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Assessment of chronic bronchitis and risk factors in young adults: results from BAMSE

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Chronic bronchitis in young adults is strongly associated with recurrent respiratory infections. Besides smoking, our results support the role of early-life environmental exposures for respiratory health in this age group. <https://bit.ly/2RNsv5z>

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ABSTRACT

Background: Chronic bronchitis is associated with substantial morbidity among elderly adults, but little is known about its prevalence and risk factors in young adults. Our aim was to assess the prevalence and early-life risk factors for chronic bronchitis in young adults.

Methods: Questionnaire data and clinical measures from the 24-year follow-up of the Swedish BAMSE (Child (Barn), Allergy, Milieu, Stockholm, Epidemiological) cohort were used. We assessed chronic bronchitis (CB) as the combination of cough and mucus production in the morning during winter. Environmental and clinical data from birth and onwards were used for analyses of risk factors.

Results: At the 24-year follow-up, 75% (n=3064) participants completed the questionnaire and 2030 performed spirometry. The overall prevalence of CB was 5.5% (n=158) with similar estimates in males and females. 49% of CB cases experienced more than three self-reported respiratory infections in the past year compared to 18% in non-CB subjects (p<0.001), and 37% of cases were current smokers (*versus* 19% of non-CB cases). Statistically significant lower post-bronchodilator forced expiratory volume in 1 s/forced vital capacity were observed in CB compared to non-CB subjects (mean z-score -0.06 *versus* 0.13, p=0.027). Daily smoking (adjusted (a)OR 3.85, p<0.001), air pollution exposure (black carbon at ages 1–4 years aOR 1.71 per 1 µg·m⁻³ increase, p=0.009) and exclusive breastfeeding for ≥4 months (aOR 0.66, p=0.044) were associated with CB.

Conclusion: Chronic bronchitis in young adults is associated with recurrent respiratory infections. Besides

smoking, our results support the role of early-life exposures, such as air pollution and exclusive breastfeeding, for respiratory health later in life.

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