

Work-related factors and occupations in relation to the incidence of type 2 diabetes: an exploratory study among 274,716 Dutch workers

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Abstract

BACKGROUND AND AIM The study aimed to explore the association between work-related factors and the risk of developing type 2 diabetes, and to assess occupations at risk of developing type 2 diabetes.

METHOD Data on demographics, work-related factors and occupational status from 274,716 Dutch workers were derived from the annual Netherlands Working Condition survey between 2014-2021. This data was subsequently linked to registry data on the initiation of glucose lowering medication from Statistics Netherlands, which was used as a proxy for type 2 diabetes diagnosis. Cox proportional hazard models were used to determine the associations between work-related factors at baseline and incident type 2 diabetes while correcting for personal and lifestyle factors. We further applied LASSO (least absolute shrinkage and selection operator) with stability selection within Cox proportional hazard models to explore which occupations are at the highest risk of developing type 2 diabetes.

RESULTS During a medium follow-up of 2.7 years (person-years: 855,073), 3,045 participants developed type 2 diabetes. Working in night shifts was associated with a higher incidence of type 2 diabetes, irrespective of whether these shifts occur sometimes (hazard ratio (HR) [95% confidence interval (CI)]: 1.15 [1.02-1.29]) or often (HR [95% CI]: 1.15 [1.01-1.30]). Low job autonomy (HR [95% CI]: 1.15 [1.06-1.24]) and high emotional job demands (HR [95% CI]: 1.20 [1.07-1.35]) were also associated with a higher incidence of type 2 diabetes, while no associations were observed for quantitative and qualitative job demands, or physical work demands. Occupations with the highest risk to develop type 2 diabetes included professional drivers, security guards, assembling labourers, hand launderers and pressers, and personal care workers.

CONCLUSIONS We found that night work, high emotional job demands, low job autonomy, and certain occupations are associated with an increased risk of developing type 2 diabetes, emphasizing the potential benefit of targeted preventive interventions in these settings.