IS GENDER ADEQUATELY STUDIED IN AGRICULTURAL WORKERS’ HEALTH RESEARCH?

Rima R. Habib, Kareem Elzein, Safa Hojeij, American University of Beirut, Beirut, Lebanon

Objectives Gender-sensitive research strategies address men’s and women’s health problems by identifying physiological, ergonomic and socio-cultural gender characteristics that shape study outcomes. These strategies have been inadequately accounted for in many occupational health researches on agriculture workers. In reviewing the occupational health literature on agriculture workers, this paper assesses the processes employed to analyse how gender affects work-related health outcomes.

Method Peer-reviewed articles concerned with male and female agricultural workers’ health and published between 2000 and 2011 in PubMed were evaluated. Articles that use gender stratification were identified and analysed for their approaches toward sampling, data analysis, task differentiation and use of other exposure indicators.

Results Out of 176 articles, only 26 (15%) analysed the associations between occupational health exposures and health outcomes using gender stratification. Many studies failed to recruit adequate female participants or have marginalised gender at an early stage of the research. The role of females as homemakers was also inadequately conceptualised. Several others did not collect adequate task or exposure information to identify established risk factors relating to study outcomes.

Conclusions Occupational health research on farm workers struggle to incorporate gender analysis into research design and analytical approaches. The role of gender in shaping health outcomes is evident in occupational health research. Developing methodologies, study designs, and analysis that are gender-sensitive will improve the quality of research and help tailor sound interventions and policies. This could be through incentives and support from research funding agencies and through incorporating gender perspectives into academic journal editorial policies.

LIFETIME OCCUPATIONAL EXPOSURE TO DIESEL EXHAUST AND BLADDER CANCER AMONG MEN IN NEW ENGLAND

Stella Koukou, 1Margaret Karagas, 1Melissa Friesen, 1Anjoeka Pronk, 1Patricia Stewart, 2Dalia Bani, 3Molly Schwenn, 4Richard Waddel, 5Alison Johnson, 6Casime Clerk, 7Karla Amenti, 1Joanne Cot, 6Debra Silverman. 1Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, USA; 2Department of Community and Family Medicine, Geisel School of Medicine at Dartmouth, Hanover, NH, USA; 3NIO Quality and Safety, Zeist, The Netherlands; 4Stewart Exposure Assessments, LLC, Arlington, VA, USA; 5Maine Cancer Registry, Augusta, ME, USA; 6Vermont Cancer Registry, Burlington, VT, USA; 7New Hampshire Department of Health and Human Services, Concord, NH, USA

Objectives We examined the association between lifetime occupational diesel engine exhaust (DEE) exposure and risk of bladder cancer in 1171 cases and 1418 controls in a population-based case-control study.

Method Lifetime occupational histories combined with additional exposure-oriented questionnaires were administered to obtain detailed information on DEE. We estimated the probability, frequency and intensity of exposure to respirable elemental carbon (REC) (µg/m³), a primary surrogate for DEE. Unconditional logistic regression was used to calculate odds ratios (ORs) and 95% confidence intervals (CIs), adjusting for smoking and other risk factors.

Results DEE was associated with an increased risk of bladder cancer, with the highest level of cumulative REC (>252.8 µg/m³ per year) having a 35% elevated risk (95% CI = 0.86–2.13) compared to those with no exposure. Among nonsmokers, we observed a significant trend in risk with increasing cumulative REC (p-trend = 0.03), with heavily exposed subjects having an OR = 2.80 (95% CI = 1.08–7.22). Time-period analyses by decade of first DEE-exposed job showed a statistically significant increased risk among men first exposed in the 1950s (heavily exposed: OR = 2.73, 95% CI = 1.29–5.79, p-trend = 0.009).

Conclusions The overall risk observed is modest, but similar in magnitude to those observed at comparable levels of exposure in previous studies of bladder and lung cancer. Greater risk for those first exposed in the 1950s may reflect secular trends in risk or a long latency for bladder cancer. Our results provide additional evidence that DEE is related to an increased bladder cancer risk.
THE EFFECTS OF ACUTE AND CHRONIC MENTAL STRESS
ON CARDIAC FUNCTION

Mark Wilson, Lorraine Conway. University of Illinois at Chicago, Chicago, IL, USA
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Objectives The main objective of this study is to investigate the effects of acute and chronic stress on blood pressure, heart rate variability and an indicator of cardiac contractility. The study also aims to describe the degree to which various demographic and lifestyle factors modify the observed effect.

Method Chronic stress was assessed with a validated questionnaire, the Perceived Stress Scale. Acute stress was the level of stress experienced from the performance of a simple mental challenge on a scale from 1–100. Heart rate variability is calculated from heart rate measurements recorded via a heart rate monitor. Cardiac contractility index is derived from the amplitude ratio of the first and second heart sounds, as recorded with an electronic stethoscope. Measurements for each of the parameters were taken before and after performance of the task. Post-task measurements were used as baseline data and related to reported chronic stress levels. Acute stress levels were compared with the difference between pre- and post-task cardiac measurements.

Results Average acute stress level was 17/100. A statistically significant increase in cardiac contractility index was found for acute stress, while no significant change in either HRV or heart rate was noted. Subjects with high chronic stress showed a significantly reduced cardiac contractility than those with low chronic stress, while no difference in HRV was found between groups.

Conclusions Acute and chronic stress exert different inotropic effects on the heart, while no chronotropic effect was observed.

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THE COMBINED EFFECTS OF HIGH EMOTIONAL DEMANDS AND LOW JOB CONTROL AT WORK ON SUICIDAL IDEATION IN KOREAN SALES AND SERVICE WORKERS

Jin-Ha Yoon, Sei-Jin Chang. Institute for Occupational Health, Yonsei University College of Medicine, Seoul, Korea; Department of Preventive Medicine, Yonsei University College of Medicine, Seoul, Korea; Department of Preventive Medicine, Wonju College of Medicine, Yonsei University, Wonju, Korea; Institute Occupational and Environmental Medicine, Wonju College of Medicine, Yonsei University, Wonju, Korea
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Objectives Suicide rates have increased worldwide, and suicide is the second leading cause of death below the age of 60 in Korea. Hence, loss of the working years due to suicide is very important issue in occupational health. We examined the effects of high emotional demand and low job control on suicidal ideation in sales and service workers.

Method A total of 995 participants (824 men and 1171 women) were recruited in this study. Suicidal ideation, high emotional demand and low job control were estimated by self-report questionnaires from the 4th Survey. Odds ratios (OR) and 95% confidence intervals (95% CI) for suicidal ideation was calculated by gender using the logistic regression analysis.

Results People who experienced high emotional demands (OR: 2.07 in men, OR: 1.97 in women) or low job control (OR: 1.96 in men, OR: 1.33 in women) were more likely to experience suicidal ideation, after adjusting for age, household income, and employment characteristics (paid vs. self-employed workers). The combined effects of emotional demands and job control revealed that workers with high emotional demand and high job control (OR: 1.93 in men, OR: 1.60 in women) or low emotional demand and low job control (OR: 4.60, OR: 2.69 in women) had a higher risk for suicidal ideation, compared to workers with low emotional demand and high job control, after controlling for age, household income,