Work disability in diabetes: identifying latent classes of risk factors in 3 prospective cohort studies

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Regarding work disability, diabetes has been considered as a homogeneous disease. Aim: identify subgroups among persons with diabetes based on potential risk factors for work disability. Previous studies compared people with diabetes to those without diabetes. However, well-known risk factors of work disability; comorbid chronic diseases, obesity, physical inactivity, smoking, and high alcohol use may cause heterogeneity in the risk of work disability among people with diabetes.

Methods
A total of 2445 employees with diabetes from three prospective cohorts (the Finnish Public Sector study, the GAZEL study, and the Whitehall II study) were followed up for 4 years regarding sickness absence and disability pension. Study-specific latent class analysis (LCA) was used to identify subgroups, based on survey data on prevalent comorbid disease and health-risk behaviours at baseline. Study-specific associations with work disability at follow-up were assessed using meta-analysis.

Results
A two-class solution was supported in each cohort for both men and women: one subgroup (n = 1184; 48%) having high prevalence of chronic diseases, obesity, physical inactivity and abstinence from alcohol, and the other subgroup (n = 1261; 52%) low prevalence of these factors. Meta-analyses adjusted for demographic characteristics showed that participants in the high-risk group had more work disability days (pooled rate ratio = 1.74; 95% CI 1.46-2.07) and a greater rate of work disability episodes (pooled rate ratio = 1.30; 1.18-1.43). These associations were similar in men and women, younger and older participants, and in socioeconomic status groups.

Conclusions
With regard to work disability, diabetes is not a homogeneous disease. There seems to be two subgroups; one characterised by clustering of comorbid chronic disease, obesity, physical inactivity, abstinence of alcohol, and associated high risk of work disability. The clustering of these risks concerned half of the population with diabetes.