

Prevalence of Anxiety and Depression Among the Egyptian Chronic Obstructive Pulmonary Disease Patients

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Background: Chronic obstructive pulmonary disease (COPD) is currently the 4th leading cause of death in the United States. Anxiety and depression are common, but less treated comorbidities in COPD patients, although they are often associated with increased disability and morbidity. This study was undertaken to evaluate the prevalence of these two comorbidities among the Egyptian COPD patients.

Subjects & Methods: This study was performed on 200 COPD patients, 177 patients (88.5%) were men and 23 patients (11.5%) were women. The mean age of the patients was 58.95±7.03 years (range 40-69 years) and all patients were diagnosed as having COPD (FEV₁/FVC <70%), according to the GOLD criteria. The depressive symptoms were evaluated with the use of Beck Depression Inventory (BDI) questionnaire and symptoms of anxiety were assessed with the use of Hamilton Anxiety scale.

Results: Anxiety was found among 104 COPD patients (52%); 11 patients (5.5%) had mild anxiety (7-17 points), 34 patients (17%) had moderate anxiety (18-24 points), and 59 patients (29.5%) had severe anxiety (>24 points). As regards depression, it was present in 125 COPD patients (62.5%); 7 patients (3.5%) had minimal depression (0-13 points), 13 patients (6.5%) had mild

depression (14-19 points), 39 patients (19.5%) had moderate depression (20-28 points) and 66 patients (33%) had severe depression (29-63 points). There is significant positive correlation between anxiety severity and age (Pearson $r = 0.55$, $p < 0.001$), disease duration (Pearson $r = 0.81$, $p < 0.001$), smoking index (Pearson $r = 0.49$, $p < 0.001$), disease severity (Pearson $r = 0.89$, $p < 0.001$) and depression score (Pearson $r = 0.91$, $p < 0.001$). Also there is significant -ve correlation between anxiety severity and FEV₁ (Pearson $r = -0.84$, $p < 0.001$). As regards depression, there is significant positive correlation between depression severity and age (Pearson $r = 0.50$, $p < 0.001$), disease duration (Pearson $r = 0.71$, $p < 0.001$), smoking index (Pearson $r = 0.41$, $p < 0.001$) and disease severity (Pearson $r = 0.84$, $p < 0.001$). Also there is significant -ve correlation between depression severity and FEV₁ (Pearson $r = -0.87$, $p < 0.001$).

Conclusion: There is a high prevalence of anxiety and depression among COPD patients, which may make the symptoms and response to treatment in these patients worse. Thus, psychiatric assessment of COPD patients seems very beneficial and the added treatment for these associated comorbidities may improve the response to anti-COPD treatment.

Keywords: COPD, Anxiety, Depression.

Abbreviations:

COPD: Chronic Obstructive Pulmonary Disease
FEV: Forced Expiratory Volume

FVC: Forced Vital Capacity
BDI: Beck Depression Inventory

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INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is a largely preventable and treatable disease responsible for a substantial human and economic burden throughout the world. It is currently the fourth leading cause of death in the United States and is expected to surpass stroke within the next decade to become the third-leading cause of death. The diagnosis of COPD is based on the documentation of a postbronchodilator FEV₁/FVC <70%. Using this definition, 23.6 million adults (13.9%) in the United States have COPD and 2.4 million adults have moderate-to-severe airways obstruction (FEV₁ <50% of predicted) (Maurer, et al. 2008).

Co-morbid psychological impairments (anxiety and depression) are common in COPD and are often associated with increased disability and morbidity. They also impair quality of life and are often not fully explored in the clinical management of COPD patients. Estimates of prevalence of anxiety and depression in COPD vary widely but are generally higher than those reported in some other advanced chronic diseases. The prevalence of anxiety disorders in the general population is approximately 20%, while among patients with COPD, it varies widely (from 21% to 96%), as a result of the methodology chosen and of the characteristics of the population investigated (Carvalho, et al. 2007).