



## EVALUATION OF DEPRESSION IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE PATIENTS

### Medicine

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### ABSTRACT

**Introduction:** When a person is diagnosed with COPD, he or she may become very fearful and anxious this may trigger depression. The present study is aimed to assess the prevalence of depression in COPD Patients as compare to patients with other medical illness.

**Material and method:** A total of 100 patients were taken. Out of 100 patients 60 patients were of COPD in study group and 40 matched control having medical illness other than COPD. Psychiatric evaluation was done for each case on a semi structured Performa and on the three rating instruments- i) Hamilton Anxiety Scale ii) Hamilton Rating Depression Scale and iii) DSM IV text criteria.

**Result:** In study group 36 patients (60%) have depression as compare to only 11(27.5%) in control group. The prevalence of depression between the COPD and control were statistically significant ( $p < 0.05$ ,  $Z = 3.45$ ). In the present study predominant type of depression is reactive depression (36%) and mixed anxiety and depression (23.3%).

**Conclusion:** From this study it can be logically concluded that depression occur at higher rate in COPD than other chronic illness and it is often associated with anxiety.

### KEYWORDS

depression, COPD, anxiety,

#### 1. Introduction

When a person is diagnosed with COPD, he or she may become very fearful and anxious this may trigger depression. The cause of depression is multifactorial and etiological factors should be regarded as having predisposing, precipitating or maintaining effects. Smoking, Hypoxemia, inflammation genetic susceptibility are some of the contributor to the prevalence of depression in COPD patients<sup>[1,2,3,4,5,6]</sup>. A recent study suggest severity of disease symptom and the quality of life are the most important predictors of depression in COPD patients<sup>[7]</sup>. Several theories are suggested for the development of depression in COPD patients but still its pathogenesis is unclear. For diagnosis of depression Hamilton depression scale and DMS IV criteria are considered to be the best but there are very few studies which utilized these diagnostic test for diagnosis of depression in COPD patients. The present study is aimed to assess the prevalence of depression in COPD Patients as compare to patients with other medical illness.

#### 2. Material and Method

The Patients for the present study were taken up from those admitted in Medical Wards of Department of medicine, Gandhi medical College, Associated Hamidia Hospital, Bhopal A total of 100 patients were taken. Out of 100 patients 60 patients were of COPD in study group and 40 matched control having medical illness other than COPD.

Psychiatric evaluation was done for each case on a semi structured Performa and on the following three rating instruments;

- Patient were assessed for Anxiety using Hamilton Anxiety Scale and score was measured in each case
- Hamilton Rating Depression Scale was used for assessing the degree of depression and score was measured in each case [8,9]
- DSM IV text criteria were used to diagnose psychiatric disorders [10].

For the purpose of this study the patients were divided into two groups  
Group I: Patients with COPD

Inclusion criteria- a) Diagnosed as COPD

b) Duration of illness for at least one year

Exclusion criteria- a) Presence of any other long standing medical illness like

Hypertension, Diabetes etc.

b) History of psychiatric illness of any nature than anxiety and depression in self or 1<sup>st</sup> degree relatives

Group II: Patients with other medical illness

Inclusion criteria- a) Presence of any medical illness other than COPD

Exclusion criteria- a) History of psychiatric illness of any nature other than anxiety and depression in self or 1<sup>st</sup> degree relatives.

Following investigation were done

a) Specially designed semi structured Performa for socio-demographic variables

b) Hamilton rating scale for Depression

c) Hamilton rating scale for Anxiety

d) Pulmonary function test

#### 3. Result

In this study we have taken total 100 patients. We have divided these patients in two group, control group and study group. We have taken 60 patients of chronic obstructive pulmonary disease (COPD) in study group 40 patients having illness other than COPD into control group.

Patients were selected on the basis of random criteria and were studied after taking their full consent.

**Table No 1-Total No. of patients having depression**

Total No. of patients having depression	Study (n=60)	Control (n=40)
	36 (60%)	11 (27.5%)

$Z = 3.45$ ,  $P < 0.05$

In study group 36 patients(60%) have depression as compare to only 11(27.5%) in control group. The prevalence of depression between the COPD and control were statistically significant ( $p < 0.05$ ,  $Z = 3.45$ )

**Table No2-Symptoms analysis of depression in study & control group**

Depression score (Hamilton Depression Rating Scale)	Study group n=60	Control group n=40
<10(Absent depression)	24 (40%)	29 (72.5%)
10-13(Mild depression)	14 (23.3%)	4 (10%)
14-17(Moderate depression)	17 (28.3%)	5 (12.5%)
>17(Severe depression)	5 (8.3%)	2 (5%)

In study group 24 patients (40%) has no depression as compare to 29(75%) in control group.

In study group patients belong to 14(23.3%) Mild, 17(28.3%) Moderate and 5(8.3%) severe category of depression as compare to control group 4(10%) Mild, 5(12.5%) Moderate and 2(5%) severe depression.

**Table No.3 - Depression analysis of study and control group**

Depression	Study Group	Control Group
Major depression	6(16.6%)	-
Minor depression	2(5%)	-
Reactive depression	13(36.1%)	4(36.3%)
Dysthymia	1(2.7%)	-
Mixed Anxiety and depression	14(23.3%)	7(17.5%)

In the study group 36(60%) patients have depression among them 6(16.6%) patients have major depression, 2(5%) patients have minor depression, 13(36%) patients have reactive depression and 1(2.7%) patients has dysthymia and 14(23.3%) patients have mixed anxiety and depression.

In control group 11(27.5%) patients are depressed among them 4(36.3%) patients have reactive depression and no patients have major and minor depression and rest 7(17.5%) patients have mixed anxiety and depression.

**Table No.4- DSM IV Diagnosis Mental Disorder In study And Control Group**

Depression	Study Group	Control Group
Major depression	6 (16.6%)	-
Dysthymia	1(2.7%)	-
Mixed Anxiety & depression	14 (23.3%)	7 (17.5%)

In study group 36(60%) patients have depression among them 6(16.6%) patients have major depression and 1(2.7%) patients have dysthymia and 14(23.3%) patients have mixed anxiety and depression. In control group 11(27.5%) patients are depressed patients among them no patients have major depression.

#### 4. Discussion

The close relationship between respiratory function and psychological factor is well known. The combined voluntary and involuntary control of breathing allows close involvement with psychological process. Surprisingly little study has been directed to psychological factors in COPD. This lack of interest persists, although these disorders may be second only to CAD as a cause of permanent and total disability. Chronic obstructive disease is as much as psychological problem as a medical one this fact is again ascertained by present study.

Present study was aimed to find depressive disorder in COPD and comparing it with patients having chronic illness other than COPD.

In the present study we found 60% prevalence rate of depression in COPD patients as compare to controls(27.5%) with "p value <0.05" showing significant difference in prevalence of depression in study group as compare to controls and also suggesting high prevalence of depression in COPD patients as compared to patients of other medical illnesses.

Various other studies also showed high prevalence of depression in COPD patients<sup>[11,12,13]</sup>. Prevalence of depression in COPD patients varies from 16 to 76% in various studies<sup>[11-16]</sup>. Such a wide range of prevalence of depression is mainly because of difference in number of patients in study group and use of different criteria for diagnosis of depression in various studies. In many studies there were no control group and in many elderly patients comprised the study group which is also the reason for such a marked variation in prevalence of Depression in COPD patients. Very few studies are there which used control group<sup>[17-20]</sup>. Gehan et al<sup>[20]</sup> studied depression using Beck depression inventory in 80 COPD patients and were matched with 80 Healthy control. Their study showed statistically significant difference in the prevalence of depression level in study group(42.5%) and control group(12.5%) with p=0.0001. A prospective study by Fabiano et al<sup>[19]</sup> had 202 patients of COPD and 114 age and sex matched healthy subject. That study showed 18.8% prevalence of depression in COPD as compare to control group in which the prevalence was 3.5% (p<0.001). Present study also showed higher prevalence of depression in COPD patients as compare to control group(patients with illness other than COPD).

In the present study predominant type of depression is reactive depression(36%) and mixed anxiety and depression(23.3%). Kunik M.E et al<sup>[12]</sup> studied effect of cognitive behavioral therapy in elderly

patients with chronic obstructive pulmonary disease. 56 patients of COPD were observed and among them 40% of patients of COPD have high level of depression along with anxiety.

#### 5. Conclusion

From this study it can be logically concluded that depression occur at higher rate in COPD than other chronic illness and it is often associated with anxiety. Thus it should become a part of the prescription of every physician to educate the newly diagnosed patients about various behavioral and psychological consequences.

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