

Occupational respiratory diseases

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Work-related stress and incident asthma and rhinitis: results from the SOLAR study

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Background: Asthma and rhinitis are among the most important outcomes in occupational health. This study analyses the association of work-related stress with incident asthma and rhinitis in young adults with a special focus on gender-specific differences. It therefore provides information that can help to improve prevention of asthma and rhinitis in early work life. Methods: The SOLAR study (Study of Occupational Allergy Risks) is a prospective population-based cohort study investigating occupational asthma and allergy risks in early work life. Incident asthma, wheezing, and rhinitis were measured in a sample of 2,051 young German adults (aged 16-18 years at baseline). Outcome incidence was defined as no outcome at baseline and present outcome at follow-up. Asthma at one time point was defined as physician-diagnosed asthma and either wheezing without cold during the last year or use of asthma medication. Work-related stress was measured by the Trier Inventory for the Assessment of Chronic Stress (TICS) at baseline. Two TICS scales, work overload and work discontent, were used. Logistic regression was conducted to calculate odds ratios (OR) and 95% confidence intervals (CI) for the association between the two work-related stress scales and the presence of an incident outcome. The results were adjusted for study centre, parents' and participant's socio-economic status, history of asthma and hay fever, occupational risk of asthma, smoking, overweight, physical activity and depression. Separate models were calculated for males and females. Results: Within a total person-time of 10,685 person years, 40 cases of incident asthma, 126 cases of incident wheezing, and 227 cases of incident rhinitis were observed. In females, the odds for incident asthma were found to be 17% higher for each increase of the work discontent score by one point (OR=1.17, 95%-CI: 1.04-1.31). Many estimates for males pointed in a protective direction. Incident rhinitis showed no association with any exposure variable. Conclusion: This study shows a link between work-related stress and incident asthma in women. Incident rhinitis is not associated with work-related stress.