS AND QUALITY OF LIFE IN CHRONIC OBSTRUCTIVE AIRWAY DISEASE USING GOLD GUIDELINE STAGING METHOD IN PATIENTS COMING TO MEDICINE OUT PATIENT DEPARTMENT

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ABSTRACT

COPD is defined as "a common preventable and treatable disease, is characterized by persistent airflow limitation that is usually progressive and associated with enhanced chronic inflammatory response in the airways and lung to the noxious particle and gases". Current trend of COPD management is entirely based on pulmonary function test and GOLD staging. One hundred twenty-seven patients of COPD, aged > 40 years and undergoing treatment at the Chest Clinic and Medicine Outpatient Department The mean age of the patients in the study was 59.08 ± 7.9 with range from 45 to 83 years. There was insignificant correlation between age and HRQOL. Majority of the patients 94.2% in our study were male and most of the patients (75%) were ex-smoker .56.3 % patients were residents of rural areas, illiterate 59.16 %, unemployed 74.2 %. Most of cases (40.8%) as per gold guideline were in stage 4, other stages 3, 2 and 1 had 36.7, 21.7 and 0.8 % patients respectively.

KEYWORDS : COPD, Gold staging, HRQOL, SGRQ, FEV₁

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is the most common chronic lung disease in the world and is a major cause of morbidity and mortality worldwide¹. Diagnosis of COPD should be considered in any patient who has symptoms of cough, sputum production, or dyspnea, and/or a history of exposure to risk factors for the disease. The diagnosis is confirmed by spirometry. The presence of a post bronchodilator forced expiratory volume in one second (FEV₁) < 80% of the predicted value in combination with an FEV₁/FVC < 70% confirms the presence of airflow limitation that is not fully reversible². The prevalence of COPD in India according to the Indian study on epidemiology of asthma, respiratory symptoms and chronic bronchitis in adults I and II (INSEARCH I and II) study was 3.67% (4.46 and 2.86% among males and females, respectively)³. As the condition progresses, patients with COPD experience a progressive deterioration and disability, which lead to a worsening in their health-related quality of life (HRQOL).⁴ It is also widely accepted that medical interventions should aim to improve not only objective clinical outcomes, but also patient-reported outcomes such as HRQOL⁵. ST GEORGE'S RESPIRATORY QUESTIONNAIRE^{6,7,8-10} It was designed to measure health impairment in patients with asthma and COPD. The SGRQ is also valid for use in bronchiectasis and post tuberculosis and has been used successfully in patients with kyphoscoliosis, sarcoidosis. It is not suitable for cystic fibrosis. It has two parts- Part I - Symptoms score, Part 2 - Activity and Impact score. SGRQ-C shorter version derived from original SGRQ to remove the items with the weakest measurement properties in the original instrument, but at the same time ensure that its scores were directly comparable with the original SGRQ. The principal differences are: Smaller number of items (40 compared with the original 50), In a small number of items there is a reduction in the number of response categories, Change in the wording of Part 1. No specific recall period is used except for one item. The aim of the present study is to evaluate FEV₁ predicted by means of GOLD guidelines².

METHODOLOGY

Study is a cross sectional observation study involving 127 patients taken initially during the protocol submission of the study. So, 120 of COPD, aged >40 years and undergoing

treatment at the Chest Clinic and Medicine Outpatient Department, were included in the study. Informed consent was taken from all the participants. These patients were subjected to complete history taking and physical examination. Particulars of the patients such as name, age, sex, pack years of smoking were noted in a pre-structured Performa. These were the inclusion and exclusion criteria of the study. **INCLUSION CRITERIA:** This study will include confirmed cases of COPD who have been a) without any episode of acute exacerbation for past 2 months, b) >40 years of age, c) Current and past smokers and nonsmokers. **EXCLUSION CRITERIA:** a) Patient who are in acute exacerbation during investigation, b) Patients of asthma, c) Patients with any other comorbid condition d) Patients having other respiratory diseases like bronchiectasis, tuberculosis. A pre-structured Performa was filled up for study. Each subject was given a thorough work up for demographic, history and physical examination to fulfil the inclusion and exclusion criteria. Routine haematological and biochemical investigations were carried out. X-ray chest PA view and an ECG was also recorded for all patients.

The following parameters were measured at the time of enrolment into the study: Spirometry, HRQOL.

STATISTICAL ANALYSIS:

All the data were analysed with the help of SPSS version 20. The "Chi-Square" test was applied to observe the significance of difference between in study for the qualitative data. Anova were used to find out the correlation between different variables. P value <0.05 was considered to be significant.

OBSERVATIONS

Table 1: General Characteristics of patients:

Category	Mean \pm SD (range)
Age (years)	59.08 \pm 7.9 (45-83)
BMI (kg/m ²)	21.01 \pm 4.18 (12.5-37.3)
Pack Years	33.02 \pm 21.02 (5-165)

Table 2: Socio demographic characteristics of the patients

Category	Subcategory	N (%)
Sex	Male	117 (94.2)
	Female	10 (5.8)
Smoking history	Current	23 (18.3)

	Ex-smoker	91(75.0)
	Non-smoker	9(6.7)
	Bidi Smokers	108(89.17)
	Cigarette Smokers	4(2.5)
	Biomass fuel exposed	6(4.12)
	Hookah Smokers	3(1.67)
Locality	Rural	72(56.7)
	Urban	55(43.3)
Education	Illiterate	73(59.16)
	Primary and middle school	21(15.83)
	High school	16(12.5)
	Higher secondary school	13(10)
	Graduate	6(4.5)
Occupation	Unemployed	90(74.2)
	Labourer	12(9.2)

	Shop keeper	4(2.5)
	Tailor	5(3.3)
	Teacher	3(1.7)
	Salesman	4(2.5)
	Rickshaw driver	4(2.5)
	Farmer	1(0.8)
	Other	4(3.33)
	Total	127(100%)

Table 3: Distribution of the patients according to GOLD guidelines

Gold Stage	N (%)
1	2(0.8)
2	28(21.7)
3	46(36.7)
4	51(40.8)
Total	127(100.0)

Table 4: GOLD stage and HRQOL correlation (ANOVA)

GOLD stage	SGRQ symptoms		SGRQ activity		SGRQ impact		SGRQ total	
	Mean± SD (95% confidence interval)	p-value	Mean± SD (95% confidence interval)	p-value	Mean± SD (95% confidence interval)	p-value	Mean± SD (95% confidence interval)	p-value
1	11.4	0.303	17.10	0.040	35.20	0.629	25.7	0.219
2	28.26±17.5 (21.2-35.3)		50.84±23.2 (41.5-61.2)		37.33±23.5 (27.8-46.8)		39.92±19.3 (32.1-47.7)	
3	33.09±14.6 (28.6-37.5)		60.32±23.7 (53.1-67.5)		44.07±23.4 (36.9-51.2)		47.13±19.3 (41.3-53.0)	
4	31.64±12.8 (28.0-35.3)		63.03±21.2 (57.0-69.1)		43.24±20.8 (37.3-49.2)		47.02±15.6 (42.5-52.5)	
Total	31.27±14.6 (28.6-33.9)		59.02±23.1 (54.8-63.2)		42.19±22.3 (38.2-46.2)		45.35±18.0 (42.1-48.6)	

DISCUSSION

In present study the mean age of the patients in the study was 59.08±7.9 with range from 45 to 83 years. Obaseki et al¹¹ found mean age of their study population was 69 years. Majority of the patients (94.2%) were male in our study. Shavro et al¹² reported 93 % male patients in their studies. Majority of the patients (75 %) in our study were ex-smoker and 89.17 % patients had history of bidi smoking. Similar results have been reported by Shavro et al¹² in Indian patients. Majority of the patients in our study population (59.16 %) were illiterate, Shavro et al¹² found contrary results with 15 % illiterate patient in their study. We also evaluated GOLD stage and HRQOL by ANOVA test and this also had similar results. Most previous studies have detected a mild to moderate association between the different areas of HRQOL and the degree of airflow obstruction^{13,14}. Correlation of GOLD stage and HRQOL is controversial. In our study also we had weak correlation with HRQOL. It can be explained by different questionnaires used in study population and study population size. Further large-scale studies are required for confirmation of these findings.

CONCLUSIONS

COPD is more severe and frequent in male in Indian population compared to western population. Also seen more in rural, illiterate and tobacco abuse individuals. This study showed some important implications for the care of COPD in low-income settings GOLD stage were weakly correlated with HRQOL. Further large-scale studies are required for confirmation of these findings.

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