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The effects of marijuana smoking on lung function in older people

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Prolonged heavy marijuana smoking increases the risk of COPD and accelerates FEV_1 decline in concomitant tobacco cigarette smokers beyond the effects of tobacco alone http://bit.ly/2lI2lEu

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ABSTRACT

Background: Previous studies have associated marijuana exposure with increased respiratory symptoms and chronic bronchitis among long-term cannabis smokers. The long-term effects of smoked marijuana on lung function remain unclear.

Methods: We determined the association of marijuana smoking with the risk of spirometrically defined chronic obstructive pulmonary disease (COPD) (post-bronchodilator forced expiratory volume in 1 s (FEV_1)/forced vital capacity ratio <0.7) in 5291 population-based individuals and the rate of decline in FEV_1 in a subset of 1285 males and females, aged ⩾40 years, who self-reported use (or non-use) of marijuana and tobacco cigarettes and performed spirometry before and after inhaled bronchodilator on multiple occasions. Analysis for the decline in FEV_1 was performed using random mixed effects regression models adjusted for age, sex and body mass index. Heavy tobacco smoking and marijunana smoking was defined as >20 pack-years and >20 joint-years, respectively.

Results: ∼20% of participants had been or were current marijuana smokers with most having smoked tobacco cigarettes in addition (83%). Among heavy marijuana users, the risk of COPD was significantly increased (adjusted OR 2.45, 95% CI 1.55–3.88). Compared to never-smokers of marijuana and tobacco, heavy marijuana smokers and heavy tobacco smokers experienced a faster decline in FEV_1 by 29.5 mL·year^{-1} (p=0.0007) and 21.1 mL·year^{-1} (p<0.0001), respectively. Those who smoked both substances experienced a decline of 32.31 mL·year^{-1} (p<0.0001).

Interpretation: Heavy marijuana smoking increases the risk of COPD and accelerates FEV_1 decline in concomitant tobacco smokers beyond that observed with tobacco alone.