

Pulmonary Hypertension (PH) in Patients with Chronic Obstructive Pulmonary Disease (COPD): Lithuanian National Database Analysis

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The aim: To assess the national situation on the prevalence of PH in COPD patients and the influence of PH on COPD exacerbations and hospitalizations.

Material and Methods: An anonymized cross-sectional analysis of National Health Insurance Fund database used for reimbursement for the healthcare services was conducted covering the period for 2.5 years. Data exporter software was used to extract data on patient's demographics, 31 chronic conditions using diagnosis codes of the International Statistical Classification (ICD-10-AM), hospitalizations and prescriptions of reimbursed medications. Descriptive statistics, odds ratios (OR) and 95% confidence intervals (CI) for associations were computed using STATA version 11 (StataCorpLP).

Results: There were 452769 chronically ill individuals, 51260 of them had COPD, the majority was 40-79 years old. To increase the sensitivity of case definition for COPD, only patients had received prescriptions for reimbursed bronchodilators at least for 6 months were included. The COPD cohort consisted of 4834 persons (69.1% men, 30.9% women), mean age 67.2 years, the control cohort – 316463 persons (40.9% men and 59.1% women), mean age 63.6 years. 203 of COPD patients were found having PH compared to 1060 of controls (accordingly 4.2% and 0.33%, $p < 0.001$). COPD was associated with high increase in the odds of having had PH (OR 13.04, 95% CI 11.19–15.2) compared to those without COPD. 68.5% of COPD patients having PH hospitalized for COPD exacerbations or cardiovascular events had mean stay of 24.05 ± 27.65 days compared to 37.7% of those without PH with mean stay of 7.89 ± 15.99 days. PH in COPD patients was associated with more than three times increase in odds of hospitalization (OR 3.59, 95% CI 2.65–4.85, $p < 0.001$).

Conclusions: PH has high prevalence in COPD patients it is associated with significant increase in the odds of hospitalization due to COPD exacerbation or cardiovascular events.