The objective was to study the epidemiology of fatal occupational injuries in Sweden as a basis for injury mitigation activities.

Data of injury incidents from the years 2010–4 registered at the Swedish Working Authority and AFA Insurance was used along with national registers for hospitalised persons combined with national registers of individual data on occupational and industry. We also compared the epidemiology of serious with fatal incidents.

On average 50 fatalities happened per year, i.e. around 1 per 1 00 000 persons in the work force. Around two of three fatalities involved a vehicle related incident or a fall from height. There was a weak association between fatal and serious incidents. Codes about occupational factors in hospital diagnoses were very often missing (60%–70%) and linkages between hospital registers, death registers and other medical data registers had limited use to find strategies for prevention.

Conclusions Small numbers hampers the possibility to follow trends in fatal occupational incidents. The epidemiology of serious incidents is a rather poor ground for prioritising measures for preventing fatal injuries. Traditional variables in registers of fatal incidents as sex, age, industry and job has limited information for prioritising preventive measures. There are already a lot preventive measures undertaken. However, much more could be done e.g. with focus on vehicle related injuries and falls from high level. We think that an additional prioritising factor in the injury reducing work would be to address how well we know, or can find, suitable preventive strategies should be included.

Poster Presentation

Working Conditions

0148 WORKING CONDITIONS AS RISK FACTORS FOR ILL-HEALTH RETIREMENT: FINDINGS FROM THE KOREAN LONGITUDINAL STUDY OF AGEING (2006–2014)

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Purpose To investigate the difference of IHR (ill-health retirement) across occupational groups and to identify work-related factors in Korea

Methods Data were collected from a sample from the first to fourth phases of the Korean Longitudinal Study of Ageing (KLoSA) which conducted in 2006, 2008, 2010, 2012, and 2014. IHR were defined as those who retired due to their health problems before their scheduled or regular retirement age in one of the follow-up surveys. Three broad subdomains of working conditions were examined, namely work arrangements, physical working conditions and psychosocial working conditions. Cox proportional hazard models were used to evaluate the effects of working condition characteristics on IHR for each gender, after adjusting for age, household income and property.

Results Female, older, manual workers, and day labourer were more likely to experience IHR. In adjusted Cox proportional hazard models, risk for IHR of male workers was significantly higher among those with the following conditions: high physical demanding (HR=1.84), awkward posture (HR=1.76), dissatisfaction about working environment (HR=1.73), and no industrial compensation insurance (HR=1.79) nor retirement benefits (HR=1.80). However no significant association found among female subjects.

Conclusions Occupational class, physical and psychological working conditions, and work arrangement are potential risk factors for IHR among male workers in Korea. Moreover, our results revealed gender differences in the risk of IHR. Further and more specific studies are needed to identify which additional factors determine IHR according to different occupation and different disease groups.

Poster Presentation

Musculoskeletal

0149 PAIN AT OTHER ANATOMICAL SITES IS A MAJOR PREDICTOR OF SUBSEQUENT SICKNESS ABSENCE FOR LOW BACK PAIN

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Background Using longitudinal data from the Cultural and Psychosocial Influences on Disability (CUPID) study, we have previously shown that disabling low back pain (LBP) was strongly predicted by the earlier extent of pain at other anatomical sites. However, this could have occurred simply because some individuals had a lower threshold for reporting pain and associated disability.

Methods To explore whether the association extended to sickness absence because of LBP, we analysed further data on 8,610 CUPID participants from 45 occupational groups in 18 countries. A baseline questionnaire assessed potential risk factors, including general propensity to pain, which was characterised by the number (from 0 to 9) of anatomical sites other than low back that had been painful in the past year. Logistic regression was used to assess the associations of these factors with sickness absence for LBP in the month before a follow-up questionnaire some 14 months later.

Results Absence at least partially due to LBP was reported by 439 participants, and after allowance for potential confounders, was strongly associated with baseline pain propensity (ORs up to 2.6, 95% CI 1.7–4.0). For absence attributed entirely to LBP (235 participants), risk estimates were somewhat lower, but still significant (ORs up to 1.8, 95% CI 1.0–3.2).

Conclusions After adjustment for other known and suspected risk factors, sickness absence because of LBP is importantly determined by propensity to musculoskeletal pain more generally. This reinforces the need to identify the drivers of general propensity to musculoskeletal pain, which shows large international variation.

Oral Presentation

Other

0150 IS A POSSIBLE RELATIONSHIP BETWEEN OCCUPATIONAL NOISE EXPOSURE AND VESTIBULAR SCHWANNOMA (ACOUSTIC NEUROMA) CAUSAL OR DUE TO BIAS? A SYSTEMATIC REVIEW AND META-ANALYSIS

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Objectives Vestibular schwannoma (acoustic neuroma) is a benign, slow-growing tumour, arising from the nerve sheath of the vestibular branch of the eighth cranial nerve. Some studies show a possible relationship between noise exposure and schwannoma, while others not. Our objective was to assess possible associations between occupational noise exposure and schwannoma.

Methods We performed a systematic critical literature review of original articles from key literature databases of associations between workplace noise and health, completed in January 2017. For the meta-analysis, we selected studies of sufficient quality with a measure of association between occupational noise exposure and schwannoma.

Results Six studies were selected, all matched case-control studies, with a total of 1487 cases, five population-based and one registry study. Five studies had self-reported exposure information from interview (4) or questionnaire (1), and three had data from job-exposure-matrices (JEMs). Two studies had both self-report and JEM information. Self-reported occupational noise exposure was consistently associated with schwannoma, odds ratio (OR) 1.70 (95% CI 1.32–2.18). JEM results gave OR 1.16 (0.75–1.81), with more heterogeneity between studies. Long noise exposure ($\geq 15/18$ years; 2 self-report, 2 JEM studies) was also consistently associated with schwannoma, OR 1.76 (1.04–2.99).

Conclusions The results indicate that noise exposure might be associated with schwannoma. We found strong and consistent associations for self-reported noise exposures and exposures of longer duration. JEM-based associations were weaker, maybe due to non-differential misclassification. However, reasons other than a causal relationship, such as recall bias, detection bias or publication bias, cannot be excluded.

Poster Presentation

Intervention Studies

0151 SYSTEMATIC REVIEW OF WORKPLACE INTERVENTIONS FOR REDUCING OCCUPATIONAL SITTING

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Objectives Based on a review of reviews that included studies until December 2015, we demonstrated a reduction in occupational sitting for multi-component workplace interventions, and interventions addressing the work environment and the individual. This systematic review gives an overview about the rapidly accumulating subsequent evidence and identifies research needs.

Methods A literature search was conducted in Pubmed, PsycInfo, and Sportdiscus. English and German references from 01.01.2016 until 31.07.2016 were included if they evaluated workplace interventions targeting a reduction of occupational sitting or an increase of physical activity. Quality was assessed with a modified version of the Cochrane Risk of Bias Tool.

Results Out of 380 identified references 17 were included (9 randomised controlled trials (RCTs), and 8 non-randomised interventions). Six out of 7 interventions (4 RCTs) addressing the individual, 3 out of 6 studies (1 RCT) targeting the physical work environment (sit-to-stand/dynamic workstations, active building design), and 2 out of 2 multi-component interventions (RCTs) showed statistically significant beneficial changes in objectively measured occupational sitting time and/or physical activity.

Conclusions Beyond inconsistent results for dynamic workstations and further evidence for multi-component interventions, individualised interventions (e.g. personal feedback elements) seem to be beneficial. The effect of new components (e.g. active building design) is still unclear. Future studies are warranted emphasising organisational interventions, and the mechanisms behind single components of multi-component interventions (e.g. social support) with their long-term effects. Further, the interrelationship of prolonged sitting on and off work, and timing of sitting interruptions for cardiometabolic effects need to be further elucidated.