

Introduction Presenteeism, as well as medical/pharmaceutical costs, have attracted attention in the occupational health field in Japan. Presenteeism and health risks are known to be associated. However, the relationship between health risks and total burden of presenteeism, absenteeism, and medical/pharmaceutical cost have only received scarce attention. We aimed to investigate this relationship by examining the data of Japanese workers.

Methods We conducted this study using the data of >40 year-old workers obtained from four pharmaceutical companies and health insurance associations. The workers were classified into three categories (low-risk, middle-risk, and high-risk) according to probabilities of developing cardiovascular disease, as calculated by risk factors (e.g., smoking, alcohol intake, and Body Mass Index) obtained from a previous study. Health data from self-administered questionnaires completed by the workers in 2014 were collected to evaluate presenteeism, and from compensation claims from the health insurance associations to calculate medical/drug costs. To measure presenteeism, we used the QQ method. We received medical (in/out-patient) and drug (out-patient) data of all study samples from April 2014 to March 2015.

Results The total sample in the final analysis numbered 7808 (low-risk: 2755, middle-risk: 2672, and high-risk: 2381). The total cost for the high-risk group was the highest of all three groups (€ 4,138/year/person), followed by the middle-risk group (€ 4,068/year/person), then the low-risk group (€ 3,620/year/person). Presenteeism was the largest cost in all groups, with the cost being the highest for the middle-risk group among all three groups.

Discussion Many interventions have been conducted for high-risk workers in Japan, but ones for low- and middle-risk workers remain insufficient. Our findings suggest that greater awareness is needed about the intervention needs of low- and middle-risk workers, especially with regard to presenteeism. To increase this awareness, we plan to proceed with further study and make a detailed proposal.

1327 MEASURING PRECARIOUS EMPLOYMENT IN EUROPE EIGHT YEARS INTO THE GLOBAL CRISIS

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Introduction Precarious employment is considered an emerging social determinant of health; its prevalence is increasing and its study remains in its infancy. The objective of this study is to describe the prevalence of precarious employment in the European Union (EU-28) using a multidimensional approach, 8 years into the economic crisis.

Methods This is a cross-sectional study based on data from the Flash Eurobarometer 398 among salaried workers of the EU-28 from 2014 (n=7702). We derived 4 factors of precarious employment (not having the ability to exercise rights, vulnerability, disempowerment and temporariness) from several items of the questionnaire. We calculated the proportions and their 95% confidence intervals (95% CI) for each of the precarious employment factors. Also, we calculated the prevalence of precarious employment (having at least one factor) and the proportion of workers presenting 1, 2, 3 or 4 factors of

precarious employment. All analyses were stratified by age, sex, age at the end of education and welfare regime.

Results 66.38% (95% CI: 60.58 to 71.72) of the salaried European workers had precarious employment. The prevalence of precarious employment was higher in Eastern European countries (72.64%; 95% CI: 61.78 to 81.34) than Nordic European countries (51.09%; 95% CI: 44.38 to 57.77). No differences were found according to sex, age, or age at the end of education. The most prevalent factor was not having the ability to exercise rights (42.40%), followed by disempowerment (31.44%), vulnerability (12.41%) and temporariness (11.36%).

Conclusion 2 out of 3 European salaried workers suffer precarious employment. Precariousness is widespread among the salaried working population as shown by the similar prevalence found between men and women, workers of different ages and age at the end of education. The European Commission should consider new forms of employment and legislate accordingly to avoid an increase in precarious employment.

1288 THE EFFECT OF SHIFT WORK ON CARDIOMETABOLIC HEALTH: FINDINGS FROM THE ATLANTIC PATH COHORT STUDY

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Introduction Contemporary work environments increasingly rely upon a 24 hour work cycle resulting in more employees exposed to shift work. 30% of working age Canadians work evening, night and rotating shifts, and 21% of workers in the European Union. Compared to regular daytime work, shift work has the potential for disturbing sleep patterns and disrupting circadian rhythms with adverse health effects.

Methods Participation was limited to volunteers from the Atlantic Canadian Provinces (Nova Scotia, New Brunswick, Newfoundland and Labrador, and Prince Edward Island). 12 413 participants, including 4155 shift workers and 8258 non-shift workers (matched 1:2 by age, sex, and education) from the Atlantic Partnership for Tomorrow's Health (PATH) study. Multiple general linear and logistic regression models were used to assess differences in body adiposity and self-reported cardiometabolic disease outcomes between shift workers and non-shift workers.

Results There was a significant increased risk of obesity and diabetes among shift workers compared to their matched controls. Shift workers were 18% more likely to be obese (95% CI: 9 to 29) and 8% more likely to have abdominal obesity (95% CI: 0 to 17). Shift workers were 31% more likely to have diabetes than non-shift workers (95% CI: 11 to 56). The strength of this association was further demonstrated by controlling for participants' fat mass index (FMI), which resulted in a 28% increased risk of diabetes among shift workers (95% CI: 2 to 60). Despite the increased likelihood of being physically active, regular night shift workers had higher levels of BMI, waist circumference, and fat mass compared with matched controls.