

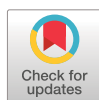


# Flavonoid intakes inversely associate with COPD in smokers

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Shareable abstract (@ERSpublications)

While smoking cessation should remain the top priority for COPD prevention, the findings from this study suggest that dietary flavonoids are important in partially mitigating the risk of COPD in people who smoke or who used to smoke <https://bit.ly/3r6wWt8>

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## Abstract

**Introduction** Higher flavonoid intakes are beneficially associated with pulmonary function parameters; however, their association with chronic obstructive pulmonary disease (COPD) is unknown. This study aimed to examine associations between intakes of 1) total flavonoids, 2) flavonoid subclasses and 3) major flavonoid compounds with incident COPD in participants from the Danish Diet, Cancer and Health study.

**Methods** This prospective cohort included 55 413 men and women without COPD, aged 50–65 years at recruitment. Habitual flavonoid intakes at baseline were estimated from a food frequency questionnaire using Phenol-Explorer. Danish nationwide registers were used to identify incident cases of COPD. Associations were modelled using restricted cubic splines within Cox proportional hazards models.

**Results** During 23 years of follow-up, 5557 participants were diagnosed with COPD. Of these, 4013 were current smokers, 1062 were former smokers and 482 were never-smokers. After multivariable adjustments, participants with the highest total flavonoid intakes had a 20% lower risk of COPD than those with the lowest intakes (quintile 5 *versus* quintile 1: HR 0.80, 95% CI 0.74–0.87); a 6–22% lower risk was observed for each flavonoid subclass. The inverse association between total flavonoid intake and COPD was present in both men and women but only in current smokers (HR 0.77, 95% CI 0.70–0.84) and former smokers (HR 0.82, 95% CI 0.69–0.97), not never-smokers. Furthermore, higher flavonoid intakes appeared to lessen, but not negate, the higher risk of COPD associated with smoking intensity.

**Conclusion** Dietary flavonoids may be important for partially mitigating the risk of smoking-related COPD. However, smoking cessation should remain the highest priority.

