

Epidemiological study of early detection of young COPD in pod e-cigarettes smokers and traditional cigarette smokers of the Volyn Region of Ukraine.

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Abstract

Background: The prevalence of COPD is associated to the prevalence of tobacco smoking, but tobacco smoking due to pod e-cigarettes (POD) with negative effects on the respiratory system and the risk of young COPD remains not fully understood.

Aims: To study the epidemiology of COPD in adults who smoke cigarettes and/or POD, and to investigate the effects of smoking on lung function with early detection of young COPD.

Methods: 86 smokers from 19 to 61.8 years old were examined (87.2% men and 12.8% women). Cigarette smokers (CS) 52.32% (n=45, pack-year index (PY) 11.55), CS in the past who changed to POD (CS-POD) 38.37% (n=33, PY 2.48), POD smokers 8.13% (n=7, PY 4.25). A questionnaire and pulmonary function testing (PFT) were conducted on cabinless plethysmography according to the ERS/ATS criteria.

Results: Among smokers, chronic cough was found in 36%, mMRC I in 39.5%, CAT>10 (average 15.8) in 80.2%. Changes were detected in 30,2% CS and CS-POD (n=26, with an average age of 35.72±1.5 years) in PFT: FEV1/FVC<0.7 in 69.23%, hyperinflation (TLC>ULN) in 38.46%, (RV, FRC, TLC>ULN) with FEV1/FVC>0.7 in 23%, and restriction (TLC<LLN with FEV1/FVC>0.7) in 7.69% in CS. Changes in lung function in CS and CS-POD with (p>0.05) indicate early detection of young COPD. CS have a higher (P<0.001) PY (15.27±10.89) compared to CS-POD (4.98±7.55-1.93±1.51), with an average in CS of 37.21±2.74 and 31.09±7.2 in CS-POD (p=0.08). It was found that in CS-POD, with an increase in PY, the FEV1/FVC index decreases (r=-0.14). In CS, a positive correlation was noted between age and FEV1/FVC (r=0.61, p<0.05) and FEV1 (r=0.61, p<0.05).

Conclusions: CS-POD has a higher risk of developing young COPD which are detected earlier compared to CS. Plethysmography should be determined for screening young COPD.

Footnotes

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This article was presented at the 2025 ERS Congress, in session “Biologics in severe asthma”.

This is an ERS Congress abstract. No full-text version is available. Related materials (such as slides or recordings) will be accessible via the ERS Respiratory Channel at <https://channel.ersnet.org/programme-live-418>

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