



# The Correlation Between COPD and Select Patient Characteristics



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## Abstract

To improve healthcare access and effectively address existing health disparities, it is essential to examine the various factors that may potentially influence patient interactions with the medical community. Language barriers and patients' socioeconomic backgrounds are commonly known to exacerbate access gaps to healthcare, further highlighting the need for quality translation standards among other solutions. Ideally, these measures would help improve the relationship between patients and medical institutions as well as empower providers to create culturally sensitive and inclusive healthcare experiences. To further understand the relationship between disease and language among other patient characteristics, this particular study focuses on analyzing the correlations between chronic obstructive pulmonary disease (COPD) and survey participant demographics. Such findings deepen insight into the impact of language as well as other potential factors that should be taken into close consideration when developing future interventions in order to best promote health equity and mitigate the impact of disparities on patients' health.

## Introduction

- Demographic factors such as age, language, socioeconomic status, and location all play crucial roles in determining the quality-of-care patients will likely receive.
- For example, **individuals from rural communities often face a lower quality of life**, with transportation barriers especially posing a considerable challenge for both older and socioeconomically disadvantaged populations (Buzza, S648).
- Similarly, **past medical conditions and health habits, such as smoking, can impact access to care** due to difficulties in obtaining insurance and reduce likelihood of seeking preventative care (Kiefe, 146).
- Regarding health communication standards, **the lack of existing quality assurance guidelines and no apparent gold standard for cross-cultural translation techniques** makes it increasingly difficult for patients with low health literacy to access, interpret, and communicate about their health especially if speaking in a non-native language (Cha, 394).
- Such demographic factors pose a considerable healthcare challenge, often resulting **in delays of clinical interventions and the increased burden of chronic diseases** on these individuals, further perpetuating health disparities in access and outcomes for these diverse communities.
- The primary objective of this study is to evaluate the **relationship between patient demographic characteristics and health outcomes** in the context of chronic obstructive pulmonary disease (COPD).
- COPD was chosen because it is a chronic illness **affecting people from a great socioeconomic gradient** and it is one of the highest annual contributors to emergency care admissions (Collins, 1288).
- This study seeks to contribute to the ongoing efforts to **address health disparities and promote health equity by identifying areas for improvement** in healthcare delivery, including the development of better translation standards and culturally sensitive interventions.

## Methods

- This data was part of a larger descriptive statistics study (n = 269).
- Patient demographics were described and group comparisons (between demographic characteristics and having COPD) were performed to measure access.
- Institutional Review Board (IRB) approval was attained, participants were consented.
- Participant data was collected via REDCap, including demographic information including age, gender, marital status, etc.
- The survey data was analyzed using 25 SPSS statistical software.
- ANOVA was used to compare means between groups.

## Results

Table 1: Breakdown of Patient Demographics (n= 269)

COPD	
% With COPD	54%
% Non-COPD	19.90%
Age	
Average Age*	51
Living Status	
% Living with spouse	54%
% Living alone	19.90%
% Homeless	23.00%
% Other	5.10%
Gender*	
% Female	54.70%
% Male	45.30%
Smoking	
% Active Smoker**	42.70%
% Past Smoker	6.90%
% Non-Smoking	50.40%
Insurance	
% Insured	86.50%
% Non-Insured	13.50%
Primary Care	
% Received	81.40%
No	18.60%
Reported Barriers to Receiving Health Care	
No Transportation	8%
Distance	1.80%
Language barrier*	0.40%

\* p-value ≤ 0.045

\*\* p-value of ≤ 0.001

Table 1. Percentage of the surveyed patient population n=269 exhibiting each of several different demographic characteristics, including gender, language, and age.

Table 2: Significant Correlations Between COPD and Select Patient Characteristics

COPD vs Characteristic	F-value	p-value
COPD vs Cigarettes:	F: 12.5	p < 0.001
COPD vs Age:	F: 4.0	p= 0.045
COPD vs Language:	F: 4.1	p = 0.042
COPD vs Gender	F: 4.038	p = 0.045
COPD vs Insurance	F: 0.328	p = 0.568
COPD vs Primary Care Provider	F: 0.001	p = 0.969

Table 2. Percentage of the surveyed patient population n=269 exhibiting each of several different demographic characteristics, including gender, language, and age.

## Discussion

- The observed **statistically significant correlations between age and smoking with COPD** align with established medical knowledge.
- There also exists a statistically significant relationship between COPD and language barriers. This is a concerning finding because unlike age and smoking, **linguistic background has no scientific basis in the onset of chronic illness**. In other words, this finding highlights a pervasive issue of how one's language can significantly hinder patient health outcomes.
- Equally notable is the **lack of a statistically significant correlation between primary care provider (PCP) access and COPD**. PCPs traditionally play a pivotal role in advising patients against smoking.
- Our findings suggest that the presence of a PCP had no significant relation to COPD, indicating a **potential gap in smoking cessation efforts within primary care settings**.
- Further research may be needed to evaluate the **effectiveness of PCPs conversations regarding smoking** within a patient setting.
- These findings demonstrate the **need for improved standards of healthcare communication**, in particular healthcare translation, in order to overcome linguistic barriers, ensure equitable healthcare efforts across all patient demographics, and improve provider recommendation interventions within primary care settings.
- Future research is necessary to assess **how to update healthcare translation standards** to best enhance patient understanding and optimize health outcomes.

## Acknowledgements

- We want to extend our heartfelt thanks to Dr. Carli Zegers, our mentor, for providing unwavering guidance and support throughout the course of this project.
- We extend special appreciation to UROP colloquium leaders John DeCaro, Emma Drac, and Lauryn Brewer, along with the FSU CRE staff, whose efforts have been instrumental in making this research experience possible.

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