

**Original article:**

**Assessment of Spectrum of Clinical Profile in COPD Patients:  
An Institutional Based Study**

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**ABSTRACT**

**Backgrounds:** Chronic obstructive pulmonary disease (COPD) is a poorly reversible disease of the lungs that is one of the major causes of morbidity and mortality worldwide. There are many factors contributing to the poor quality of life suffered by patient with COPD. The symptom burden is considerable. Hence, the present study was undertaken for assessing the clinical profile in COPD patients.

**Materials & Methods:** A total of 200 COPD patients were enrolled in the present study. Complete demographic and clinical details of all the patients were obtained. A Performa was made and detailed clinical profile of all the patients was recorded. Inspection of the respiratory system was done, and auscultation was carried out for recording the respiratory symptoms. Spirometry was done in all the patients and observations were recorded in the master chart. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

**Results:** Shortness of breath was present in 94 percent of the patients, wheezing and chest tightness was present in 88 percent and 84 percent of the patients. Irritation in throat in morning was present in 60.5 percent of the patients. Chronic cough was present in 68.5 percent of the patients. Cyanosis was present in 51.5 percent of the patients. Recurrent respiratory infection was present in 69.5 percent of the patients.

**Conclusion:** COPD is accompanied by impairment in airflow further resulting in a spectrum of clinical manifestations involving the respiratory system.

**Keywords:** Clinical Profile, Chronic Obstructive Pulmonary Disease.

**INTRODUCTION**

Chronic obstructive pulmonary disease (COPD) is defined as a disease state characterized by airflow limitation that is not fully reversible. Chronic obstructive pulmonary disease is a group of progressive, debilitating respiratory conditions including emphysema and chronic bronchitis characterized by difficult breathing, lung air flow limitations, cough and other symptoms.<sup>1</sup> The clinical course of COPD is punctuated by acute exacerbation defined as “a sustained worsening of the patient condition from the stable state and necessitates a change in regular medication in a patient with underlying COPD.”<sup>2</sup> The cause of an Acute exacerbation COPD is most often infections and related to a viral and/or bacterial infection.<sup>3</sup>

There are many factors contributing to the poor quality of life suffered by patient with COPD. The symptom

burden is considerable. Studies based on post-bereavement interviews show that over 90% of patients are breathless in the last year of life, and in nearly half of these the breathlessness is unrelieved by treatment. Skilbeck et al (1998) found that 95% of a cohort of patients that had been admitted with an exacerbation of COPD in the preceding 6 months were experiencing severe breathlessness, defined as 'very much' on a four-point intensity scale ranging from 'not at all' to 'very much.' Other symptoms were strikingly prevalent, including pain (68%), fatigue (68%) and insomnia (55%). Psychological morbidity is also high in COPD.<sup>4-6</sup>

In recent years, a solution has been developed in the form of questionnaires (generic and specific) examining the quality of life (QOL) and health status and these have been used in patients suffering from respiratory conditions, especially asthma and COPD. However, these are complex, designed to evaluate populations and not subjects – with the result that they are of little use in clinical practice – and can underestimate the impact of the disease on the patient. In fact, COPD can affect lifestyle considerably, to the extent that patients often end up reducing their participation in many activities and restricting their social interaction.<sup>7</sup> Hence; the present study was undertaken for assessing the clinical profile in COPD patients.

## **MATERIALS & METHODS**

The present study was conducted in the Department of Pulmonary Medicine, Subharti Medical College, Meerut, Uttar Pradesh (India) and it included assessment of clinical profile in COPD patients. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 200 COPD patients were enrolled in the present study.

### **Exclusion Criteria**

- Patients with presence of any other metabolic disorder,
- Patients with history of any other systemic illness,
- Patients with history of any malignant neoplasm

Complete demographic and clinical details of all the patients were obtained. A Performa was made and detailed clinical profile of all the patients was recorded. Inspection of the respiratory system was done and auscultation was carried out for recording the respiratory symptoms. Spirometry was done in all the patients and observations were recorded in the master chart. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software.

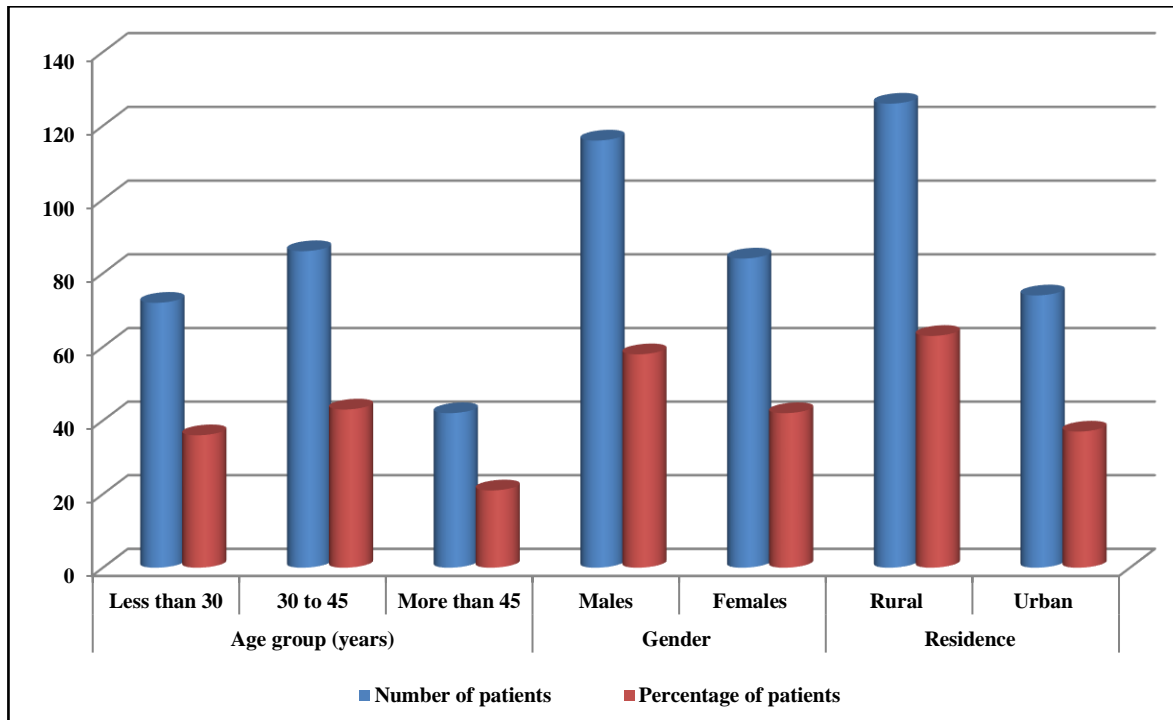
## **RESULTS**

In the present study, a total of 200 patients were analysed. Mean age of the patients was found to be 43.7 years. 43 percent of the patients belonged to the age group of 30 to 45 years. 21 percent of the patients belonged to the age group of more than 42 years. 58 percent of the patients were males while the remaining were females. 63 percent of the patients had rural residence while the remaining 27 percent had urban residence.

In the present study, shortness of breath was present in 94 percent of the patients, wheezing and chest tightness was present in 88 percent and 84 percent of the patients. Irritation in throat in morning was present in 60.5 percent

of the patients. Chronic cough was present in 68.5 percent of the patients. Cyanosis was present in 51.5 percent of the patients. Recurrent respiratory infection was present in 69.5 percent of the patients. Mean FEV1 value was found to be 1.69, while mean FVC value was found to be 2.52. Mean FEV1/FVC ratio was found to be 0.67.

**Graph 1: Demographic data**



**Table 2: Clinical profile**

Clinical manifestation	Number of patients	Percentage of patients
Shortness breath	188	94
Wheezing	176	88
Chest tightness	168	84
Irritation in throat in morning	121	60.5
Chronic cough	137	68.5
Cyanosis	103	51.5
Recurrent respiratory infection	139	69.5
Others	53	26.5

**Table 3: Spirometry indices**

Spirometry indices	Mean	SD
FEV1 (L)	1.69	0.695
FVC (L)	2.52	0.844
FEV1/FVC	0.670	0.823

## DISCUSSION

Chronic obstructive pulmonary disease (COPD) is one of the main causes of morbidity and mortality. It generates a considerable social burden and has an unfavourable outlook in terms of prevalence and mortality in the coming decades. To date, several studies have analysed the financial, clinical and pharmacological aspects of COPD. Nevertheless, there is a little information on the most relevant aspects of the disease for patients, as the severity of the patient's condition does not often correlate with the functional classification or the resources used. Therefore, in COPD, the term control usually has a different meaning for physicians, patients and the health authorities.<sup>8,9</sup>

Nearly fifty years ago, Orie and colleagues proposed in what would be later dubbed the "Dutch hypothesis" that asthma and COPD should be considered different expressions of one disease entity. Since then, much debate has taken place in the scientific community and multiple studies have over time emphasized the similarities between these "phenotypes" or the differences between these "diseases". Although the nature of the link between asthma and COPD has not been conclusively resolved, these studies have produced considerable advance in our knowledge as they have progressively applied more homogeneous clinical definitions and more refined functional, morphologic, immunological, and in recent times genomic and proteomic assessments.<sup>5</sup> Hence; the present study was undertaken for assessing the clinical profile in COPD patients.

In the present study, a total of 200 patients were analysed. Mean age of the patients was found to be 43.7 years. 43 percent of the patients belonged to the age group of 30 to 45 years. 21 percent of the patients belonged to the age group of more than 42 years. 58 percent of the patients were males while the remaining were females. 63 percent of the patients had rural residence while the remaining 27 percent had urban residence. Izquierdo JL et al analysed the burden of the disease using a simple, validated, self-administered questionnaire specifically developed for patients in daily clinical practice. A total of 3935 patients (74.5% men; mean age, 67 years) participated in a cross-sectional study. The burden of COPD on patients was measured using the Clinical COPD Questionnaire (CCQ). COPD was rated at four levels by the forced expiratory volume in one second (FEV1) according to The Global Initiative for Chronic Obstructive Lung Disease (GOLD) scale. The disease mainly affects old men (more than 50% were over 65 years of age) and non-employed men (23% were employed). Of the patients studied, 22.7% continued smoking, especially men (24.4% of men vs. 18.1% of women). Most patients (54%) were diagnosed with moderate stage II COPD. Severity of COPD was lower in women: 29.6% of men had severe COPD compared with 13.7% of women. During the last year, 65.1% had at least one acute exacerbation and 36.6% were admitted to hospital because of COPD exacerbation. No association was found between the body mass index and COPD stage. The variable that most influenced the disease burden was dyspnoea, as progression from grade 0 to grade 4 increased the disease burden by 1.78 points for symptoms, 2.43 for functional state and 1.53 for mental state. The functional classification of COPD also had a significant influence on the disease burden. The findings showed that dyspnoea and the degree of airflow limitation are the clinical variables that most affect the burden of COPD from the patient's point of view.<sup>9</sup>

In the present study, shortness of breath was present in 94 percent of the patients, wheezing and chest tightness was present in 88 percent and 84 percent of the patients. Irritation in throat in morning was present in 60.5 percent of the patients. Chronic cough was present in 68.5 percent of the patients. Cyanosis was present in 51.5 percent of the patients. Recurrent respiratory infection was present in 69.5 percent of the patients. Mean FEV1 value was

found to be 1.69, while mean FVC value was found to be 2.52. Mean FEV1/FVC ratio was found to be 0.67. Miravittles M et al characterized the profile of patients with COPD in a number of countries and their treatment in order to evaluate adherence to recommendations of international guidelines. This was an observational, international, cross-sectional study on patients with physician-diagnosed COPD. Demographic and clinical characteristics, risk factors, and treatment were collected by their physician via an internet web-based questionnaire developed for the study. A total of 77 investigators from 17 countries provided data on 833 patients. The countries with the highest number of patients included were: Argentina (128), Ecuador (134), Spain (162), and Hong Kong (153). Overall, 79.3% were men and 81% former smokers, with a mean FEV1 = 42.7%, ranging from 34.3% in Hong Kong to 58.8% in Ecuador. Patients reported a mean of 1.6 exacerbations the previous year, with this frequency being significantly and negatively correlated with FEV1(%). Treatment with short-acting bronchodilators and theophyllines was more frequent in Ecuador and Hong Kong compared with Spain and Argentina, and in patients belonging to lower socioeconomic levels ( $p < 0.0001$  for all comparisons). Inadequacy of treatment with inhaled corticosteroids and theophyllines was high, with significant differences among countries. Differences in the clinical characteristics and management of COPD were significant across countries. Adherence to international guidelines appears to be low.<sup>10</sup>

## CONCLUSION

From the above results, the authors concluded that COPD is accompanied by impairment in airflow further resulting in a spectrum of clinical manifestations involving the respiratory system. Hence; early identification is necessary so that prompt treatment could be initiated.

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