Poster Presentation

Cancer

0460 SMOKING ADJUSTED OCCUPATIONAL RISK OF BLADDER CANCER USING PROXY SMOKING FROM LUNG CANCER IN NORDIC MALES

[1]Kishor Hadkhale*, [2]Jan Ivar Martinsen, [2,5]Elisabete Weiderpass, [2]Kristina Kjaerheim, [6]Elsebeth Lynge, [5]Pär Sparen, [7,8]Laufey Tryggvadottir, [1,9]Eero Pukkala. *[1]University of Tampere, Faculty of Social Sciences, Tampere, Finland; [2]Cancer Registry of Norway, Institute of Population-Based Cancer Research, Oslo, Norway; [3]University of Tromsø, Faculty of Health Sciences, The Arctic University of Norway, Tromsø, Norway; [4]Folkhälsan Research Centre, Genetic epidemiology group, Helsinki, Finland; [5]Karolinska Institutet, Department of Medical Epidemiology and Biostatistics, Stockholm, Sweden; [6]University of Copenhagen, Institute of Public Health, Copenhagen, Denmark; [7]Icelandic Cancer Registry, Reykjavik, Iceland; [8]University of Iceland, Faculty of Medicine, Reykjavik, Iceland; [9]Finnish Cancer Registry, Institute for Statistical and Epidemiological Cancer Research, Helsinki, Finland*

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Withdrawn at the author's request

Oral Presentation

Intervention Studies

0461 CAN A WATER.REST.SHADE INTERVENTION REDUCE THE RISK OF CHRONIC KIDNEY DISEASE AMONG SUGARCANE WORKERS?

[1]David Wegman*, [2]Jenny Apelqvist, [3]Theo Bodin, [3]Matteo Bottai, [2]Ulf Ekström, Ramón Garcia-Trabanino[4], [5]Jason Glaser, [3]Christer Hogstedt, [6,10]Kristina Jakobsson, [7]Emmanuel Jarquín, [8]Rebekah Lucas, [9]Sandra Peraza, [5]Ilana Weiss, [3]Catharina Wesseling. *[1]University of Massachusetts Lowell, Lowell, Massachusetts, USA; [2]Department of Laboratory Medicine, Division of Clinical Chemistry and Pharmacology, Lund University, Lund, Sweden; [3]Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden; [4]Centro de Hemodiálisis, San Salvador, El Salvador; [5]La Isla Network, Ada, Michigan, USA; [6]Section of Occupational and Environmental Medicine, University of Gothenburg, Gothenburg, Sweden; [7]Agencia para el Desarrollo y la Salud Agropecuaria (AGDYSA), San Salvador, El Salvador; [8]School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, UK; [9]Faculty of Chemistry and Pharmacy, University of El Salvador, Ciudad Universitaria, San Salvador, El Salvador; [10]Division of Occupational and Environmental Medicine, Institute of Laboratory Medicine, Lund University, Lund, Sweden*

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Background The Central American kidney disease epidemic persists despite efforts to identify cause(s) and introduce clear, evidence-based interventions to protect workers. Evidence suggests that chronic dehydration during heavy work in hot environments contributes to morbidity. An intervention was introduced to determine if risk could be reduced in sugarcane workers.

Objective To assess efforts to implement a Water.Rest.Shade intervention in one setting where sugarcane cutting was believed to increase CKDu in the workforce.

Methods The intervention was introduced mid-way through the harvest in one of two work groups. The intervention group received water throughout the day with scheduled rest breaks in shaded settings. Health data (anthropometric and questionnaires), blood and urine were collected four times over a-six-month harvest. Daily wet bulb globe temperatures (WBGT) were recorded.

Results There were significant changes in biomarkers across-shift and across-harvest that reduced the markers of dehydration (changes of urine osmolality and serum albumin) and reduced rate of loss in estimated glomerular filtration rate (eGFR). Cross-shift change in eGFR was reduced in the group receiving the intervention. Significant decreased eGFR over the harvest appeared to stop after the intervention in those receiving the Water.Rest.Shade program.

Conclusion Preliminary evidence indicates a Water.Rest.Shade intervention program reduces the impact of heat stress on acute and over-harvest biomarkers of kidney function. Potential long-term benefits of such an intervention need to be confirmed in long-term follow-up and in other settings. Further research is needed to determine whether biomarker changes predict reduced risk of CKDu in this type of work.

Poster Presentation

Exposure Assessment

0462 A COMPARISON OF DISTAL UPPER LIMB PHYSICAL EXPOSURE QUANTIFICATION TOOLS: THE STRAIN INDEX, ACGIH TLV FOR HAL, AND THE RECENTLY DEVELOPED REVISED STRAIN INDEX

Jay Kapellusch*, Arun Garg. *University of Wisconsin – Milwaukee, Milwaukee, Wisconsin, USA*

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Introduction There are several questionnaires and observational measurement tools to quantify distal upper limb (DUL) physical exposures. Perhaps the most commonly used observational methods are the Strain Index (SI) and the ACGIH TLV for HAL. However, there is currently no "gold standard" observational tool.

Methods Data from recently conducted prospective cohort studies of DUL musculoskeletal disorders (MSDs) were used to compare the SI, TLV for HAL, and the newly developed Revised Strain Index (RSI). A total of 3647 tasks performed by 710 workers were evaluated. When a tool lacked specific guidance, generally accepted techniques (e.g., time-weighted-averaging) were used to handle task complexity and multi-task jobs.

Results the SI, RSI, and TLV for HAL provide inconsistent estimates of physical exposure and predicted risk of DUL MSDs. Correlations and weighted kappa scores between the model's ranged from poor to good (e.g., weighted-kappa range: 0.16 to 0.82).

Conclusions Neither the TLV for HAL nor the SI were designed to assess multi-task jobs with complex tasks; whereas the RSI was. Assumptions made in order to use the SI and TLV for HAL for complex and multi-task analysis may contribute to the large differences between their physical exposure estimates. In this regard the RSI would appear to be a superior tool and one that has promising utility, at least for design and ergonomics intervention of complex and multi-task jobs. However, more research is needed to establish a "gold standard" DUL observational measurement tool.

Poster Presentation

Neurological Effects

0463 OCCUPATIONAL INTOXICATION BY MERCURY AND NEUROTOXICITY: PROFESSIONAL DISEASE

Marita Del Pilar Asmat Inostrosa*, Javier Valdés Valdazo, Jose Manuel De La Torre Robles, Maria Victoria Casares Del Rio, Luis Enrrique Alonso Herrero. *Leon Hospital, Leon, Spain*

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Introduction Mercury is a heavy metal found naturally in the environment. Mercury poisoning of occupational origin is widely identified as occupational disease. The industries where cases have been described are those dedicated to the manufacture of thermometers, barometers, as well as in gold mines and metal refineries such as zinc.

Methodology The case of a 30-year-old male, a boilermaker (welder assembler) who is part of one of the teams responsible for replacing the carbon steel tubes of the exchanger through which sulphurous gases circulate with mercury remains is described. The initial symptoms were diarrhoea with mucus and blood and gum inflammation, initially presenting a blood mercury concentration of 475.9mcg/L (NV=<10 mcg/L) and urine mercury concentration 939mcg/L (NV=<30 Mcg/L) (BAL INSHT <5 mcg/g creatinine), not receiving treatment until after 6 months with DMPS twice seeing a reduction in urinary values from 1830.47 to 7.38 mcg/L. As a clinical result of mercury poisoning he had severe mercurial erethism with dysthymia and aggressive behaviour, as well as a secondary complex visual disorder and a diarrheal syndrome due to secondary autonomic neuropathy.

Conclusion This paper aims to warn about the consequences of prolonged exposure to mercury especially for the central nervous system, as well as early diagnosis and timely treatment. On the other hand, note the importance of adopting an adequate and effective preventive system to protect the health of workers exposed to mercury.

Oral Presentation

Other

0464 HOW DO GENDER AND JURISDICTION INTERACT WITH WORK DISABILITY DURATION?

[1]Robert Macpherson*, [1]Mieke Koehoorn, [1]William Quirke, [1,2]Jonathan Fan, [2]Benjamin Amick, [2]Cameron Mustard, [2]Sheilah Hogg-Johnson, [3]Allen Kraut, [1,2]Christopher McLeod. *[1]University of British Columbia, Vancouver, British Columbia, Canada; [2]Institute for Work and Health, Toronto, Ontario, Canada; [3]University of Manitoba, Winnipeg, Manitoba, Canada*

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Objectives We examine whether gender differences in work disability duration were consistent across Canadian provinces and by length of work disability duration.

Methods Cohorts of injured workers in British Columbia (BC), Manitoba (MB) and Ontario (ON) were analysed using claim-level data for injuries occurring between 2007 and 2011. Work disability duration was measured using cumulative days that claims received work disability benefits during one-year post-injury. Extended Cox models provided hazard ratios (HR) and 95% confidence intervals (95% CI) to examine differences between women compared to men transitioning off work disability benefits and how this varied by length of work disability duration in each jurisdiction, adjusting for confounders.

Results In all three provinces, women transitioned off disability benefits slower initially (at 1 day, BC: HR: 0.90 [95% CI: 0.89–0.91], MB: HR: 0.89 [95% CI: 0.87–0.91], and ON: HR: 0.96 [95% CI: 0.95–0.97]) but in longer claims women transitioned off disability benefits faster (at 9 months, BC: HR: 1.10 [95% CI: 1.07–1.13]; MB: HR 1.14 [95% CI 1.08–1.21], and ON: HR: 1.03 [95% CI: 1.01–1.06]. This finding was consistent across different models by province and injury type.

Conclusions The persistent differences in work disability duration suggest that there may be underlying gender or sex differences in terms of recovery from work-related injury. Policies for the prevention and management of work injuries