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Prevalence of depression in COPD patients: A cross sectional study in a tertiary care center

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Abstract

Background: Depression in COPD is a very important association. Data of its prevalence in COPD patients in India is not available in great extent. So, this study will add to the pool of data available.

Material and methods: This study was conducted on 100 COPD patients at IMS and Sum hospital, Bhubaneswar. For assessment of depression Hamilton rating scale for depression HAM-D was used. COPD patients were grouped into A, B, C, D as per the refined ABCD assessment tool. The prevalence of depression was assessed in different group of COPD patients.

Results: The overall prevalence of depression in COPD patients was 61%. 24% patients had minor depression, 18% had less than major depression and 19% had more major depression.

Conclusion: As prevalence of depression in COPD is high, all COPD patients should be evaluated for its presence to start early treatment which will improve quality of life.

Keywords: Prevalence, depression, COPD

1. Introduction

COPD is a chronic inflammatory disorder which not only affect lungs primarily but also effects other systems of the body. The common co-morbidity associated with COPD are cardiovascular diseases, lung cancer, osteoporosis and depression [1] Depression and anxiety in COPD patients have serious effects in COPD related morbidity and impairs adherence to medications [2]. If it is untreated it has serious effects on physical and social well-being [3]. It leads to increased economic burden for treatment and hospitalisations of patients [4]. To diagnose depression in COPD patients, is a difficult task as both of them have overlapping symptoms [5].

A study by Schneider *et al.* the depression incidence was 16.2 cases per 1000 persons years compared to 9.4 cases per 1000 person years in non-COPD control group [6]. A systematic review by Willgoss TG *et al.* showed the prevalence of clinical anxiety among COPD patients varied between 13% to 46% [5]. Untreated anxiety and depression can lead to suicidal tendency and increased risk of hospitalisations [7].

A recent systemic review and metaanalysis of 25 studies showed that COPD and depression relationship is bi-directional. Depression can cause COPD as it leads to increased smoking and COPD leads to depression [8]. In a recent study of older adults increased level of IL-6 and C-reactive protein are found to be associated with depression in COPD patients [9].

2. Material and Methods

This cross-sectional study was carried out during December 2016 to August 2018 at the department of Pulmonary medicine, IMS and Sum hospital Bhubaneswar. All patients with COPD of age between 18- 80 years were included in the study. COPD patients were grouped into A, B, C, D as per the refined ABCD assessment tool [1]. For assessment of depression Hamilton rating scale for depression HAM-D was used. HAM-D is a 17-21 item observer rated scale to assess presence and severity of depression states in patients with depression (Annexure 1). Patients having depression were categorized as follows: 1) 0-7 no depression 2) 8-12 minor depression 3) 13-15 less than major depression 4) 16 or more major depression.

The data was analysed using Statistical Package for the Social Sciences (SPSS)-version 22.0.

3. Results

A total of 100 COPD patients were included in the study. 64 patients were male, and 36 patients were female. Overall 61% patients had depression. 24% patients had minor depression, 18% had less than major depression and 19% had more major depression. 39% patients had no depression.

Table 1: Distribution of patients according to severity of depression

Category of patients	No of patients (%)
No depression	39(39%)
Minor depression	24(24%)
Less than major depression	18(18%)
More major depression	19(19%)

The prevalence of depression was 67.1% among male COPD patients and 50% among female COPD patients. According to the refined ABCD assessment tool patients were distributed as following.

Table 2: Distribution of patients in different stages of COPD

Stage of COPD	No of patients (%)
GOLD A	20(20%)
GOLD B	23(23%)
GOLD C	27(27%)
GOLD D	30(30%)

No patients in group Gold A had depression. The prevalence of depression was 56%, 77.7% and 90% in group Gold B, Gold C, Gold D respectively.

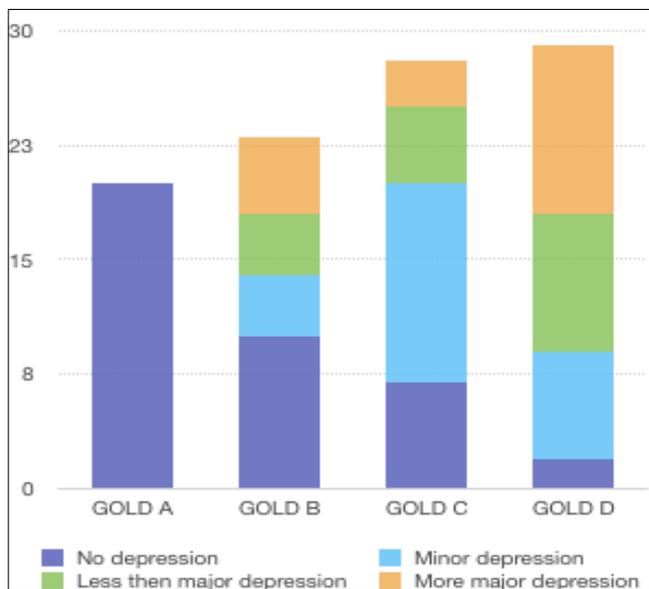


Fig 1: Prevalence of depression in different stages of COPD

4. Discussion

Depression is a significant comorbid condition associated with COPD patients. The prevalence rate varies from 10 to 46% in different studies. In 2011 the first study conducted by Sajal De in India found prevalence of depression of 72% in COPD patients. As the disease severity increases the prevalence of depression and anxiety also increases [10]. Another study conducted at AIIMS, Rishikesh, India found

prevalence of depression of 29% in COPD patients. COPD patients with depression had higher dyspnea score and poorer quality of life [11]. A systematic review and meta-analysis of controlled studies was conducted by D.L. Matte *et al.* The prevalence of depression was 27% in COPD patients and 10% in control group in this study [12]. In our study we found prevalence of depression was 61%. No patient in Group GOLD A had depression. The prevalence of depression was 56%, 77.7% and 90% in group GOLD B, GOLD C, GOLD D respectively.

5. Conclusions

All COPD patients should be evaluated by psychiatrist if any symptoms of psychiatric illness are suspected. Early diagnosis and treatment can improve patients' symptoms and better long-term prognosis. A future multicentric study with higher sample size taking account other psychiatric disorders can be more helpful.

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