

Research Article

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Characterization of patients with COPD admitted in pulmonary rehabilitation center.

Caracterização de pacientes com DPOC admitidos em centro de reabilitação pulmonar.

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Abstract

Introduction: Chronic Obstructive Pulmonary Disease COPD is a major cause of morbidity and mortality, which is preventable, thus studies that discuss the characterization of a given population are important for investment in treatments and prevention. **Objective:** Characterize individuals with COPD, admitted to a pulmonary rehabilitation center.

Method: Retrospective study, exploratory character of medical records of patients with COPD. Sample consisted of 37 patients diagnosed with COPD and age greater than 20 years. The following variables were analyzed: sex, age, marital status, occupation, diagnosis, main complaint, and cardiovascular risk factors presented by patients during admission. **Results:** Individuals aged >40 years and history of smoking have a higher prevalence in developing COPD. Pulmonary emphysema is a major pathological condition. The most common main complaint was dyspnea and cardiovascular risk factor was present sedentary lifestyle. Moreover, women with COPD were more likely to have depression than men. **Conclusion:** This study enabled the characterization of COPD patients, providing the possibility of investing in prevention and treatment.

Keywords: Chronic Obstructive Pulmonary Disease, Rehabilitation, Epidemiology.

Resumo

Introdução: A Doença Pulmonar Obstrutiva Crônica DPOC é uma das principais causas de morbimortalidade prevenível, assim, estudos que aborda a caracterização de uma determinada população são importantes para investimentos em tratamentos e prevenção. **Objetivo:** Caracterizar indivíduos com DPOC, admitidos em centro de reabilitação pulmonar. **Método:** Estudo retrospectivo, com caráter exploratório de prontuários de pacientes com DPOC. A amostra foi composta por 37 pacientes com diagnóstico de DPOC e idade superior a 20 anos. Foram analisadas as seguintes variáveis: sexo, idade, estado civil, profissão, diagnóstico, queixa principal, e fatores de risco cardiovasculares apresentados pelos pacientes durante a admissão. **Resultados:** Indivíduos com >40 anos e histórico de tabagismo apresentam maior prevalência em desenvolver DPOC, e o enfisema pulmonar foi a principal condição patológica. A queixa principal mais frequente foi dispneia e o fator de risco cardiovascular mais apresentado foi o sedentarismo. Além disso, mulheres com DPOC apresentaram mais chance de terem depressão que homens. **Conclusão:** Este estudo possibilitou a caracterização de pacientes com DPOC, proporcionando a possibilidade de investimento em prevenção e tratamento.

Palavras-chave: Doença Pulmonar Obstrutiva Crônica, Reabilitação, Epidemiologia.

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INTRODUCTION

Chronic obstructive pulmonary disease (COPD) is characterized by being progressive and persistent, including a number of respiratory disorders that generate losses in functional capacity and respiratory.^(1,2) The occurrence of COPD can be contained with the identification of the population at high risk and consequently initiate early treatment to slow the progression of the disease.⁽³⁾ In addition, late diagnosis and treatment of disease may limit and result in poorer clinical outcome.⁽²⁾

COPD is a major cause of preventable morbidity and mortality worldwide⁽⁴⁾ is still underdiagnosed in Brazil.⁽⁵⁾ In addition, epidemiological data related to the disease are scarce.⁽⁵⁾ Within this context, studies on the characterization of a given population are important and fundamental as information relevant to prove that national guidelines be developed or re-evaluated to meet the particular characteristics of a given population.⁽⁶⁾

Thus, this study aims to characterize individuals with Chronic Obstructive Pulmonary Disease, admitted to a pulmonary rehabilitation.

METHODS

Retrospective and not randomized study, exploratory nature of patients's records with COPD. The sample consisted of 37 patients admitted for pulmonary rehabilitation in Fisioterapia Cardiorrespiratória department of a medical school in the city of São José do Rio Preto. Patients diagnosed with COPD and age over 20 years were included in the survey. Patients with incomplete medical records were excluded.

The following variables were analyzed: gender, age, marital status, occupation, diagnosis, main complaint, and cardiovascular risk factors presented by patients, among these: hypertension (HBP), diabetes mellitus (DM), accentuation of body weight (overweight and obesity), physical inactivity (no regular physical activity), alcohol consumption (historical constant alcohol intake reported by the patient), depression (using drugs) and smoking ("yes", "no", "passive" and "former smoker").

For data analysis we used descriptive and inferential statistics. Descriptive results were expressed as mean, standard deviation (\pm), absolute and relative frequencies. Tests were used: unpaired t test, Welch corrected, to compare age between men and women and to verify the similarity between the groups; and odds ratio (OR) between the variables with Chi-square test. Was considered as $p \leq 0.05$ level of significance. Statistical analysis was performed using InStat program (version 3.0, GraphPad, Inc., San Diego, CA, USA).

This study was approved by the Ethics Committee in Research of the Instituto de Moléstias Cardiovasculares – IMC/SP, under the Protocol number. 015.08.010. Data were cataloged with only registration code, to preserve the confidentiality and privacy of patients.

RESULTS

The sample consisted of 37 patients (57% women) with a mean of 65.81 ± 15.53 years old. There was no significant difference ($p = 0.08$) between the mean ages of the women (62.14 ± 18.36 years) and men (70.62 ± 9.26 years), demonstrating similarities between samples. Compared to patients admitted for pulmonary rehabilitation, the main features were: age > 40 years; 51% in a stable relationship; and 46% retired (Table 1).

Subjects had a diagnosis of bronchial asthma (32%) and pulmonary emphysema (68%). The most common main complaint was shortness of breath in 76% of patients, 19 had only one complaint, 17 had two and the other three, totaling 56 main complaints (Table 1). The cardiovascular risk factors reported by patients were more sedentary lifestyle (81%), history of smoking (68%) and hypertension (38%) (Table 2). Regarding to patients with a history of smoking, about 24% were active smokers, 8% passive and 68% former smokers (Table 2).

During data analysis, we found that: women with COPD were more likely to have depression than men (OR: 6.00, $p = 0.043$); women with a history of smoking are more likely to develop COPD compared to men (OR: 3.25, $p = 0.060$); and the history of smoking increases the chances of having pulmonary emphysema in relation to chronic bronchitis (OR: 22.00, $p = 0.0003$).

DISCUSSION

COPD diagnosed in the Brazilian population is the fifth leading cause of morbidity and mortality, and the number of deaths has increased in the last twenty years in subjects of both gender. This situation is worrisome, especially because this disease can be preventable, such as by investing in campaigns against smoking.⁽⁷⁾ Epidemiological studies may assist in the identification, prevention and early treatment of patients with COPD.

In the present study, we observed higher prevalence of COPD in patients > 40 years and history of smoking (68%). According Sandelowsky *et al.*⁽⁸⁾ these individuals are more likely to develop this disease, especially when the clinical condition is associated with any kind of respiratory infection, being essential to identify these high-risk groups, aiming to motivate these patients to stop smoking.

We also observed that among COPD is the most common diagnosis of pulmonary emphysema. Studies^(7,9) have reported that there is a higher ratio pulmonary emphysema and cancer that individuals with chronic bronchitis. Moreover, the history of smoking increased the odds of having emphysema in relation to chronic bronchitis. Smoking is the main responsible for the majority of diagnosed cases of pulmonary emphysema.⁽¹⁰⁾

The framework of obstruction in patients with COPD

is progressive and is directly related to an abnormal inflammatory process resulting from increased inflammatory markers such as TNF- α and interleukins, caused especially by inhalation of toxic particles or gases, and smoking the main identified cause.⁽⁷⁾

In this study, the most common main complaint was dyspnea and cardiovascular risk factor was presented more sedentary. Dyspnea is progressive, per-

sistent and triggered by losses in the biomechanics of the thoracic diaphragm provided hyperinflation, resulting in an increased work of breathing even stopped.⁽¹¹⁾ In order to avoid this disabling symptom, these individuals become more inactive, accentuating the level of inactivity, entering a vicious cycle of isolation from society, thus worsening dyspnea and depression.⁽¹¹⁾

Table 2. Cardiovascular risk factors present in patients, according to gender.

	Women (n=21)	Men (n=16)	Total (n=37)
Hypertension	06 (29%)	08 (50%)	14 (38%)
Diabetes	03 (14%)	02 (13%)	05 (13%)
Increased body weight	01 (5%)	-	01 (3%)
Sedentary	16 (76%)	14 (88%)	30 (81%)
Alcoholism	03 (14%)	05 (31%)	08 (22%)
Depression	06 (29%)	01 (6%)	07 (19%)
History of smoking	12 (57%)	13 (81%)	25 (67%)
Active	04 (19%)	02 (13%)	06 (16%)
Passive	02 (10%)	-	02 (5%)
Former smoker	06 (29%)	11 (69%)	17 (46%)

Table 1. Distribution of patients by age, marital status, occupation and main complaint, according to gender.^(a) Jobs with a sample of just one individual.

Age	Women (n=21)	Men(n=16)	Total (n=37)
21-40 years	02 (10%)	-	02 (6,0%)
41-60 years	08 (38%)	02 (12%)	10 (27%)
61-80 years	08 (38%)	12 (76%)	20 (54%)
>81 years	03 (14%)	02 (12%)	05 (13%)
Marital Status			
Single	05 (24%)	01 (6%)	07 (19%)
Stable union	08 (38%)	11 (69%)	19 (51%)
Divorced	02 (9%)	03 (19%)	05 (12%)
Widowed	06 (29%)	01 (6%)	07 (18%)
Occupation			
Retired	08 (38%)	09 (56%)	17 (46%)
Home	07 (33%)	-	07 (19%)
Businessman	01 (5%)	02 (13%)	03 (8%)
Secretary	02 (10%)	-	02 (5,0%)
Other ^(a)	03 (14%)	05 (31%)	08 (22%)
Main complaint			
	n=28	n=24	n=56
Tiredness	02 (7%)	04 (17%)	06 (11%)
Difficulty in walking	01 (3%)	01 (4%)	02 (4%)
Pain	07 (25%)	03 (13%)	10 (18%)
Breathlessness	15 (55%)	13 (54%)	28 (50%)
Lack of appetite	02 (7%)	-	02 (4%)
Weakness	01 (3%)	01 (4%)	02 (4%)
Cough	-	02 (8%)	02 (4%)

Within this context, women with COPD were more likely to have depression than men. The literature⁽¹²⁻¹⁵⁾ demonstrates that depressive disorders are more prevalent in women than men with COPD. Studies^(12,16) reported that depressive symptoms in these patients result in reduced quality of life, greater retention and readmissions in the hospital environment and increased mortality.

CONCLUSION

Thus, we conclude that patients over than 40 years and history of smoking have a higher prevalence of developing COPD and that emphysema was the primary pathological condition. The most common main complaint was dyspnea and cardiovascular risk factor was presented more sedentary. In addition, women with COPD were more likely to have depression than men.

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