

0-269 SELF-ROSTERING AND SICKNESS ABSENCE – A DANISH COHORT STUDY ON PAYROLL DATA

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Introduction Work time control (WTC) is defined as ‘employees’ possibilities to control over the duration and distribution of own work time’. A recent study found shorter sickness spells on wards using participatory scheduling compared to traditional scheduling, and that a high level of control over working times provides possibilities to adjust job demands with employees’ prevailing resources.

Objectives The objective of this study was to investigate the association of WTC on sickness absence among nursing personnel in the public health care sector in Denmark.

Methods The study was based on the Danish Working Hour Database (DWHD), which is a nationwide database based on payroll data primarily from all the public hospitals in Denmark during 2007–2015. For the current analyses, we included 2049 departments (31 595 nursing personnel) that introduced the self-rostering tool ‘MinTid’ in the period 2011 to 2016. Rosters using MinTid are based on a combination of input and wishes from the employees regarding individual working hours and staffing requirements from the organization. Information on daily working hours as well as sickness absence is objectively obtained from the DWHD. Data was summarized on a yearly basis and analyzed using Proc Mixed, including repeated measures.

Results There was a notable difference in the number of sickness spell per year before (3.43 (3.41–3.52)) and after (3.36 (3.32–3.40)) introducing ‘MinTid’, and also a remarkable difference in the number of short-term (1–3 days) sickness spells per year before (3.36 (2.63–2.70)) and after (2.57 (2.54–2.61)) ‘MinTid’. We observed no difference in total number of sick days per year before and after introducing ‘MinTid’.

Conclusion Introduction of self-rostering tools seems to reduce the number of particularly short-term sickness spells in Danish public hospitals.

0-315 DETERMINANTS OF BURNOUT AMONG TEACHERS: A SYSTEMATIC REVIEW OF LONGITUDINAL STUDIES

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Introduction Teachers represent an occupation with high levels of burnout.

Objective To identify determinants of burnout in teachers.

Methods We conducted a systematic review according to PROSPERO protocol CRD42018105901. We performed literature search for the period 1990–2018 in three databases: MEDLINE, PsycINFO and Embase. We included longitudinal studies where burnout was dependent variable, with at least 50 participants per exposure group. We sorted and summarized studies by type of independent variables (determinants),

and used MEVORECH tool for risk of bias assessment (RBA). For quantitative synthesis, we focused on the emotional exhaustion dimension of burnout (EE). We standardized the reported regression coefficients and their standard error and plotted them using R software to distinguish between detrimental and protective determinants.

Results Qualitative analysis of included studies (n=33) identified 35 determinants studied among teachers. Most studies implemented two waves (W) of data collection with 6–12 months between W1 and W2, but different outcome definitions and instruments for data collection were used in different studies. Only four types of determinants could be summarized quantitatively: support, conflict, organisational context and individual characteristics, based on six studies. After plotting the results, individual characteristics (low teacher self-efficacy, low job satisfaction, neuroticism, and emotional exhaustion at W1) and organisational factors (classroom disruption, perceived collective exhaustion, and poor work climate) had significantly detrimental effect. The RBA showed that most studies assessed the major confounding factors, but had external and internal validity issues, due to limitations in sampling, inadequate reporting of response rates and exclusion rates, or use of self-reported instruments with uncertain validity and reliability.

Conclusion This review identified several detrimental determinants of burnout in teachers. The results on protective determinants were inconsistent between studies and varying from wave to wave. Further investigations should be conducted by using the same burnout definition and validated instruments for its measurement.

Lung Cancer and Mesothelioma

0-192 OCCUPATIONAL AND NON-OCCUPATIONAL FACTORS AND LUNG CANCER MORTALITY AMONG WORKERS OF THE SWISS NATIONAL COHORT

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Introduction Lung cancer is the most frequent cancer, with smoking and radon as the two leading causes. Occupational exposures are another important risk factor, with an estimated population attributable fraction up to 15%.

Objectives This study aimed at assessing the effect of occupational exposures on lung cancer mortality in Switzerland after adjustment for non-occupational lung carcinogens.

Methods We used negative binomial regression to analyse data of 4,351,383 Swiss residents with available occupation, and assess its effect on lung cancer mortality between 1990 and 2014, accounting for socio-demographic factors, smoking probabilities (by age, geographical region, civil status, educational level, nationality, and occupation) and measured environmental exposure to radon.

Results Male machine operators and workers in mining, stone working and building materials manufacturing showed the highest risk with a relative risk (RR) of 2.42 (95%-IC: 2.05–2.87) and 2.08 (95%-IC: 1.50–2.89) compared to health occupations, respectively. In women, two of the largest risks were identified in electronics, watchmaking, vehicle construction and toolmaking (RR : 2.33 (95%-IC: 1.75–3.10)) and transport and traffic occupations (RR : 2.23 (95%-IC: 1.75–2.83)). Smoking RRs were 1.33 (95%-IC: 1.27–1.38) in