

Introduction

- According to the World Health Organization (WHO), in 2019 almost 3.32 million deaths worldwide were caused by COPD with 90% occurring in low- and middle- income countries (LMIC) (BPCO: WHO key facts, 2022).
- According to trend projections for 2030, nearly 4.1% of deaths will be caused by COPD high income countries (Mathers, 2006) and its prevalence is estimated to 8.94% for men and 6.32% for women (Ntritsos, 2018).
- One of the leading cause of COPD is tobacco consumption and in the past was considered as a disease affecting men more than women, because of a higher prevalence of male smokers.
- Between 2000 and 2014, hospitalization rate due to COPD exacerbation increased by 136.5% and 25.7% among women and men in France aged under 65 years old (Rapport État de Santé de la Population Française SPF, 2017).
- Prevalence of current smoking among adults men and women were 29.1% and 22.0% respectively (Baromètre Santé SPF, 2021).
- Gender differences among COPD patients exist for e.g. women are often underdiagnosed (Roberts, 2016) despite suffering from severe COPD (Zysman, 2022).
- Because of the increase number of women with COPD, it is imperative to understand clinical features of both men and women in the French health framework.

The present study aimed to describe sex-related differences regarding clinical characteristics and FEV₁ decline of COPD patients from the French Palomb Cohort.

Methods

Recruitment by pulmonologists Aquitaine and Charente	Anonymized Data (CNIL)	Real-life follow-up Included between 2013 - ongoing
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Descriptive analyses

Patients at inclusion of all ages included in the main sample	Chi-Square test (qualitative variables)	Mann-Whitney-Wilcoxon test (quantitative variables)
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Significant threshold: p<0.05

Secondary analysis : FEV₁ decline

$$FEV_1 \text{ mL per year} = \frac{(FEV_1 \text{ at inclusion} - FEV_1 \text{ last visit})}{\text{period of follow-up (months)}} \times 12 \text{ (months)}$$

Exclusion criteria from the main sample

Aberrant measures at inclusion, < 2 measures during study period, < 6 months of follow-up

Example

A patient have a 2.30L FEV₁ at inclusion and a 1.76L FEV₁ measured 48 months after, during last visit. With this method, this patient will have a mean FEV₁ decline per year of 135mL.

Sex-related differences and FEV₁ decline among COPD patients: the French Palomb Cohort

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Main Findings and Conclusion

At inclusion in the Palomb Cohort, women with COPD were younger and more likely to be current smokers. No sex differences were found for FEV₁ decline in mL per year.

Findings in Women

Women experienced more exacerbations during the last 12 months and dyspnea. Associated comorbidities include: anxiety, depression, asthma and osteoporosis.

Findings in Men

Men had more expectoration and a more severe stage of disease. Associated comorbidities include: cardiovascular diseases and sleep apnea syndrome.

This study demonstrates differences on clinical characteristics of women and men with COPD in France and probably other factors can explain FEV₁ decline and need to be explored.

Conflict of interest

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Results

Of the 3,228 patients included in the cohort 36.5% were women and were younger than male patients (♂66.8 vs. ♀64.3; p<0.001).

Female patients were more likely to be current smokers (♂35.4% vs. ♀45.6%) while previous smokers was more represented by men (♂60.9% vs. ♀47.1%) (p<0.001). Male patients have a higher smoking intensity with a 40.3 pack-year compare to 35.8 for female (p<0.001).

A total 656 patients were included in the secondary analysis, however we found no differences between men and women regarding FEV₁ decline in mL per year (♂ 44,11 mL vs. ♀ 37,79 mL; p=0.443).

Clinical Characteristics

	Men N = 2,049	Women N = 1,179	p
BMI	27.13 [± 5.46]	24.72 [± 6.15]	<0.001
Cough	1 175 (57.35%)	676 (57.34%)	>0.9
Expectoration	886 (43.24%)	449 (38.08%)	0,004
Chest tightness	101 (4.93%)	64 (5.43%)	0.591
Exacerbations	0.94 [± 1.20]	1.20 [± 1.34]	<0.001
Number of exacerbations*			<0.001
0	956 (46.66%)	443 (37.57%)	
1	625 (30.50%)	370 (31.38%)	
≥ 2	468 (22.84%)	366 (31.04%)	
mMRC**			0.012
0 - 1	922 (45.02%)	477 (40.49%)	
≥ 2	1 126 (54.98%)	701 (59.51%)	
FEV ₁ (%)†	57.37 [± 19.26]	60.52 [± 19.89]	<0.001
GOLD stages‡			0.005
I-II	1 305 (63.78%)	809 (68.62%)	
III-IV	741 (36.22%)	370 (31.38%)	
Annual influenza vaccine	921 (44.95%)	490 (41.56%)	0.062
Annual pneumococcal vaccine	992 (48.41%)	539 (45.72%)	0.149
Age at symptom onset (years)‡	58.98 [± 11.44]	55.78 [± 12.20]	<0.001

*during the previous year, **missing n=2, †missing n=3 (aberrant FEV₁), ‡missing n=1674

Comorbidities

