

**Results** 9,369 women returning to the same job within 1 year after delivery were included. Among them, 8,478 (90.5%) mothers returned to work after no more than 2 months, when they would be assumed to have a full-paid maternity leave. Compared with those having stationary workload, those suffering from increased job stress during pregnancy had a 1.72 times greater risk of later RTW - between 6 and 12 months, after adjusting for potential confounders. Moreover, among those not returning to work more than 2 months after delivery, the aOR of later RTW was 2.0 (95% CI: 1.25, 3.19) among those with increased job stress.

**Conclusions** In this prospective birth cohort study, mothers' prenatal work conditions were significantly related to later RTW for those returning to work within 1 year after childbirth.

### P-7 WHICH ARE THE DETERMINANTS INFLUENCING THE INTENSION OF NURSES TO STAY AT THEIR INSTITUTION

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**Objective** This study aimed to investigate the main determinants related to their intension to stay at an institution, by years of clinical experience, among nurses in Japan.

**Method** A cross-sectional survey was conducted at 12 hospitals in the Tohoku and Kanto regions of Japan. Of the 1,034 nurses working in those hospitals, 481 nurses (response rate: 46.5%) completed a questionnaire and contributed to the analyses. The participants identified the determinants strengthening their intention to stay at the current hospital ('comfortable workplace environment,' 'passive motivational factors,' 'convenience of hospital location,' 'favorable work-life balance,' and 'fulfilment in nursing'), and individual attribution. The radar charts were shown to assess the determinants strengthening the intention to stay based on the standardized scores of determinants strengthening the intention to stay.

**Results** Nurses having less than 9 years of clinical experience and having 10–19 years of clinical experience showed higher scores of 'passive motivational factors' than the scores for the other determinants. Nurses having less than 9 years of clinical experience rated the lowest scores for 'favorable work-life balance' among all the determinants. On the other hand, nurses having more than 20 years of clinical experience gave the highest scores to 'favorable work-life balance', and the lowest scores to 'passive motivational factors.' Nurses having less than 9 years of clinical experience gave lower scores to 'comfortable workplace environment,' 'convenience of hospital location,' 'favorable work-life balance,' and 'fulfilment in nursing' than the other nurses. Nurses having more than 20 years of clinical experience showed opposite response trends compared to nurses having less than 9 years of clinical experience.

**Conclusion** Which determinants nurses emphasized in relation with their intention to stay would depend on the duration of clinical experience. Nurses having less than 9 years of clinical experience would be likely to stay at their current institution with passive motivation.

### P-9 THE COMBINED EFFECTS OF A HIGH PHYSICAL WORKLOAD AND EITHER OVERWEIGHT/OBESITY OR INSUFFICIENT VIGOROUS PHYSICAL ACTIVITY ON SELF-RATED HEALTH

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**Introduction** High physical workload and unhealthy lifestyle behaviors are common among blue-collar workers, both being separate risk factors for self-rated health. It may however be that the combination of high physical workload and an unhealthy lifestyle have a stronger effect than the sum of these factors, but studies to the combined effects are scarce.

**Objective** To investigate the combined effects of a high physical workload and either overweight/obesity or insufficient vigorous physical activity on self-rated health.

**Methods** A longitudinal study was performed among 29,987 construction workers using data of two Workers' Health Surveillance Programs. Self-reported physical workload involved strenuous work postures and manual material handling. Insufficient vigorous physical activity was defined as self-reported vigorous activity for less than 3 times per week. Overweight/obesity was measured by physical examination. Self-rated health was measured using a single item question. Logistic regression analysis was used to investigate the associations between the separate risk factors at baseline and self-rated health at follow-up. The combined effects of physical workload and overweight/obesity or insufficient vigorous activity on self-rated health were analyzed using the relative excess risk due to interaction (RERI).

**Results** Construction workers with strenuous work postures (OR 1.35 95%CI 1.25–1.46) or manual material handling (OR 1.29 95%CI 1.19–1.40) were more likely to report poor self-rated health at follow-up. Overweight was not associated with poor self-rated health at follow-up, but obesity (OR 1.31 95%CI 1.17–1.47) and insufficient vigorous activity (OR 1.13 95%CI 1.01–1.25) were. However, no statistically significant interaction effects were found for physical workload and obesity or insufficient vigorous activity.

**Conclusions** Physical workload, obesity and insufficient vigorous activity were separate risk factors for poor self-rated health, but did not appear to have a synergistic effect. Work-site health promotion interventions focusing on improvement in physical workload and lifestyle both can have beneficial health effects.

### P-13 THE UTILITY OF OCCUPATIONAL HEALTH DATA IN THE CANADIAN PARTNERSHIP FOR TOMORROW'S HEALTH (CANPATH)

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**Introduction** The Canadian Partnership for Tomorrow's Health (CanPath) is a multi-centered prospective cohort study, and represents Canada's largest population health research

platform. CanPath holds data and biosamples on more than 330,000 participants from five regional cohorts representing British Columbia, Alberta, Ontario, Quebec, Nova Scotia, New Brunswick, Prince Edward Island, and Newfoundland and Labrador. A sixth cohort representing Manitoba has begun recruitment and Saskatchewan is in the planning stages.

**Objectives** To examine the genetic, environmental and lifestyle factors that may influence the development of cancer and chronic disease.

**Methods** A standardized baseline questionnaire was implemented across CanPath between 2009–2015. Participants also provided biosamples including blood, saliva, urine, and toenails, and non-invasive physical measures (height, weight, hip and waist circumference, body composition, and blood pressure). Subsequently, the first follow-up questionnaire was implemented between 2016–2018. Data from supplementary questionnaires are also available from regional cohorts.

**Results** CanPath holds a harmonized dataset with 1,477 variables including demographics, history of cancer and other chronic disease, lifestyle and health behaviours, and physical measures. Variables of particular relevance to occupational health research include geographic location, sleep, job title, occupational history, work status, and work schedule. In addition, >150,000 participants provided blood and/or other biosamples.

**Conclusions** CanPath represents a powerful tool for population health research. The survey data and biosamples are available to researchers for future use to gain a more in-depth understanding of the causes and consequences related to occupational health among Canadian residents.

#### P-16 EFFECTIVENESS OF THE BRAZILIAN VERSION OF THE DANGEROUS DECIBELS PROGRAM FOR WORKERS

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**Introduction** Noise-induced hearing loss can be avoided by taking preventive measures.

**Objective** To assess the effectiveness of the Brazilian version of the Dangerous Decibels® program for noise-exposed workers, using the ecological model as an educational intervention plan.

**Method** Randomized interventional study with a quantitative, experimental trial design, conducted at a meatpacking company. The participants were divided into two groups – the first one (n=132, divided into 6 subgroups) received the Dangerous Decibels® educational intervention (DDEI) adapted to workers (REDDY et al., 2017), while the second group (n=138, divided into 5 subgroups) received a conventional educational intervention (CEI). The interventions lasted 50 minutes. The Hearing Protection Assessment Questionnaire (HPA-5) was administered before and after the interventions. The five dimensions (attitude, behavior, knowledge, supports, and barriers) were compared using the Student's t-test for paired data (<0.05).

**Results** After the DDEI training, workers improved significantly in barriers, supports, knowledge, attitudes, and behavior around noise. For knowledge, attitudes and behavior, the improvement was greater for those trained with the DDEI than the CEI.

**Conclusions** The Brazilian version of the Dangerous Decibels® program for noise-exposed workers was effective, influencing positively the factors at different levels of the ecological model.

#### P-18 SEX AND GENDER DIFFERENCES IN OCCUPATIONAL HAZARD EXPOSURES: A SCOPING REVIEW OF LITERATURE FROM THE LAST 10 YEARS

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**Introduction** Comparative research on sex and/or gender differences in occupational hazard exposures is necessary for effective work injury and illness prevention strategies that integrate individual and social context in their design, especially as women make up half of the labour force in high-income countries.

**Objective** To summarize the peer-reviewed literature on exposure differences to occupational hazards between men and women, across occupations and within the same occupation.

**Methods** A scoping review was conducted on studies from 2009 to 2019, from 8 databases. Studies were required to quantify the exposure of men and women to an occupational hazard. The analysis of hazard exposure differences within the same occupations was based on whether studies stratified or matched their results by occupation for men and women, or mentioned in the article. Studies were not limited by language or study design.

**Results** Fifty-eight studies met our inclusion criteria. Of these, 30 studies were on physical hazards, 38 studies on psychosocial hazards, 5 studies on biological hazards, and 17 studies on chemical hazards. The majority of studies reported that men were exposed to noise, vibration, radiation, physical work, biomechanical and chemical hazards; while women were exposed to wet work, bullying and discrimination, work stress, and biological agents. Within the same occupations, men were more likely to be exposed to physical hazards, with the exception of women in healthcare occupations and prolonged standing exposure. Women compared to men in the same occupations were more likely to experience harassment, while men compared to women in the same occupations reported higher stress. Men reported more exposure to hazardous chemicals in the same occupations as women.

**Conclusions** Men and women have different exposures to occupational hazards, and these differences are not solely due to the gendered distribution of the labour force by occupation. Future research is needed to explain the reasons for sex/gender inequalities and differences in exposures within the same occupations.

#### P-25 ASSESSMENT OF LIGHTING INTENSITY AT WORKSTATIONS AND INCIDENCE OF SHOULDER PAIN AMONG ELECTRONIC MANUFACTURING WORKERS

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