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Characteristics of patients developing depression after hospitalization for COPD

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Background: Patients with COPD have an increased risk of depression. This study aimed to describe which patient characteristics alter the risk of developing a depression after admission with acute exacerbation of COPD.

Method: This cohort study used the Danish National Patient Registry. Patients aged 40-90 years admitted for COPD between 01.01.99 and 31.12.18 were included. Exclusion criteria were psychiatric disorder within 10 years before inclusion. Age, sex, educational level, inhaled medication and comorbidities (heart failure, diabetes and cancer) were evaluated.

Results: 97.929 patients were included. Primary outcomes were either treatment in outpatient clinic/hospital for depression or with antidepressants [AD] within one year.
Risk of hospital treatment increased significantly with age (age 71-80 hazard ratio [HR] 1.36, 95% confidence interval [CI95% 1.02-1.80] and age 81-90 HR 1.53 [CI95% 1.12-2.10]) compared to age 61-70 years. Risk of requiring AD also increased with age (age 71-80 HR 1.20 [CI95% 1.12-1.29] and age 81-90 HR 1.12 [CI95% 1.03-1.22]).
Male sex (HR 1.13 [CI95% 1.07-1.20]), heart failure (HR 1.21 [CI95% 1.12-1.31]) or cancer (HR 1.19 [CI95% 1.07-1.31]) significantly increased the risk of requiring AD.
The risk of requiring AD significantly decreased with higher education (HR 0,76 [CI95% 0.59-0.99]) high compared to no education), diabetes (HR 0.83 [CI95% 0.75-0.90]) or treatment with long acting muscarinic antagonist [LAMA] (HR 0.72 [CI95% 0.61-0.85]).

Conclusion: Low education, male sex, heart failure and cancer significantly increased the risk of requiring treatment for depression after first admission for COPD, while LAMA-treatment og diabetes significantly lowered the risk.