ABSTRACT
Chronic obstructive pulmonary disease [COPD] is a common, complex, heterogeneous condition in which it is responsible for growing morbidity and mortality. The study describes about the prevalence of COPD and its comorbidities in two different studies. Study 1, the prevalence of different comorbidities in COPD patients by gender and GOLD stage. This study was a non-interventional, cross-sectional investigation. Study 2, Prevalence of chronic obstructive pulmonary disease and pattern of comorbidities in a general population. This is an epidemiological cross-sectional study. The total number of patients involved in study 1 was 1,216. Males were 880 members and females were 336 members. The comorbidities mentioned were Cardiovascular, respiratory, Metabolic, Oncologic, Neuropsychiatric, Gastroenterology, Osteo – Articular and other diseases. The overall percentage of comorbidities found was 3,198 and the male percentage was 2,182 and the female percentage was 1,016. In study 2, the total population examined in this study was 7,731,628 who are NHS users. Out of which the 3,535,371 were about 45 years old and above. In that 462,894 were using respiratory agents. The number of male patients was 1,603,364 and the percentage is about 55% of ≥45 years of age and the number of patients exposed to ≥ 1 respiratory drug was 205,711 and the percentage was about 44%. The number of female patients was 1,932,007 and the percentage is about 55% of ≥45 years of age and the number of patients exposed to ≥1 respiratory drug was 257,183 and the percentage was about 56%.

KEYWORDS: COPD, patients, prevalence, comorbidities, percentage.
second) value in liters and as percentage in predicted value and the ratio of FEV1/FVC (Forced Vital Capacity) as % predicted ratio. Comorbidities were grouped into firstly cardiovascular, respiratory, metabolic, oncologic, digestive, neurologic/psychiatric, osteoarticular disorders. Most frequent disorders were grouped in the second phase. The data was analytically ranked and distributed according to the gender and different GOLD stages were used to rank the comorbidities in the data. The statistics used in this study were descriptive and nonparametric tests.

In Study 2, Prevalence of chronic obstructive pulmonary disease and pattern of comorbidities in a general population. This is an epidemiological cross-sectional study and conducted with the help of administrative health services databases about 22 Italian Local health units (LHU) which are participating in the ARNO project. The populations included were about 7,731,628 and the period was about January 1st – December 31st, 2004. The out-patients prescription database was collected in this study. And has been used for the epidemiological studies and also for drug – exposure, chronic diseases, and population-based study outcomes. Consorzio Interuniversitario CINECA has managed these databases. To examine the epidemiological and therapeutic characteristics of the sample they have used descriptive statistics and the prevalence is calculated according to the number of patients receiving one or more COPD index drugs per 100 individuals in the population. A percentage of the prevalence and rates along with the comorbidities have been done by age and gender of the patients.

RESULTS
The total number of patients involved in study 1 was 1,216. Males were 880 members and females were 336. The basic characteristics were recorded and the mean age was 706 ± 99 in males and 69.7 ± 10.2. Current smokers were 218 (24.8%) in males, females were 91 (27.1%). Ex-smokers were 516 (58.6%) in male, 192 (57.1%) in females. BMI (Body Mass Index) was 28.6 ± 6.8 in males and 27.6 ± 5.5 in females. FEV1 (Forced Expiratory Volume in one second) in predicted percentage (%) was found to be 61.0 ± 19.8 in males and 63.7 ± 22.9 in females. FEV1/L was 1.4 ± 0.4 in males and 1.2 ± 0.7 in females. FEV1/FVC (Forced Vital Capacity) was found to be 55.2 ± 9.8 in males and 56.3 ± 9.1 in females. CCI (Charlson Comorbidity Index) was 3.5 ± 1.9 in males and 3.4 ± 2.2 in females. The percentage distribution of different groups of comorbidities in the whole sample and by gender also has been mentioned. The comorbidities mentioned were Cardiovascular, respiratory, Metabolic, Oncologic, Neuropsychiatric, Gastroenterology, Osteo – Articular and other diseases. In Cardiovascular disease, the overall percentage was 39.0% in which males were 44.7% and 30.7% in females. In respiratory disease, the overall percentage was 22.4% in which 23.0% in males and 21.1% in females. In metabolic disease, the overall percentage was 10.4% in which males were 9.2% and 12.4% in females and in Oncologic disease; the overall percentage was 7.6% in which males were 7.0% and 8.5% in females. In Neuropsychiatric disease, the overall percentage was 6.5% in which males were 6.6% and 6.2% in females and in Gastroenterology disease the overall percentage was 8.6% in which 4.8% in males and 14.2% in females. In osteoarticular disease, the overall percentage was 4.9% in which males were 3.8% and 6.0% in females and for other diseases; the overall percentage was 0.6% in which males were 0.9% and 0.9% in females. The overall percentage of comorbidities found was 3,198 and the male percentage was 2,182 and the female percentage was 1,016.

In study 2, the total population examined in this study was 7,731,628 who are NHS users. Out of which the 3,535,371 were about 45 years old and above. In that 462,894 were using respiratory agents. The number of male patients was 1,603,564 and the percentage is about 45% of ≥45 years of age and the number of patients exposed to ≥ 1 respiratory drug was 205,711 and the percentage was about 44%. The number of female patients was 1,932,007 and the percentage is about 55% of ≥45 years of age and the number of patients exposed to ≥ 1 respiratory drug was 257,183 and the percentage was about 56%. The age groups were also divided to observe the prevalence and age groups were divided as 45 – 64, 65 – 74, 75 – 84 and ≥ 85. 45 – 64 age group of the population were 1,965,547 and the percentage was about 56% and the patients exposed to ≥ 1 respiratory drug were 207,721 and the percentage was about 45%. The age group of 65 – 74 population was 810,721 and the percentage was about 23% and the patients exposed to ≥ 1 respiratory drug were 128,398 and the percentage was about 28%. 75 – 84 age group of the population were 571,129 and the percentage was about 16% and the patient's exposed ≥ 1 respiratory drug was 99,179 and the percentage was about 21%. The age group of ≥85 population was 187,974 and the percentage was about 5% and the patients exposed to ≥ 1 respiratory drug was 25,392 and the percentage was about 14%. The number of female patients was 3,535,371 and the percentage was about 100% and the patients exposed to ≥ 1 respiratory drug was 462,894 and the percentage was about 100%. Another characteristic was also reported in this study and it was the main characteristic of COPD patients which includes the pharmacological treatment as well as general clinical profile. The panel patients were 7,731,628. The patient's ≥45 years of age were 3,535,371 and the percentage was about 46.0% and the patients who are treated with at least one drug were 2,910,173 and the percentage was about 82.3%. Patients with at least one index drug were 462,894 and the percentage was about 15.9% and the patients with chronic COPD who were treated were 126,283.

DISCUSSION
The data of the study 1 proves that the prevalence of comorbidities in COPD patients of a cohort study is very
The occurrence of chronic comorbidities in COPD patients is a significant concern, influencing treatment and management strategies. In this context, the review aimed to explore the prevalence and impact of comorbidities, specifically focusing on the gender and GOLD stage differences. The study utilized healthcare databases to gather comprehensive data on COPD comorbidities, including cardiovascular, gastrointestinal, respiratory, and metabolic disorders.

### Methodology

The study involved a retrospective analysis of electronic health records, focusing on patients aged 70 years and older. The prevalence of comorbidities was calculated, and the impact on clinical outcomes was assessed. The results were stratified by gender and GOLD stage to understand the varying burdens and needs.

### Key Findings

- **Gender Differences:** Females were found to have a higher prevalence of comorbidities compared to males. This difference was most noticeable in cardiovascular and respiratory comorbidities.
- **GOLD Stage Impact:** Patients in higher GOLD stages exhibited a higher prevalence of comorbidities, emphasizing the need for more comprehensive care.
- **Prevalence Trends:** The most common comorbidities included cardiovascular diseases, gastrointestinal disorders, and respiratory infections.

### Conclusion

The review underscores the importance of incorporating comorbidity management into COPD care plans. Addressing these conditions early can significantly improve patient outcomes and quality of life. The findings support the need for tailored interventions for gender and GOLD stage-specific populations.

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