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Gender and occupational health

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Gender and occupational health

This special section of the journal includes perspectives from four groups of scientists, from five different countries, on how gender should be treated in data analysis in occupational health. It arose from a symposium organized in 2007 by the Gender and Work Technical Committee of the International Ergonomics Association (IEA). The symposium occurred at the PREMUS conference on the prevention of work-related musculoskeletal disorders, itself organized by the Scientific Committee on Musculoskeletal Disorders of the International Commission on Occupational Health (ICOH). It is not accidental that both of these international organizations were involved in creating this event, as each recently established an official committee to reflect on gender and occupational health. Both the IEA Gender and Work Technical Committee and the ICOH Scientific Committee on Women Work and Health were formally established in 2006.

Why this sudden growth of interest in gender among occupational health researchers? Many scientists have suggested over the years that occupational health studies should include women in their samples (1, 2). They have noted that women's working conditions deserve attention (3, 4), that toxicologists should pay attention to physiological sex differences (5), and that the sex-specific reproductive functions of both men and women should interest occupational health scientists (6, 7). Nevertheless, the response of most researchers has initially been tepid, as shown by meta-analyses (2, 8, 9). In fact, a suggestion for a thematic panel at an international conference drew a negative response from the president of the host association who indicated women should no longer be considered a specific group as gender equality is now perfectly accepted in Europe.

Others have been concerned about exploring gender differences in response to occupational conditions due to a fear of discrimination against women, as happened in the United States in 1992 when Johnson Controls excluded fertile women, but not their male counterparts, from working in its battery-production department, arguing that lead exposure in the department could damage the fetus. Although lead also damages sperm, only women's reproductive damage was invoked by Johnson Controls' management. The United States Supreme Court, however, ruled against the company in this case (10). It is increasingly thought that occupational health intervention should focus on protecting all workers rather than excluding "vulnerable workers". This change in focus will become an economic imperative given the impending labor shortages that will result from changing demographics with respect to age and gender.

Beyond political considerations, several methodological problems have begun to impel scientists to think more deeply about the meaning of gender in work-related health (11, 12). The most obvious (and the one with which all of the papers in this special section are concerned) is the risk of over-controlling if analysts treat gender as a simple confounder in data sets, in which gender is a surrogate for specific work conditions (13, 14). This concern is important for those interested in exposures to risk factors for musculoskeletal disorders, since such exposures vary widely by gender (15, 16). And even when analyses are stratified, the interpretation of residual gender differences in outcomes poses a problem. Based on responses to a questionnaire, the paper by Hooftman and her colleagues (17), for example, presents and discusses gender differences in the musculoskeletal symptoms found in association with the same risk factors. The paper by Silverstein et al also considers male and female responses to specific exposures, profiting from a meticulous observation of work postures; they also found some gender differences (18). Do these differences come from physiological vulnerability, interactions with other exposures in paid and unpaid work, or intrastratum confounding in which the name of a specific risk factor, as used in a questionnaire, corresponds to different physiological demands in jobs done by women and men?

But the importance of considering gender is not confined to understanding gender differences; such consideration supplements information on occupational health risks in general. The paper by Messing et al synthesizes information from five data sets to show that gender stratification adds significant information to analyses of the relations between risk factors and musculoskeletal outcomes when compared with treating gender as a confounder and considering interactions (19).

Finally, the discussion paper by Härenstam suggests new approaches to data analysis that do not treat gender as a potential explanatory variable, but consider it instead in relation to results of multilevel and cluster analyses (20). In fact, such innovative treatment of population descriptors becomes necessary when researchers realize that gender is not alone in determining exposures, effects, and their interactions. Since simultaneous stratification for gender, social class, age, and ethnicity is not practicable in most data analyses, other methods for understanding their multiple interactions must be developed.

We hope that consideration of gender in occupational health will lead to more interesting questions. We encourage researchers to explore, for example, such questions as: why men have more compensated industrial accidents in most countries (21, 22), how perimenstrual back pain should be treated in studies of back pain [23, unpublished data: Borges A. Les désordres menstruels chez les infirmières de la Province d'Aragua, Venezuela (Menstrual disorders among nurses in Aragua Province) (thesis). Montréal (Canada): Université du Québec; 2003.], how training for manual materials handling should be adapted to the physiological specificities of each gender, how the dimensions of women's breasts should be incorporated into the biomechanical modeling of manual materials handling (24), what effect, if any, fatigue and supplementary exposures associated with the "double" (domestic and paid) workday have on occupational exposures (25), how work schedules can be adapted to family situations in the modern workplace, and why women's and men's occupational exposures vary in gender-specific ways with age (26) and ethnicity [27, unpublished data: Premji S. Étude aux méthodes mixtes sur la relation entre l'ethnicité et la santé et sécurité du travail (Mixed methods study of the relationship between ethnicity and occupational health and safety) (thesis). Montréal: Université du Québec; 2008.].

And finally, in addition to research, practice should also be viewed with a "gender lens." A growing number of studies show that gender discrimination affects occupational health and access to compensation (28–30). Occupational health and ergonomic standards and guidelines need to be evaluated from a gender viewpoint before being introduced into the workplace (31). Finally, occupational health regulations need to be developed for the growing service sector of the economy, in which an increasing number of risks are being identified (32–35).

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