

Anxiety and Depression In Chronic Obstructive Pulmonary Diseases

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Abstract

Background- Chronic obstructive pulmonary disease (COPD) is a chronic lung disease that has significant extrapulmonary effects that may impact the severity of symptoms in individual patients. COPD is a highly prevalent disease worldwide.

Methods- This prospective cross sectional hospital based study was carried out on consecutive clinically stable COPD patients during their outpatient and inpatient department visit at Department of Respiratory medicine, Institute of Respiratory Disease , SMS Medical College, Jaipur, Rajasthan, during the year between 2015 to 2016.

Results- In our study out of 100 pts 77% had depression. Median PHQ-9 score of study population was 8. Maximum patients had mild depression (36%) followed by moderate (28%) and moderately severe depression (13%). In this study all patients had anxiety. 81% patients had no-minimum anxiety and only 19% had moderate anxiety. None was found to have severe anxiety.

Conclusion- Out of total 100 patients, based on BAI scale 11% patient were found to have moderate anxiety and 89% patient were having no to minimum Anxiety .

Keywords- Anxiety, COPD, Depression.

Introduction

Chronic obstructive pulmonary disease (COPD) is a chronic lung disease that has significant extrapulmonary effects that may impact the severity of symptoms in individual patients. COPD is a highly prevalent disease worldwide. The prevalence is variable between countries, but overall there is a prevalence rate of around 10% in individuals aged 40 and above¹. In developed countries, COPD is responsible for approximately 4% of all deaths and is the only major condition for which the burden of disease continues to increase, currently being 5th overall in underlying cause of death and 3rd for burden of disease².

Anxiety and depression are common and important comorbidities in patients with chronic obstructive pulmonary disease (COPD). The pathophysiology of these psychological comorbidities in COPD is complex and possibly explained by common risk factors, response to symptomatology and biochemical alterations. The presence of anxiety and/or depression in COPD patients is associated with increased mortality, exacerbation rates, length of hospital stay, and decreased quality of life and functional status. There is currently no consensus on the

most appropriate approach to screening for anxiety and depression in COPD. Treatment options include psychological [relaxation, cognitive behavioural therapy (CBT), self-management] and pharmacological interventions. Although there is some evidence to support these treatments in COPD, the data are limited and mainly comprised by small studies. Pulmonary rehabilitation improves anxiety and depression, and conversely these conditions impact rehabilitation completion rates. Additional high quality studies are urgently required to optimise screening and effective treatment of anxiety and depression in patients with COPD, to enhance complex chronic disease management for these patients³.

Material and Methods

Study Design: - This prospective cross sectional hospital based study was carried out on consecutive clinically stable COPD patients during their outpatient and inpatient department visit at Department of Respiratory medicine, Institute of Respiratory Disease , SMS Medical College, Jaipur, Rajasthan, during the year between 2015 to 2016.

Sample Size – sample size is calculated at 95% confidence interval, alpha error 0.05 assuming 42% of COPD patients having significance depression as per seed article. At 10% absolute allowable error 97 COPD case will be require in present study, which is further rounded about 100 cases.

Inclusion criteria

1. Ex or current smoker with post bronchodilator FEV 1 /FVC200 ml and 12% after 200 microgram of salbutamol inhalation.
2. Patients willing to participate in the study and giving an informed written consent.

Exclusion criteria

1. Acute exacerbation of COPD in 4 weeks prior
2. History of taking anti depressant or anti anxiety drug
3. History of any neuropsychiatric illness
4. Chronic systemic illness

Observation And Results

During study period of one year 100 patients of COPD were included in the study. There were 67 patients (30%) in stage II, 32 patients (47.5%) were in stage III and 1 patients (22.5%) in stage IV.

In our study out of 100 pts 77% had depression. Median PHQ-9 score of study population was 8. Maximum patients had mild depression (36%) followed by moderate (28%) and moderately severe depression (13%).

In this study all patients had anxiety. 81% patients had no-minimum anxiety and only 19% had moderate anxiety. None was found to have severe anxiety.

Table 1. Association of severity of COPD with Anxiety

FEV 1	No minimum anxiety BAI (1- 21) n=81	Moderate anxiety BAI (22- 36) N=19	Total	p-value
>50%	54(66.7%)	13(68.4%)	67(67.0%)	0.88
30-49%	26(32.1%)	6(31.6%)	32(32.0%)	
<30%	1(1.2%)	0(0%)	1(1.0%)	
Total	51(100%)	19(100%)	100(100.0%)	

Discussion

In this prospective study, carried out over a period of 1 year. A total 100 patients of stable COPD work evaluated. This included both Inpatient and outpatient. All patients were assessed for depression, Anxiety and sleep disturbances.

The age of patient ranged between 53 to 78 years, with a mean age of 61.9± 9.29 with was similar to another study done by sajal de et al⁴with mean age of 62.2 years. This showed that COPD is a disease of old age.

All COPD patients were classified as per global initiative for chronic obstructive lung disease (GOLD) recommendation based on post bronchodilator FEV1 value. Maximum patient were in stage II COPD (67%), 32% patients were in stage III COPD, and no patient were having severe COPD. In a study sajal de et al⁴ 47.5% patient were in stage III COPD. Average value of post

bronchodilator FEV1 in our study was 57.07 ± 12.02 which was very high compared to other study.

Anxiety in all COPD was evaluated by BAI scale (Beck anxiety Intervention). The median value of BAI was scale was 13.35 ± 7.16 with range between 3-32%. Based on this scale 11% patients were found to have moderate anxiety and 89% patient were having no to minimum Anxiety. No patients were having severe Anxiety. In study by Yohanne AM et al ⁵anxiety was presenting in 42% patient, and another study done by minnaj et al no Anxiety was in 22.4% and Moderate Anxiety was seen 43.1% respectively, which were comparatively higher than our study because most of our patients were in COPD stage II.

Conclusion

Out of total 100 patients, based on BAI scale 11% patient were found to have moderate anxiety and 89% patient were having no to minimum Anxiety .The median value of BAI scale was 12 in our study.

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