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ORIGINAL ARTICLE

Assessment of Depression and Anxiety in Chronic Obstructive Pulmonary Disease Patients attending Pulmonary Medicine Department of Rohilkhand Medical College & Hospital, Bareilly, Uttar Pradesh, India

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ABSTRACT

Introduction: Chronic disease like chronic obstructive pulmonary disease (COPD) is associated with various comorbidities. Anxiety and depression are among the common comorbidities and have significant impact on socioeconomic status of the person as well as the course of disease. In our study, we screened COPD patients attending the outpatient department (OPD) of pulmonary medicine for anxiety and depression, using different scales that include questionnaires. About 46.2 and 34.6% cases were found to have depression and anxiety respectively, among all COPD patients (n = 156). Incidence of anxiety and depression was directly proportional to severity of disease. Age, gender, locality, educational, marital, and socioeconomic statuses are some factors that play important roles in the development of these psychiatric comorbidities. Hence, mental assessment of COPD patients should be mandatory with every visit to the OPD.

Keywords: Anxiety, Chronic obstructive pulmonary disease, Depression.

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INTRODUCTION

Chronic obstructive pulmonary disease is a highly incapacitating health problem, which restricts not only the physical function and professional activities but also emotional and sexual relationships.[1] Symptoms like fatigue, dyspnea, cough, sputum production, and repeated exacerbations decrease exercise tolerance and have major impact on the ability to carry out daily activities that ultimately result in reduced quality of life,[2] hence, inviting psychological factors like anxiety and depression. These psychiatric comorbidities have been described with increased frequency in patients with chronic diseases like COPD, especially if disease can be life-threatening.[3,4] In a recent study, nicotine dependence is also found to be crucial in developing depression and anxiety in COPD patients,[5] although various other unexplained causes are also added to this list of etiology.[6-8] Anxiety and depression should not be underestimated and should be diagnosed as soon as patient reaches hospital. Anxiety and depression can be evaluated with a questionnaire, i.e., short and easy to administer.[9-11] Such knowledge could potentially enable better individual care for patients with COPD. Keeping this in mind, we decided to conduct a study that aims to assess severity of anxiety and depression in COPD patients.

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MATERIALS AND METHODS

The present study included 156 COPD subjects attending Pulmonary Medicine Department, Rohilkhand Medical College & Hospital, Bareilly, Uttar Pradesh, India, and willing to participate in the study by giving a written consent. Cases were included only after the diagnosis of COPD was made as per Global Initiative for Obstructive Lung Disease guidelines.[12] Subjects having any chronic illness other than COPD or taking treatment for depression and anxiety were excluded from the study. Prior Institutional ethics committee clearance was obtained for the study.

All the cases were evaluated using Beck's Depression Inventory[10] and Hamilton Anxiety Scale.[11]

RESULTS

About 156 COPD patients were enrolled in the study and their demographic characteristics has been simplified in Table 1. The maximum patients were in the age group 46 to 60 years (66, 42.3%, n = 156), male (102, 65.4%, n = 156), from rural areas (97, 62.2%, n = 156), illiterate (64, 41.02%, n = 156), married (113, 72.4%, n = 156), and of family income between 5,000 and 20,000 INR (98, 62.8%, n = 156).

Table 1: Demographic characteristics

Demographic characteristics	Subgroups	Distribution (n = 156)	Distribution as per grades of depression (n = 72)				Distribution as per grades of anxiety (n = 54)		
			Minimal (n = 7)	Mild (n = 16)	Moderate (n = 22)	Severe (n = 27)	Mild (n = 10)	Moderate (n = 20)	Severe (n = 24)
Age (years)	15–30	8	3	2	–	–	1	2	–
	31–45	37	3	5	5	4	2	6	4
	46–60	66	1	7	9	10	6	8	11
	>60	45	–	2	8	13	1	4	9
Gender	Male	102	6	8	17	21	4	9	11
	Female	54	1	7	5	6	6	11	13
Address	Rural	97	6	11	14	16	8	12	15
	Urban	59	1	5	8	11	2	8	9
Educational status	Uneducated	64	5	10	17	19	1	7	10
	Up to 10th	55	1	4	2	5	3	5	7
	Above 10th	37	1	2	3	3	6	8	7
Marital status	Single	43	5	9	7	4	8	8	12
	Married	113	2	7	15	23	2	12	12
Socioeconomic status	0–5,000 INR	23	1	3	7	8	5	3	3
	5,001–20,000 INR	98	1	9	8	13	1	15	10
	>20,000 INR	35	5	4	7	6	4	2	11

Out of 156 COPD cases, depression was found in 72 (46.2%, n = 156) cases, which was further divided as per severity into minimal, mild, moderate, and severe and which constituted 7 (9.7%, n = 72), 16 (22.2%, n = 72), 22 (30.6%, n = 72), and 27 (37%, n = 72) cases respectively. Similarly, 54 (34.6%, n = 156) cases were found with anxiety, which was further divided into mild, moderate, and severe subcategory and constituted 10 (18.5%, n = 54), 20 (37%, n = 54), and 24 (44.4%, n = 54) cases respectively.

The incidence of depression was more in patients of male gender (51%, n = 102), cases residing in rural locality (48.5%, n = 97), in uneducated class (79.7%, n = 64), in single individuals (58.1%, n = 43), and of low socioeconomic status (82.6%, n = 23). Similarly, incidence of anxiety was more in patients of female gender (55.6%, n = 54), rural locality (40.7%, n = 59), higher education (56.8%, n = 37), single individuals (65.1%, n = 43), and high socioeconomic status (48.6%, n = 35).

DISCUSSION

The COPD is a common preventable and treatable disease with pulmonary and extrapulmonary manifestations. Extrapulmonary manifestations contribute to severity of the disease. Common comorbidities have led patients in the direction of psychological distress, as indicated by symptoms of anxiety and depression. This psychological comorbid condition should be diagnosed early and managed in early stages. So it has become very important to check the mental health status of every patient with COPD. Keeping this in mind, our study was conducted and has furnished with noticeable outcomes.

In our study, 46.2% (72, n = 156) cases were found to have depression and 34.6% (54, n = 156) were diagnosed with anxiety. Incidence of depression was found to be more than that of anxiety in the present scenario. The same observation was noted by Waseem et al[13] and Yon Ju Ryo et al,[14] as in their case incidence of depression and anxiety was 57.02 and 36.37% and 55 and 26% in patients with COPD respectively. Variation in percentage in our study with respect to other studies can be because there was no subcategorization of COPD patients, and maximum of the patients who visited were from mild to moderate category. Increase in severity of disease in COPD patients increases the incidence of depression and anxiety. In a study conducted by Maurer et al,[15] the prevalence of depression and anxiety in stable COPD patients ranged between 10 to 42 and 10 to 19% respectively, but as the disease becomes severe, the prevalence of depression and anxiety lands up to 37 to 71 and 50 to 75% respectively.

Smoking or nicotine dependence has been found to be very crucial in the development of depression and anxiety.[5] Repeated hospital visit, emergency admission, and treatment-related expenses may also add fuel to this running vehicle. Demographic characteristics also have certain role in an individual to learn, modify, and adapt his/her daily activities as per health education provided by doctor or other health worker. Age, gender, locality, educational, marital, and socioeconomic status are some of the factors that may contribute to the development of psychiatric comorbidities in a chronically ill individual. In our study, all factors were included and were found that patients with rural address and single marital

status were commonly prone to anxiety and depression. Psychiatric comorbidities in single living status have been proved by various authors like Waseem et al[13] and Schane et al,[16] but in rural patients it is different finding, i.e., less knowingly proved. Increase in incidence of depression and anxiety commonly in rural COPD patients can be due to less educational status, lack of health education, low socioeconomic status, poor health facility, or poor health status.

CONCLUSION

Anxiety and depression are common in patients with COPD. Every time the patient visits the hospital or other care center, their mental assessment should be mandatory.

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