

Assessment of Depression and Smoking in Chronic Obstructive Pulmonary Disease Patients

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ABSTRACT

Background: Depression is common in COPD patients, and smokers are more likely to develop it.

Methods: The smoking habits of 100 people with COPD were evaluated for the study during either an outpatient visit, or a hospital stay. The Hamilton depression rating scale was used to assess depression in the study population (HAM-D).

Result: The majority of the COPD patients in the current study were former smokers. The findings indicated that former smokers were more likely to experience depressed symptoms.

Conclusion: Depression is a common condition among COPD patients. The findings revealed that patient age and smoking habits had a significant impact on the progression of COPD illness.

KEYWORDS: Smoking, COPD, Depression

ARTICLE DETAILS

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INTRODUCTION

It has been discovered that smoking is associated with mental illnesses such as anxiety, depression, and stress issues ^[1, 2, 3]. According to epidemiological studies, patients with mental disorders are more likely than the general population to smoke ^[4,5]. Smoking increases the risk of both COPD and depression ^[6,7]. Quitting smoking is the only evidence-based treatment available to delay the onset of illness by preventing further decline in lung function. Quitting smoking is difficult for the majority of patients, especially when it is complicated by the presence of psychiatric disease. ^[8,9] Nicotine withdrawal symptoms are one of the most significant barriers to quitting smoking. ^[10,11] Many people have found success in managing their withdrawal symptoms as a result of the development of nicotine replacement therapy, such as nicotine gum, the nicotine patch, and so on. ^[12] Smoking rates among people who want to control disorders like anxiety and sadness remain high. ^[13,14] Nicotine, a pharmacologically active component of cigarettes, has both direct and indirect effects on neurotransmitters implicated in major depression. ^[15] At the moment, smoking is more common among Americans with lower educational levels, and Americans with lower educational levels have more

depressive symptoms. ^[16,17]

MATERIAL AND METHODS

Between January and June 2016, patients with COPD participated in the prospective observational trial during routine outpatient visits as well as hospital admissions. For the recruitment of patients, written informed consent is required. The current study's inclusion criteria are as follows. Age more than 18 years. COPD patients ranging from mild to severe

Individuals with mental retardation, pregnant women, and nursing mothers were excluded from the study. During the initial visit, the modified Medical Research Council (mMRC) scale was used to rate the patient's COPD, along with a smoking habit evaluation. Based on the information gathered, we were able to categorize the patients as non-smokers, ex-smokers, and current smokers. Ex-smokers are people who have smoked more than 100 cigarettes in their lifetime, quit smoking at least a year prior, and never smoked again. A person is considered a current smoker if they have smoked at least 100 cigarettes in their lifetime and either daily or infrequently as of the survey date, according to a national poll. A nonsmoker is someone who has never smoked before.

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Passive smoking refers to the inhalation of smoke by people who are not intended active smokers. In the current study, we statistically correlated smoking behavior with the severity of both COPD and depression. The Ham D scale was used to assess the patients' depression symptoms. The Ham D scale includes 17 questionnaires. According to the overall Ham D score, depression intensity can be classified as Normal (0-7), Mild (8-13), Moderate (14-18), Severe (19-22), and Very Severe (23).

STATISTICAL ANALYSIS

The statistical program for the social sciences (SPSS) version 20 was used for the statistical study. P values less than 0.05 were considered significant. The link was discovered using the correlation coefficient and the chi-square test.

RESULT

The study included 100 people with stable COPD. There were 96 men and four women among the 100 patients. The table below categorizes patients based on their smoking habits:

Table 1. Smoking history of the study population

Smoking habits	Frequency	Percent
Non smoker	5	5.0
Ex-smoker	70	70.0
Current smoker	25	25.0
Total	100	100.0

The current study's patients were mostly ex-smokers, while smokers made up 25% of the population and non-smokers made up 5%. To determine the relationship between smoking

and the severity of COPD, the statistical chi-square test was used, and the results were graphically represented in (Fig.1)

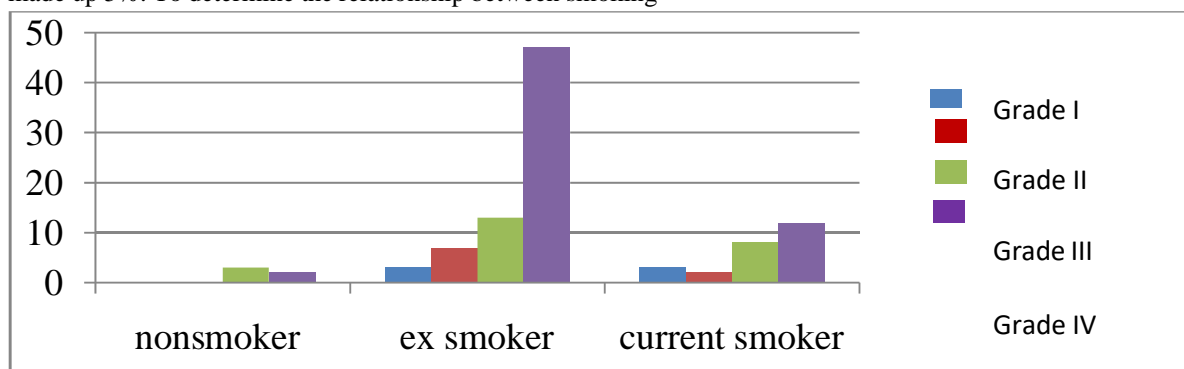


Figure 1. Association of smoking with severity of COPD

Both current and former smokers have significant levels of grade IV COPD, according to the findings. Former smokers

were found to be more likely than current smokers to develop COPD, and their condition was more severe.

Table 2. Association of smoking with severity of COPD

		Grade of COPD (%)			
		I	II	III	IV
SMOKING HABIT	Non smoker	0	0	12.5	33.3
	Ex- smoker	50.	77.8	54.2	77
	Current smoker	50	22.2	33.3	19.7

The link between smoking and depression has been discovered. Ex-smokers experienced more moderate sadness than current smokers or non-smokers. Former smokers made

up the majority of those with moderate, severe, or very severe depression.

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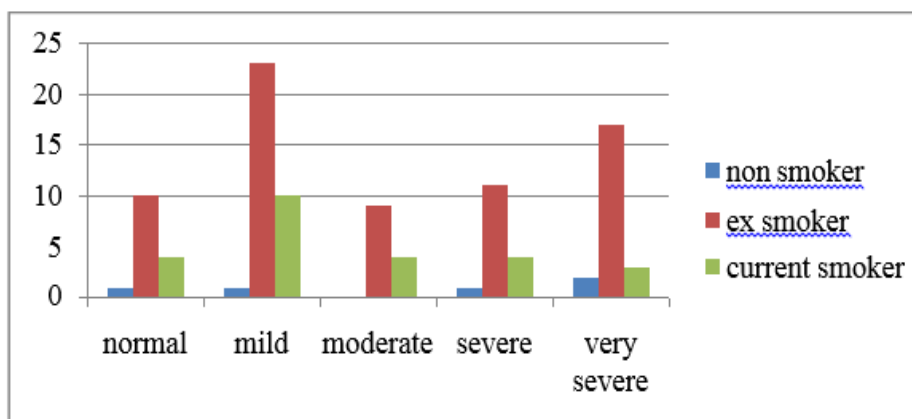


Figure: 2 Association of smoking with depression

Table 3. Association of smoking with depression

		Ham D SCORE				
		Normal	Mild	Moderate	Severe	Very severe
SMOKING HABIT	Non smoker	6.7%	2.9%	0.0%	6.3%	9.1%
	Ex- smoker	66.7%	67.6%	69.2%	68.8%	77.3%
	Current smoker	26.7%	29.4%	30.8%	25.0%	13.6%

The study of the relationship between COPD and depression discovered that the p value had a significant impact on how

severe the COPD condition was caused by depression.

Table 4. relationship of depression with COPD

Variables		Correlation coefficient	P value
Ham D_FIRST	Grade of COPD	0.398	0.0001

DISCUSSION AND CONCLUSION

The chi-square test and Pearson's correlation coefficient were used to examine the relationship between depression, COPD, and smoking habit statistically. According to the study's findings, former smokers have higher Ham D scores than current smokers. Nonsmokers scored lower on the Ham D scale than smokers. According to the current study, the severity of depression was higher in former smokers than in current smokers at each stage of COPD. The findings indicate a link between smoking and depression. Former smokers are frequently diagnosed with depression. According to the study, current smokers have a lower risk of depression, which may be related to their nicotine dependence. Smoking and COPD symptoms are linked in a positive way. Smoking influences both the likelihood of developing COPD and the severity of the disease.

It is critical to discuss the study's limitations. Because patient interviews served as the foundation for data collection, bias is very likely. Many customers were hesitant to speak openly about their smoking habits. COPD patients frequently suffer from depression, and studies have revealed a link between COPD, smoking, and depression.

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