



Research Article

## PSYCHIATRIC COMORBIDITIES IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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### ABSTRACT

**Background:** Depression and anxiety are prevalent in patients with chronic obstructive pulmonary disease (COPD); however, its prevalence in Himachal Pradesh is not known.

**Aim:** To study psychiatric comorbidities in COPD patients

**Methods:** A total of 66 COPD patients were enrolled at regional hospital, Bilaspur. Sociodemographic variables and risk factors were collected. Psychiatric comorbidities were assessed using MINI 6.0 scale. Data were presented as frequency and percentages.

**Results:** Depression was the most common psychiatric comorbidity in 24% patients followed by substance abuse in 13.6% patients. Dysthymia and anxiety was present in 3% and 1.5% respectively. 57.6% patients had no psychiatric illness.

**Conclusion:** COPD patients have high prevalence of depression and substance abuse. Screening and treatment of these psychiatric comorbidities in patients with COPD may lead to significant improvements in patients' quality of life.

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### INTRODUCTION

Chronic obstructive pulmonary disease (COPD) currently represents the most significant global health problem.<sup>1</sup> COPD is projected to be the 3<sup>rd</sup> leading cause of death in the world by 2030, and the 7<sup>th</sup> as a burden of disease.<sup>2</sup> COPD is preventable respiratory condition which is characterized by progressive and persistent limitation of airflow.<sup>3</sup>

COPD has a significant impact on quality of life, and is a leading cause of unscheduled hospital admission.<sup>4</sup> Comorbid conditions are commonly associated with COPD and increase the risk of hospitalization. Comorbidity in COPD has also been associated with higher levels of polypharmacy and higher mortality.<sup>5</sup>

Mental health disorders are common in patients with COPD. Prevalence rate of depression ranges between 10% and 42% for depression.<sup>6</sup> It was reported that COPD patients have two-to-three fold higher prevalence of depression in comparison to non COPD patients.<sup>7</sup> Recently, Chaudhary *et al* showed that the frequency of psychiatric comorbidities was significantly higher in COPD patients (28.4%) as compared to controls (2.7%).<sup>8</sup> Comorbid psychiatric conditions such as depression or anxiety in COPD patients also increase utilization of primary and secondary health care and reduce treatment adherence. Hence, the detection of these conditions becomes essential as they are frequently under diagnosed in people with COPD.

There are no such data available of psychiatric co-morbidities in COPD patients in Himachal Pradesh. Hence, the present study was aimed to assess psychiatric comorbidities in COPD patients presenting to regional hospital, Bilaspur.

#### Patients and Methods

This non-interventional observational study was conducted from September 2018 to May 2019 at regional hospital, Bilaspur, Himachal Pradesh. Patients aged >30 year of either sex and with confirmed diagnosis of COPD using GOLD criteria<sup>9</sup> were included in the study. Those refused to participate in the study were excluded.

The patients were subjected to a detailed clinical history and physical examination. In the clinical history, duration of COPD with history of complications and treatment were recorded. History of the presence of risk factors such as smoking, hypertension, and diabetes mellitus was collected. The patients were subjected to routine investigations such as complete blood count, serum electrolytes, renal function tests, liver function tests, viral markers, and chest X-ray.

#### Assessment of psychiatric comorbidities

Psychiatric comorbidities were assessed using MINI 6.0 a short structured diagnostic interview, developed jointly by psychiatrists and clinicians in the United States and Europe, for Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition, Text Revision and International Classification of Diseases, Tenth Revision psychiatric disorders.

Data were presented as frequency, percentage, and mean.

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## RESULTS

### General characteristics

A total 66 patients were included in the study. Mean age of the patients was 58.17 years. 63.6% patients were of age group 51-60 years followed by 16.7% patients aged between 41 and 50 years. 12% patients aged more than 60 years (Fig 1). 90% of the patients were males (Fig 2). 80% of the patients belonged to rural region (Fig 3). Mean BMI was 21.13 Kg/m<sup>2</sup>.

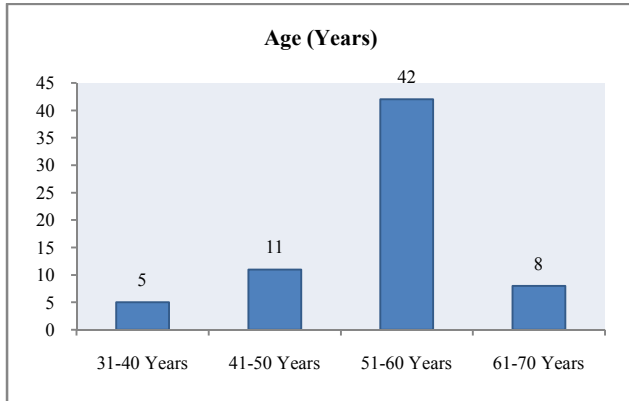


Fig 1 Age based distribution of patients

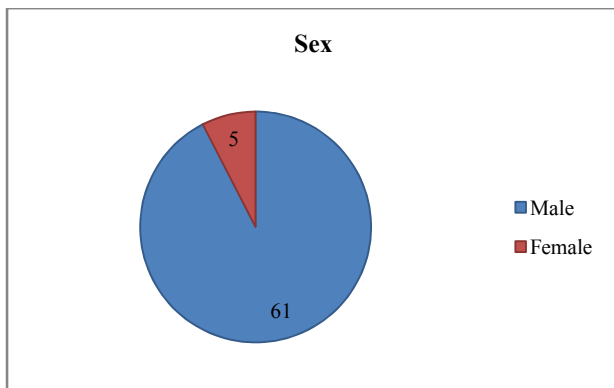


Fig 2 Sex-based distribution of patients

### Risk factors

75.7% of the patients were smokers. In all females, biomass-based smoke (chulha) was the main risk factor (Fig 3). Mean duration of smoking was 19.74 years.

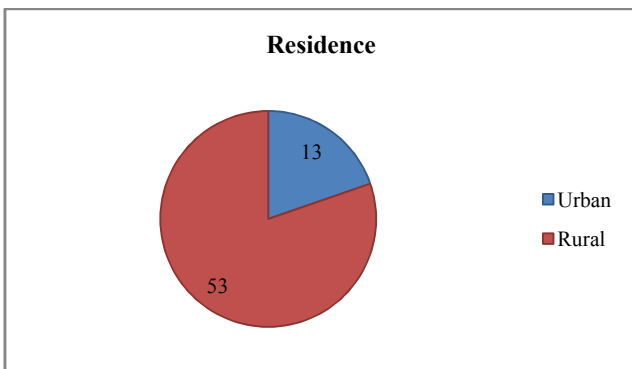


Fig 3 Residence-based distribution of patients

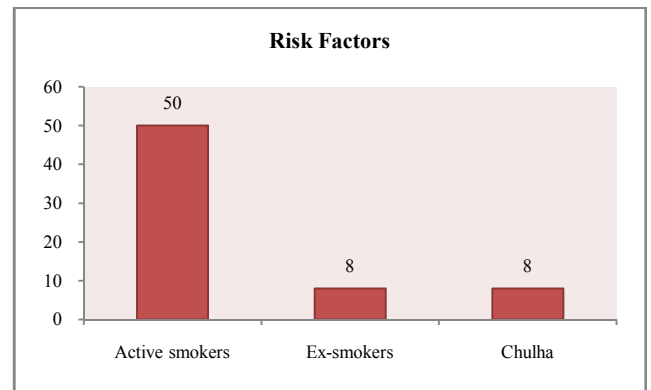


Fig 4 Risk factors

### Psychiatric comorbidities

Depression was the most common psychiatric comorbidity in 24% patients followed by substance abuse in 13.6% patients. 57.6% patients had no psychiatric illness (Table 1).

Table 1 Psychiatric comorbidities

Psychiatric comorbidities	n(%)
Depression	16 (24.2%)
Anxiety	2 (3.0%)
Dysthymia	1 (1.5%)
Substance abuse	9 (13.6%)
None	38 (57.6%)

## DISCUSSION

Chronic obstructive pulmonary disease (COPD) is one of the major causes of morbidity and mortality worldwide. The progressive increase of its epidemiological and socio-economic impact is endless, also due to the presence of several comorbidities which can affect substantially the clinical progression of COPD, together with the patients' quality of life and survival.

In the last decades many studies were particularly aimed to assess and characterize the prevalence of comorbidities in COPD patients, and in the majority of these studies the overall prevalence is confirmed quite high, ranging between 65-81 % of the patients due to variation in study population as well as tools used to assess psychiatric illness.<sup>10,11</sup>

Data from our study showed that 43% patients had psychiatric comorbidities. A recent Indian study from AIIMS Rishikesh found that 22.4% patients with COPD had depression.<sup>12</sup> In our study, depression was the major psychiatric comorbidity. The lower frequency of psychiatric comorbidities in our study can be due to the fact that we excluded other medical comorbidities and inpatients. It is a well-known fact that the prevalence of psychiatric comorbidities especially anxiety and depression increase with other medical illnesses. The higher prevalence of depression in COPD could be attributed to biological factors like increased levels of 5-hydroxyindoleacetic acid as reported in earlier studies.<sup>13</sup> The other possible factors responsible for increased prevalence of psychiatric comorbidities in COPD patients could be psychological factors such as low self-esteem and low self-worth resulting from suffering a chronic medical illness.

In another Indian study by Chaudhary *et al*, substance abuse disorder was the most common in 16% of the COPD patients while dysthymia was present in 5.7% patients. They also observed that depression was the least common in 2.7%

patients.<sup>8</sup> In our study, we found that substance abuse was the second most common psychiatric comorbidity. This finding can be explained by the fact that most of our cases had a positive smoking history, and many of the patients were still dependent on tobacco substitutes.

The major limitation of our study is duration of this study as well as absence of control group which could also help us further to assess and compare different psychiatric illness as well as risk factors in COPD patients.

## CONCLUSION

Depression is the most common psychiatric comorbidity. It is important to recognize the presence of symptoms suggestive of psychiatric illness and to institute proper treatment for the same.

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