

P-360 IS OCCUPATIONAL EXPOSURE TO POLYCYCLIC AROMATIC HYDROCARBONS ASSOCIATED WITH PROSTATE CANCER RISK? RESULTS FROM PROTEUS, MONTREAL, CANADA

¹Christine Barul, Marie-Elise Parent. ¹Centre Armand-Frappier Santé Biotechnologie, Institut national de la recherche scientifique, Canada

10.1136/OEM-2021-EPI.287

Introduction Polycyclic aromatic hydrocarbons (PAHs) have been shown to have endocrine-disrupting effects. Exposure could be carcinogenic to the prostate, a hormone-dependent organ.

Objective To examine the association between lifetime occupational exposure to PAHs and prostate cancer risk.

Methods Face-to-face interviews elicited detailed work histories for 1,937 histologically confirmed prostate cancer cases (524 aggressive) and 1,994 controls from Montreal, Canada. Industrial hygienists applied the hybrid expert assessment approach to assign concentration, frequency and certainty of exposure to benzo(a)pyrene, PAHs from different sources (wood, coal, petroleum, other sources) and PAHs from any source. Odds ratios (ORs) adjusted for age, ancestry, education, lifestyle and occupational factors, and their 95% confidence intervals (CI), were estimated using unconditional logistic regression.

Results After restriction to probable and definite exposure, and application of a 5-year lag, no clear association was observed between exposure to PAHs and overall prostate cancer risk, although a weak positive dose-response pattern emerged for total duration of exposure to PAHs from wood (OR=1.06; 95%CI 0.95 to 1.18, per 5-year increment). Men in the upper tertile of cumulative exposure to these PAHs showed an elevated OR of 1.54 (95%CI 0.60 to 3.92), predominantly reflecting the non-aggressive form of the tumour (OR=1.74; OR=0.67 to 4.56). Nevertheless, exposure to PAHs from wood occurring at least 10 years before the index date was associated with some elevated risks of high-grade tumours (OR=1.54, 95%CI 0.70–3.39). Similar results were found in sensitivity analyses, including those restricted to controls recently screened for prostate cancer or in those prioritizing the Gleason score ascertained from prostatectomy over that from biopsy.

Conclusion Only a handful of small studies have used detailed exposure assessment protocols to study the role of PAHs in prostate cancer risk. Our findings provide some limited evidence that exposure to PAHs from wood increases the risk of prostate cancer.

P-361 OCCUPATIONAL EXPOSURE TO ENGINE EXHAUST AND PROSTATE CANCER RISK

¹Christine Barul, Marie-Elise Parent. ¹Centre Armand-Frappier Santé Biotechnologie, Institut national de la recherche scientifique, Canada

10.1136/OEM-2021-EPI.288

Introduction Some engine exhaust components are carcinogenic or have hormone-disrupting properties.

Objective To investigate the association between lifetime occupational exposure to various engine exhausts (EE) and prostate cancer risk.

Methods In the context of a case-control study conducted in Montreal, Canada, 1,924 histologically-confirmed prostate cancer cases (436 aggressive) and 1,989 population controls were

recruited. Complete occupational history, socio-demographic and lifestyle factors were collected during in-person interviews. Industrial hygienists conducted semi-quantitative evaluations of intensity, frequency and reliability of exposure to leaded and unleaded gasoline EE, any diesel EE, heavy diesel EE, light diesel EE, jet fuel EE, and propane EE in each job held ≥ 2 years. Odds ratios (ORs) adjusted for age, ancestry and education, and 95% confidence intervals (CI), were estimated with unconditional logistic regression, modelling the association between each EE and prostate cancer risk.

Results Ever exposure to leaded gasoline EE was associated with a slight increase in risk of overall prostate cancer (OR=1.13, 95%CI 0.98 to 1.31), after restricting to probable and definite exposures, and applying a 5-year lag. Although no formal statistical heterogeneity in risks appeared, the association was slightly stronger for non-aggressive cancers than aggressive ones. No dose-response relationships emerged for total duration or cumulative exposure. Men who had ever been exposed to jet fuel EE showed a decreased odds of the tumor (OR=0.34 95%CI 0.19 to 0.61). No association was found with exposure to any other EE. Mutual adjustments for other EE and sensitivity analyses restricting controls to men recently screened for prostate cancer yielded results consistent with the main findings.

Conclusion We found limited evidence for a deleterious role of occupational exposure to leaded gasoline EE in the development of prostate cancer. This is the first study to examine the distinct role of leaded and unleaded gasoline EE in the etiology of this cancer.

P-362 GENDER DIFFERENCES IN SKIN RELATED QUALITY OF LIFE

¹Amira Omrane, Asma Kheder, Harrathi Chayma, Maher Maoua, Lamia Bouzgarrou, Taoufik Khalfallah, Najib Mrizak, Mohamed Akrou, Adnene Hanchi, Hichem Belhadj Ali. ¹Faculty of Medicine of Monastir, Tunisia

10.1136/OEM-2021-EPI.289

Background Quality of life (QL) is an important component of individuals' general well-being, particularly in active adults. However, factors influencing skin related QL have not been fully examined. Furthermore, the role of gender differences in relation to QL in occupational dermatitis (OD) has also not been examined in detail. This study aimed to assess determinants of skin-related QL of healthcare workers and examine the role of gender differences.

Methods A cross-sectional and exhaustive study was conducted among healthcare workers of four public hospitals in the central region of Tunisia. All cases of dermatitis recognized as occupational disease were included. Skin-related QoL was assessed using the validated Tunisian version of the 'Dermatology Life Quality Index' (DLQI).

Results A total of 37 cases of OD were collected with an annual incidence of 4.2 cases per 10,000 workers. The population was predominantly female (73%) and mean aged 44.7 \pm 9.4 years. Nurses were the most represented occupational category (38%). Allergic contact dermatitis was the most frequent diagnosis (96%). The median score of DLQI was 5. Twelve patients (32%) had a DLQI score $>$ 10, meaning a significant impairment in skin related QoL. Among them, 11 (92%) were female (p = 0.11). Multivariate analysis showed an association between the impairment of skin-related QoL and female gender (p = 0.04; OR = 19.384), exposure to

disinfecting chemicals in the workplace ($p = 0.01$; OR = 17.306) and the absence of occupational reclassification ($p = 0.01$; OR = 21.567).

Conclusion This study has revealed skin-related QoL is significantly more impaired in women. Several studies have reported a similar result. This could be explained by the fact that traditionally, in Tunisia, women have been predominantly responsible for household chores, and therefore more exposed to substances that can trigger dermatological conditions. In addition, the aesthetic consequences of skin pathology do not have the same impact on men and women.

P-363 SEX DIFFERENCES IN MANAGING ACCIDENTAL BLOOD EXPOSURE IN A TUNISIAN PUBLIC HOSPITAL

¹Amira Omrane, Harrathi Chayma, Meriem Ben Hassine, Lamia Bouzgarrou, Aouatef Mahfoudh, Taoufik Khalfallah. ¹Faculty of Medicine of Monastir, Tunisia

10.1136/OEM-2021-EPI.290

Accidental blood exposure (ABE) is major problem of occupational safety among health care workers. This work aimed to assess the gender differences among health care workers of a public hospital in the central region of Tunisia.

Methods An exhaustive retrospective study was conducted over a period of fourteen years, concerning ABE reported in the Department of Occupational Medicine of a public hospital in the central region of Tunisia (Mahdia). The data collected were related to socio-professional characteristics of victims, circumstances of the accident and immediate and follow-up care. Gender groups were compared.

Results A total of 650 ABE were reported during the study period. Victims were predominately female (sex ratio=0.47), mean aged 32.1±9.4 years and having a mean job tenure of 5.5±7.7 years. Paramedics represented 28.3%. AEB were caused by a needle stick in 82.6% of cases. Needle recapping was the direct cause in 10.6% of cases. Only 47.1% of caregivers were wearing gloves at the time of ABE. Women were more exposed to ABE with a higher risk of contamination, but with no statistically significant difference ($p=0.33$). Immediate care was in accordance with universal recommendations in 34.1% of cases and less adequate among women ($p=0.05$). The initial serology was prescribed in 82.6% of cases, that of the 3rd month in 5% of cases and that of the 6th month in 1.2% of cases. Women were less adherent to follow-up with a statistically significant difference at six months ($p=0.016$). Hepatitis B vaccination schedule was correctly followed in 79% of cases. Women were more adherent than men ($p=0.029$). Logistic regression analysis did not reveal gender as a predictor of vaccination status ($p=0.211$).

Conclusion The current study has revealed a high prevalence of ABE mainly among female health care workers with unsatisfactory management, including inadequate immediate care and incomplete post-accident follow-up.

P-364 INTERACTIONS AMONG SHIFT WORK DOMAINS AND EMPTY CALORIE FOOD/BEVERAGE CONSUMPTION

¹Ting-Ti Lin, Shannon Zenk, Pamela Martyn-Nemeth, Lisa Tussing-Humphreys, Kathleen M Rospenda, Chang Park, Mary C Kapella. ¹National Defense Medical Center, Taiwan

10.1136/OEM-2021-EPI.291

Introduction Shift work has been linked to increased consumption of empty calorie food/beverages. However, the majority of studies investigating associations between shift work and empty calorie food/beverage consumption has been focusing on the impacts of shift timing. Little is known about how other domains of shift work contribute to empty calorie food/beverage consumption.

Objectives The purpose of this study was to examine associations between shift work and empty calorie food/beverage consumption, focusing on other domains of shift work and their interactions.

Methods This was a 14-day intensive longitudinal study with ecological momentary assessment. A convenience sample of 80 Taiwanese hospital registered nurses were recruited. During the study period, employing a 21-item food checklist, participants were prompted four times daily to report their empty calorie food/beverage consumption on a smartphone. Three domains of shift work: shift timing, intensity, and speed were derived from the registry-based work schedules. Three-level mixed-effects regression models were used to test hypotheses.

Results A total of 2,444 momentary observations from 77 participants were included in the final analysis. Findings suggested that high night shift intensity was associated with an increased likelihood of sugar-sweetened beverage intake (AOR=1.64, 95% CI [1.01, 2.68]). Shift speed moderated associations between sugar-sweetened beverage consumption and work shift intensity or shift timing. However, associations between night shift intensity and empty calorie food/beverage consumption did not vary by shift speed.

Conclusions This study suggested how shift assignments might contribute to workers' empty calorie food/beverage consumption. Therefore, it would be beneficial to rotating shift workers' eating behaviors and overall health if the identified hazardous shift schedule can be avoided.

P-365 PROMOTING SENTINEL SURVEILLANCE PROGRAMS FOR ANTIMICROBIAL RESISTANCE IN CANADIAN SALMON AQUACULTURE, A POSSIBLE AND UNDERSTATED OCCUPATIONAL HEALTH HAZARD

¹Cory Ochs, Barb Neis, Kapil Tahlan, Atanu Sarkar. ¹Memorial University of Newfoundland and Labrador, Canada

10.1136/OEM-2021-EPI.292

Introduction Canadian salmon aquaculture is a high-risk industry with injury rates that surpass provincial averages in Atlantic Canada, yet few publications address occupational health hazards. Antimicrobial resistance (AMR) emergence is a growing public health concern, and the marine aquatic environment with its rich microbiota is particularly vulnerable to selection of AMR. Antibiotic use in the industry and other anthropogenic activities that result in the deposit of pollutants contaminated with antibiotics into the marine environment can together amplify selective pressure propagating AMR. Similar to terrestrial animal production facilities, there is concern for the development of hotspots for occupational exposures to AMR among aquaculture workers. As the fastest growing food production network globally, the aquaculture industry has been appealed by the Food and Agriculture Organization, among others, to standardize monitoring and to generate an evidence base to better understand the aetiology of AMR emergence in aquaculture settings.