taking account of the use of hearing protection devices (HPD) and well-established predictors of lipid levels.

Methods This cross-sectional study included 460 Danish industrial workers and 69 financial workers included as a reference. They provided a serum sample and lipid levels were determined. All participants wore portable dosimeters that recorded noise exposure levels at the dominant shoulder every 5 seconds for a 24 hour period. We extracted measurements obtained during work and calculated the L_{Aeq} value. For 341 workers who kept a HPD diary we subtracted 10 dB from every noise recording obtained during HPD use and estimated the noise exposure level at the ear.

Results The mean measured noise exposure level was 80.0 dB (A) [range: 55.0–98.9] and the mean estimated level at the ear 77.8 dB(A) [range:55.0–94.2]. The measured level was strongly associated with increasing levels of triglycerides (p = 0,01), cholesterol-HDL ratio (p < 0,01) and decreasing levels of HDL-cholesterol (p = 0,01), but only in unadjusted analyses that did not account for HPD use. In analyses of estimated noise exposure level at the ear that were adjusted for body mass index and smoking status among others no effects were seen.

Conclusion No association between current occupational noise exposure level and serum lipid levels was observed. This does not indicate that a causal pathway between occupational and environmental noise exposure and cardiovascular disease, if such a relation exists, includes alteration of lipid levels.

369 ACUTE EFFECTS OF OCCUPATIONAL NOISE EXPOSURE ON 24-HOUR AMBULATORY BLOOD PRESSURE IN WORKERS WITH HYPERTENSION

[1]T Y Chang, [1]Hwang, [2]Liu,[1]Hsieh, [3]Bao, [1]Lai. *[1]China Medical University, Taichung, Taiwan; [2]China Medical University Hospital, Taichung, Taiwan; [3]Department of Pharmacy, College of Pharmacy, China Medical University, Taichung, Taiwan*

10.1136/oemed-2013-101717.369

Objectives Hypertension is the prevalent disease in the workplace. Although the elevation of blood pressure from exposure to occupational noise has been recognised, research on susceptibility to occupational noise exposure in adults with hypertension is not reported. This repeated-measure study investigated the effects of occupational noise exposure on 24-hour ambulatory blood pressure in a cohort with hypertensive and normotensive workers.

Methods We enrolled 117 volunteers in an aircraft-manufacturing industrial cohort followed from 1998 to 2008. Individual noise exposure and personal blood pressure were determined simultaneously over 24 hours in 19 hypertensive and 98 normotensive workers during the working and non-working days. Linear mixed-effects regressions were used to investigate the effects of noise exposure on ambulatory systolic blood pressure (SBP) and diastolic blood pressure (DBP) between two groups during different periods by controlling for potential confounders.

Results Hypertensive workers had significantly higher mean values of ambulatory SBP (12.6 [95% confidence interval: 10.3–15.0] mmHg; 10.3 [7.8–12.8] mmHg) and DBP (8.0 [6.3–9.7] mmHg; 7.2 [5.3–9.1] mmHg) compared with normotensive workers on both working and non-working days. Such differences between two groups were obviously higher on the working day than on the non-working day. Per one A-weighted decibel (dBA) increase in the 24-hour average noise exposure was significantly associated with transient elevations of SBP (0.25 [0.15–0.36] mmHg) and DBP (0.16 [0.09–0.23] mmHg) among hypertensive workers on the working day. Such effects on SBP and DBP still persisted at the 60-min time-lagged noise exposure and the increases of SBP were more pronounced in the hypertensive group than in the normotensive group.

Conclusions Hypertensive workers are more susceptible to noise exposure, especially the effect on ambulatory SBP. These results suggest a need for the more protection to the susceptible population.

370 CAN COMPENSATION STATISTICS DETECT THE IMPACT OF SUMMER OUTDOOR TEMPERATURES ON WORKERS' HEALTH AND SAFETY? PRELIMINARY RESULTS IN QUEBEC (CANADA)

[1]A A P Adam-Poupart, [2]Smargiassi, [1]Zayed, [3]Busque, [3]Duguay, [4]Fournier, [3]Labrèche. *[1]University of Montreal, Montreal, Canada; [2]Institut national de santé publique du Québec (INSPQ), Montréal, Canada; [3]Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST), Montréal, Canada; [4]Direction de santé publique de l'Agence de la santé et des services sociaux, Montréal, Canada*

10.1136/oemed-2013-101717.370

Objectives Increased temperatures associated with climate change are likely to have impacts on occupational health and safety all over the world. We aimed to explore potential relationships between summer outdoor temperatures and occupational compensation statistics for heat-related morbidity and mortality.

Methods Daily compensation counts in the region of Montreal for heat-related health outcomes (such as heat strain, heatstroke, loss of consciousness) were obtained from the workers' compensation board of Quebec for the months of May to September over the period 2000–2010. Daily summer outdoor temperatures for the study period were obtained from Environment Canada. Associations between daily compensation counts and temperatures were analysed with regular Poisson and negative binomial regression models.

Results There were 35 compensations for heat-related health outcomes during the 11-year period (for a working population of approximately 1.85 million). Incidence rate ratio (IRR) obtained from preliminary Poisson regression analyses was 1.76 (95% CI: 1.55–2.00) per 1°C temperature increase. This large IRR translates into a small increase in compensations, given the low compensation base rate (0.002 compensation per day for heat-related health problems) at the average temperature of 18.4 °C. Virtually identical results were obtained with a negative binomial regression. Analyses will be carried out for other regions of Quebec and for indirect impacts of heat (e.g. accidents/injuries related to fatigue and lack of vigilance), with various metrics of temperature (e.g. maximum and minimum, Wet Bulb globe Index), and will be stratified by industrial sectors, age and sex when possible.

Conclusions These preliminary results suggest that the effect of increases in summer temperatures can be detected in compensation statistics. The results of this work could prove useful for the surveillance of current and future occupational health and safety risks associated with outdoor temperatures and to orient interventions.

371 PRIORITY SETTING FOR FUTURE OCCUPATIONAL SAFETY AND HEALTH (OSH) RESEARCH IN EUROPE

[1] G van den Heuvel, [2]Verbeek, [3]Nold, [4]Euler, [5]Fishta. *[1]TNO, Hoofddorp, Nederland; [2]FIOH, Helsinki, Finland; [3]IFA, Sankt Augustin, Germany; [4]Technical University, Dresden, Germany; [5]Baua, Berlin, Germany*

10.1136/oemed-2013-101717.371