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Work stress, anthropometry, lung function, blood pressure, and blood-based biomarkers: a cross-sectional study of 43,593 French men and women

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ABSTRACT

Work stress is a risk factor for cardio-metabolic diseases, but few large-scale studies have examined the clinical profile of individuals with work stress. To address this limitation, we conducted a cross-sectional study including 43,593 working adults from a French population-based sample aged 18-72 years (the CONSTANCES cohort). According to the Effort-Reward Imbalance model, work stress was defined as an imbalance between perceived high efforts and low rewards at work. A standardized health examination included measures of anthropometry, lung function, blood pressure and standard blood-based biomarkers. Linear regression analyses before and after multivariable adjustment for age, socioeconomic status, depressive symptoms, health-related behaviours, and chronic conditions showed that work stress was associated with higher BMI, waist circumference, waist-hip ratio, alanine transaminase, white blood cell count and lower high-density lipoprotein cholesterol in men, and with higher BMI and white blood cell count in women (differences 0.03-0.06 standard deviations, $P < 0.05$ between individuals with and without work stress). No robust associations were observed with lung function, haemoglobin, creatinine, glucose levels or resting blood pressure measures. This indicates that work stress is associated altered metabolic profile, increased systemic inflammation, and, in men, poorer liver function, which is a marker of high alcohol consumption.

KEYWORDS: -

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