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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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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
- 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 PulmOne's MiniBox+ 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% MLL, (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±7.54, 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)



The workers of Modern Expo factory (Luts'k, Ukraine) take part in epidemiological study of early detection of young COPD. Head of project MD PhD Oleh Yakovenko with scientists

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.

