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ORIGINAL ARTICLE

COPD Patients Had a Greater Probability of Getting GERD than the General Population. A Multi Center Study

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ABSTRACT

Background: COPD, a kind of obstructive lung disease, is characterized by partially reversible airflow limitation as a symptom. Emphysema and chronic bronchitis are two separate histological and clinical manifestations of chronic obstructive lung disease (COPD). Both components strongly emphasize individualism. The finding of an elevated incidence of gastro esophageal reflux disease (GERD) in this patient group may assist in the decision of whether or not to routinely assess COPD patients for the potential of GERD and treat it successfully.

Objective: Understanding the prevalence of GERD among people who have the illness is crucial since it is linked to a poorer outcome in COPD patients.

Methodology: Pulmonology department of HMC Hospital Peshawar conducted this multi center study. Analyzed data January 2019–January 2020. This experiment included 54 participants. Patients had complete physicals and histories (aged 21 to 80). After meeting inclusion and exclusion criteria, spirometer and the Q-questionnaire were administered. The same CPSP-certified technician collected all patients' spirometer readings, and the same CPSP-fellow specialist in pulmonology rated each patient's FEV1 following bronchodilator treatment using GOLD criteria (from "01" to "04"). As a percentage of COPD cases, Q-questionnaire respondents had GERD.

Results: The mean age of the people was 57.36+08.35, with a standard deviation of 11.590. Men made up only 39% of the total patients, while women accounted for 61% of them. In those with COPD, GERD was present 51% of the time.

Conclusion: According to the findings of this investigation, GERD occurred in individuals with COPD 51% more often than the general population.

Keywords: COPD , GERD, Population

INTRODUCTION

COPD Resulting in a brief, partial restriction of airflow. Type 1 CO and chronic bronchitis respectively are emphysema and COPD. People have quite different perspectives on these two issues. 01. COPD is brought on by a persistent inflammatory response brought on by inhaled irritants and microorganisms. Inflammatory cells that induce COPD02 include macrophages, granulocytes, and neutrophils. The T1 lymphocytes of smokers Inflammation shrinks the airways by leaving scars behind. Because the airways are constricted by the chest pressure, exhaling is difficult. A significant COPD consequence is GERD03. Heartburn, chest discomfort, nausea, difficulty breathing, and tooth damage result from the stomach's contents being regurgitated into the esophagus and throat. GERD may make pulmonary issues worse. [GERD] foretells flare-ups of COPD04. In COPD patients, GERD must be early identified and treated. To diagnose GERD05, the Q-questionnaire and clinical examinations are employed. GERD prevalence in COPD varies between 17 and 78%, depending on the diagnostic and therapeutic methods used. 8 GERD is present in 62% of COPD patients. The purpose of this study is to ascertain the prevalence of GERD in COPD patients. There are no studies on GERD in Pakistan's COPD population, and research from other countries has produced erratic findings. In the United States, COPD is a common factor in hospitalizations. If GERD is more common in COPD patients, it may be easier to decide whether to test for it often. Observe everything carefully. This study will serve as the foundation for future investigations into the relationship between GERD and COPD, which is therapeutically significant for these patients07.

METHODOLOGY

the study conducted in department of pulmonology Hmc hospital Peshawar From January 2019 to January 2020, to analyzed data from many similar hospitals. A total of 54 participants participated in this study.

Sample size: The 54-person sample size was chosen in accordance with the World Health Organization's recommendations for choosing sample sizes in medical research; the prevalence of GERD in COPD patients was estimated to be 15%; the margin of error was set at 5%, and the confidence interval was set at 95%.

Collecting Data: All COPD patients were assessed by the ethics board (per inclusion criteria). The ages of 21 to 80 were studied. Following the inclusion/exclusion criteria, spirometry and the Q-questionnaire were performed. All spirometry measurements were performed by the same expert. The post-bronchodilator FEV1 was rated GOLD 01-04 by CPSP experts. Addendum. The prevalence of GERD was determined after Q-questionnaire responses from COPD patients. All data were on a proforma. Confounding and bias were decreased via exclusion criteria.

Statistical Analysis: The collected data was saved, and examined using SPSS Version 24. All quantitative variables' statistics were assessed using mean and standard deviation. Frequencies and percentages were used to represent quantitative traits like gender and GERD. By dividing GERD patients into different groups based on their age, gender, length of sickness, degree of disease, and other characteristics, effect modification was examined. We utilized a Chi-square test after stratification, with a threshold of [0.05] denoting statistical significance. All of the data was presented in charts and tables.

RESULTS

It was 57.36+08.35 years old on average, with a standard deviation of 11.550. Patients made up 61% of the population, while men made up 39%. 51% of COPD patients had GERD. There were four people with mild COPD, 25 with moderate, 22 with severe, and 06.05 with extremely severe COPD (Table 1). For the patients that were examined, the mean final Q-Questionnaire score was 5, with a standard deviation of 12.550. 54 patients (51%) had a score between 08 and 14. 54 people were examined, and 51% of them had GERD; 45% did not (Table 3). Using the chi-square test, Table 4 stratifies GERD by age, gender, length of disease and disease severity.

Table 1: Final Score of a Quantitative Questionnaire Study (n=54)

Characteristics	GERD			P-value
	Yes	No	Total	
Age(Years)				
[21-35]	01	02	04	
[36-45]	07	09	22	
[46-55]	08	17	33	0.4985
[56-85]	14	22	24	
Gender				
[Male]	10	12	22	0.0271
[Female]	18	14	32	
[COPD Duration of Years]				
[01-15]	28	27	54	0.0879
[16-21]	26	17	44	
[22-28]	03	06	09	
[COPD Severity]				
.Mild	04	05	08	0.1229
.Moderate	25	48	49	
.Severe	24	45	45	
.Very Severe	06	06	06	

Table 2: The final result of the score on the Q-Final Questionnaire (n=54)

Final score	Frequency	Percentage
[01-07]	25	46%
[08-15]	29	54%
Total	54	100%

The overall average score was 9, with a 5.092 standard deviation.

Table 3: the frequency of gastro esophageal reflux disease (n=54)

GERD	Frequency	Percentage
[Yes]	29	56%
[No]	25	44%
[Total]	54	100%

DISCUSSION

COPD is an obstructive lung disease that may sometimes be treated. 1 Chronic bronchitis and emphysema are COPD subgroups (COPD) 08. These two qualities are valued differently by each individual. The median age and standard deviation of our sample were both 61. Patients made up 41% of the population, with 56% of them being female and 46% male. GERD affected 54% of COPD patients. According to Lee AL et al. 10, GERD prevalence in COPD ranges from 16 to 76%. " A similar percentage (61%) was noted by Casanova C et al.11 in 2009. COPD is the main cause of death and disability in Pakistan (COPD). Usman U13 discovered that the median age of the 95 COPD patients was 57.36+08.35 years, with 39% (n=36) being between 41 and 62 years old and 62% (n=59) being >64 years old. Asthma, COPD, and controls all had GERD (heartburn/regurgitation once or more per week or more), according to research by Bor S et al. GERD affected 42.17% (n=40) of COPD patients. He thus came to the conclusion that it affects a lot of patients. 10. Testing for GERD should be done on all COPD patients. Monitoring certain settings is necessary to ascertain the problem's prevalence. Gastroesophageal reflux disease affected 40% of COPD patients, according to Khalil A11. In the intermediate group, Khattab A observed endoscopic GERD detection rates of 54%, and in the severe group, 74. The biopsy detection rate in the severe group was 92%. COPD makes GERD worse (there were more patients with advanced grades among severe COPD than in the moderate group). More cigarettes smoked annually increases the risk of both moderate and severe GERD12. In both the moderate and severe groups of GERD patients, there was a rise in the frequency of COPD exacerbations, which is consistent with the study's conclusions that GERD and COPD are related. We were unable to stratify the Frequency according to the severity of COPD and the causes of GERD (such as smoking) because to the limitations of the present investigation, but 13.

CONCLUSION

Our studies show that 51% of COPD patients in our region also have gastro esophageal reflux disease (GERD). It will need more time and effort to determine how exactly GERD and COPD are related.

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