

Fadel M, Li J, Sembajwe G, Gagliardi D, Pico F, Ozguler A, Evanoff BA, Baer M, Tsutsumi A, Iavicoli S, Leclerc A, Roquelaure Y, Siegrist J, Descatha A

Cumulative Exposure to Long Working Hours and Occurrence of Ischemic Heart Disease: Evidence From the CONSTANCES Cohort at Inception

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ABSTRACT

BACKGROUND - Long-working hours (LWH) are a probable risk factor for ischemic heart diseases (IHD); however, no previous study has considered duration of exposure to LWH when addressing this topic. We aimed to determine the association between cumulative exposure to LWH and IHD while accounting for relevant confounders. **METHODS AND RESULTS** - In this retrospective study, we included all baseline participants from the French population-based cohort CONSTANCES. Part-time employees and those who reported a cardiac event in the 5 years before LWH exposure were excluded. From self-administered questionnaires and clinical examinations, we obtained participants' age, sex, body mass index, occupational status, smoking habits, high blood pressure, diabetes mellitus, familial history of cardiovascular disease, dyslipidemia, exposure to LWH, and its duration. We defined LWH as working for >10 hours daily for at least 50 days per year. The main outcome was reported history of IHD, ie, myocardial infarction or angina pectoris, during a clinical examination. Of 137 854 included participants, 69 774 were men. There were 1875 cases (1.36%) of IHD, and exposure to LWH was reported by 42 462 subjects (30.8%) among whom 14 474 (10.50%) reported exposure for at least 10 years. Overall, exposure to LWH for ≥ 10 years was associated with an increased risk of IHD, adjusted odds ratio (aOR) 1.24 (1.08–1.43), $P=0.0021$. In stratified analyses, this effect was not observed in women, but was significant amongst men, aOR 1.28 (1.11–1.48), $P=0.0008$. **CONCLUSIONS** - This large population-based study supports an association between cumulative exposure to LWH and IHD in men. Future research should consider relevant strategies for reducing LWH exposure and duration.

KEYWORDS: Cumulative exposure; Epidemiology; Ischemic heart disease; Long working hours

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