adjusted risk of low work unit social capital increased by OR = 1.72, CI 95% 1.65–1.79.

Conclusion Managers’ perception of job strain was strongly associated with independently measured workplace social capital. The direction of the causal pathway, if any, may be either way which points to a need for prospective studies and analyses of mediating and/or moderating factors.

Poster Presentation
Musculoskeletal

0357 MULTI-SITE MUSCULOSKELETAL PAIN IN SWEDISH POLICE AND ITS ASSOCIATION WITH USE OF MANDATORY EQUIPMENT

Louise Bæk Larsen*, Elisabeth Elgmark Andersson, Roy Tranberg, Nerolyrn Ramstrand. 1Department of Rehabilitation, School of Health and Welfare, Jönköping University, Jönköping, Sweden; 2Department of Orthopaedics, Institute of Clinical Sciences, University of Gothenburg, Gothenburg, Sweden

Background Musculoskeletal disorders are a common problem among uniformed police with lower back pain being most frequently reported (Gyi and Porter, 1998). Wearing mandatory equipment (duty belt and body armour) and sitting for long periods of time in fleet vehicles are characteristic workload factors linked to musculoskeletal disorders in police (Fitnness et al., 2014, Holmes et al., 2013).

Aim The aim of this study was to determine the prevalence of multi-site musculoskeletal pain among Swedish police and to explore the possible association to physical workload factors with a special focus on mandatory equipment.

Method A cross-sectional study was carried out with responses from 4185 uniformed police. Data was collected through a self-administered online survey including questions about work environment, physical workload factors, mandatory equipment and musculoskeletal pain. Multi-site musculoskeletal pain was determined by summing pain sites from four body regions. Binomial logistic regression was performed to explore the association between multi-site musculoskeletal pain and 1) use of mandatory equipment and 2) sitting for long periods in fleet vehicles.

Result The prevalence of multi-site musculoskeletal pain at least one day per week within the previous three months was 41.3%. A statistically significant association was found between multi-site musculoskeletal pain and mandatory equipment whereas sitting for long periods of time in fleet vehicles was not found to be significantly associated to multi-site musculoskeletal pain.

Conclusion Multi-site musculoskeletal pain is a considerable problem among Swedish police and the association to mandatory equipment should therefore be further investigated including psychosocial factors.

Poster Presentation
Exposure Assessment

0358 RHINITIS SYMPTOMS AND IMMUNOLOGICAL RESPONSE AFTER OCCUPATIONAL EXPOSURE TO SHRIMP SHELL POWDER

Bjørg Eli Hollund*, Joarunn Kirkkelev, Cecilie Svanes, Morten Langeland, Randi Bertelsen. 1Department of Occupational Medicine, Bergen, Norway; 2University of Bergen, Bergen, Norway

Occupational bioaerosol exposure may cause a range of temporary or permanent health effects, depending on host factors and the type and duration of exposure.

In the present study, we investigated rhinitis and immunological markers in all employees in a shrimp shell powder production factory, before and after exposure to shrimp shell powder.

Material and methods The study population comprised 11 employees. Personal exposure to inhalable dust (fullshift) was measured in the breathing zone of the employees during production of shrimp shell powder. All employees answered a self-administered questionnaire before and after exposure, about working tasks, airways symptoms, and smoking habits. Blood samples were collected before and after the work shift, and analysed for leukocyte counts, tryptase, total IgE, IgA, IgM, IgG.

Results Shrimp shell powder workers were exposed to 12 mg/m³ inhalable dust (mean 11.8 mg/m³, median 8.2 mg/m³, n=16), the exposure level for unexposed group was less than 1 mg/m³ inhalable dust (mean 0.4 mg/m³, median 0.4 mg/m³, n=10).

Employees working with shrimp shell powder had more rhinitis symptoms (stuffy nose and runny nose) than employees working with fish.

Although not statistically significant, the peripheral levels of tryptase, leucocytes and neutrophils in peripheral blood appeared to be highest among exposed workers, increasing after exposure.

Conclusions Shrimp shell powder workers are exposed to high level of inhalable dust compared to the occupational exposure limit of organic dust (5 mg/m³).

Exposure was related to more rhinitis symptoms and indicated (non-significantly) higher immunological parameters.

Follow-up of this industry and more study is needed.

Oral Presentation
Other

0359 SYSTEMATIC REVIEW OF OCCUPATIONAL CHEMICAL EXPOSURES AND CARDIOVASCULAR DISEASES

Chris Christiaans, Maria Albin, Charlotte Hall, Bengt Sjögren, Tore Theorell, Karolinska Institutet, Stockholm, Sweden; SBU, Stockholm, Sweden; Stockholm University, Stockholm, Sweden

Aim To investigate whether occupational exposures to chemical agents are associated with cardiovascular diseases (CVD) and to determine the magnitude of this association.

Method A systematic review was conducted between December 2014 and May 2016, following the PRISMA guidelines. An electronic search was conducted in PubMed, EMBASE, and the Cochrane Library.

Result A total of 1614 papers were found, of which 72 studies met the inclusion criteria. The studies showed that occupational exposures to chemical agents are associated with an increased risk of CVD, with a standardized mean difference (SMD) of 0.23 (95% CI 0.17–0.29).

Conclusion The findings suggest that occupational exposures to chemical agents are associated with an increased risk of CVD. Further research is needed to determine the specific agents and mechanisms involved.

Abstracts