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Title: Fatigue and decreased health can predict mortality in COPD

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Body: Background: Chronic obstructive pulmonary disease (COPD) is related to fatigue, decreased health, and increased mortality. However, the relationships are hardly described in population-based studies. Aim: To investigate if fatigue, physical and/or mental health can predict mortality. Methods: Data were collected in 2007 from the Obstructive Lung Disease in Northern Sweden (OLIN) COPD study. Subjects with COPD, FEV₁/FVC<0.70 (n=434), and non-COPD subjects (n=655) answered the Functional Assessment of Chronic Illness Therapy (FACIT)- Fatigue scale; lower scores represent increased fatigue and the Short Form 36 (SF-36) two summary scores Physical (PCS) and Mental (MCS) health; lower score indicates decreased health. Mortality data were collected from the date of examination in 2007 until February 2012. Results: Mortality rate in non-COPD was 6.0% and in COPD 7.1%. In a multivariate risk factor analyses for death, the covariates FACIT-F, SF-36 PCS and MCS were analysed separately (Model A, B and C). Other covariates included in all models were sex, age, BMI and heart disease. When stratified by non-COPD and COPD different patterns emerged. In non-COPD, male sex and increased age significantly increased the risk for death in all three models while in COPD lower FACIT-F score (OR 1.06, CI 1.02-1.10), PCS score (OR 1.04, CI 1.01-1.08) and MCS score (OR 1.06, CI 1.02-1.10) were independent risk factors for death in Model A, B and C, respectively. Conclusion: Increased fatigue, lower physical and mental health was independently associated with mortality in COPD. Our study highlights the importance to identify fatigue and decreased health as predictors of death among subjects with COPD.