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CURRENT PRACTICES IN THE COLLECTION AND USE OF OCCUPATIONAL MEASURES IN POPULATION-BASED CARDIOVASCULAR STUDIES IN THE UNITED STATES. *L MacDonald, A Cohen, S Baron, C Burchfiel (National Institute for Occupational Safety and Health, Cincinnati, OH 45226)

Research on determinants of the social gradient in health promises to enhance prevention for outcomes such as cardiovascular disease (CVD). While many CVD studies contain measures on a broad array of determinants, progress in distinguishing their effects may be impeded by inadequate consideration of the relationship between socioeconomic status (SES) and working conditions. A systematic review was conducted to examine current practices in the collection and use of occupational measures in population-based CVD studies. Thirty-three studies were identified for review from the National Heart, Lung, and Blood Institute online list of epidemiology studies with public use datasets and the Computer Retrieval of Information on Scientific Projects biomedical database. Search criteria included funding dates (2000 or after), outcomes (CVD), and study design (prospective population-based epidemiology study). Data collection instruments and study publication lists were retrieved and reviewed for 30 studies (91%). Occupational measures were identified and cataloged. Five studies (17%) collected no occupational data. Although 19 studies (68%) collected data on occupational exposure (physical or psychosocial job stressors, chemical hazards), only half (53%) of the studies published analytic findings using those measures (28 articles). Occupational data were most often used as an SES indicator. These findings show that data exist that could improve our empirical understanding of the contribution of working conditions to the social gradient in cardiovascular health. Collaboration and targeted funding are suggested to enhance existing research investments.

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COPD AND OCCUPATIONAL EXPOSURES: A CASE-CONTROL STUDY. *S Weinmann, W M Vollmer, V Breen, M Heumann, E Hnizdo, J Villnave, B Doney, M Graziani, M A McBurnie, S Buist (Kaiser Permanente Northwest, Portland, OR 97227)

Growing evidence suggests that chronic obstructive pulmonary disease (COPD) is causally associated with certain occupations. The authors conducted a case control study among members of Kaiser Permanente Northwest to evaluate the association of COPD with occupational exposures. Subjects included 388 COPD cases aged 45 and over matched on age group, sex, and cigarette smoking history to 356 controls. Occupation and smoking histories were obtained by telephone interview. Industrial hygienists independently rated each job within an individual's history according to its likelihood of exposure to eight occupational hazard categories thought to cause COPD. Odds ratios (ORs) for the presence of each individual exposure hazard category and for aggregate exposure variables were computed using logistic regression, stratifying on smoking status and adjusting for age, sex, and, for smokers, pack years. Among ever-smokers, occupational exposures most strongly associated with COPD were diesel exhaust (OR = 1.7, 95% CI: 1.1, 2.7) and irritant gases and vapors (OR = 1.7, 95% CI: 2, 2.4). Associations with metal dust and mineral dust were suggested. In the small group of never-smokers (42 cases and 58 controls), a similar pattern was evident. Odds ratios for the overall aggregate exposure measure were 1.5 (95% CI: 1.0, 2.2) for ever-smokers and 1.5 (95% CI: 0.61, 3.7) for never-smokers. These population-based findings add to the literature linking occupational exposures to COPD. The findings and conclusions in this abstract have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.

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OCCUPATIONAL EXPOSURES AND DEATHS FROM SYSTEMIC AUTOIMMUNE DISEASES. *L S Gold, M Dosemeci, M H Ward, A J De Roos (Fred Hutchinson Cancer Research Center and University of Washington, Seattle, WA 98109)

There is a dearth of information on potential causes of systemic autoimmune diseases, although occupational exposures have been suspected as risk factors. We conducted a case-control study using death certificate data from 24 US states to examine the linkages between occupational exposures and deaths from systemic autoimmune diseases. All deaths that occurred between 1984 and 1998 with the cause listed as rheumatoid arthritis (n = 7526), lupus (n = 4064), scleroderma (n = 3748), or any other systemic autoimmune disease (n = 1917) were identified (encompassing those listed as underlying or contributing causes). Controls (n = 86,275) were sampled from all remaining deaths, and were frequency matched to the entire case group on age, sex, race, and geographical region. Exposures were ascertained from each decedent's usual occupation, using a job exposure matrix created by an industrial hygienist (MD). Among those whose jobs entailed exposure to animals, we observed increased risks for all systemic autoimmune diseases (odds ratio (OR) = 1.14; 95% confidence interval (CI) 1.02–1.27), for rheumatoid arthritis (OR = 1.29 (95% CI 1.12–1.48)), and for lupus (OR = 1.16 (95% CI 0.91–1.49)). Additionally, associations were found for occupations involving exposure to the public (OR and 95% CI for all systemic autoimmune diseases = 1.08 (1.03–1.13); for lupus 1.13 (1.04–1.23); for scleroderma = 1.18 (1.08–1.28)), but none were found for rheumatoid arthritis. These results suggest that autoimmune diseases may have an infectious etiology. Further analyses will identify specific occupations accounting for the risks with animal and public exposures.

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ASSOCIATION BETWEEN EMPLOYMENT STATUS AND FREQUENT MENTAL DISTRESS AMONG ADULTS WITH DISABILITIES. *C Okoro, T Strine, L McGuire, L Balluz, A Mokdad (Centers for Disease Control and Prevention, Atlanta, GA 30341)

The research posits that poor mental health can lead to disability and disability can lead to unemployment. However, the association between poor mental health and employment status among adults with disabilities has not been well characterized in the general U.S. population. Data were analyzed for community-dwelling adults with disabilities living in the 50 states and the District of Columbia from the 2001 and 2003 Behavioral Risk Factor Surveillance System. Relationships were examined between employment status and frequent mental distress (14 or more mentally unhealthy days during the previous 30 days) among 47,377 men and women aged 25 to 64 years. Among adults with disabilities, the unadjusted prevalence of frequent mental distress was 18.0% (standard error [SE], 0.4) among employed adults, 39.7% (SE, 1.3) among unemployed adults, and 44.0% (SE, 0.8) among adults unable to work. After adjustments were made for socioeconomic confounders, health behaviors, body mass index, and health care coverage, the results indicated that adults with disabilities who were unemployed or unable to work were significantly more likely than those employed to have frequent mental distress (adjusted prevalence: 34.7% and 40.6%, respectively, vs 18.3%; $p < 0.001$). These associations persisted after further adjusting for self-rated health status (33.5% and 35.9%, respectively, vs 19.2%; $p < 0.001$) and after stratification by age group, sex, race/ethnicity, educational attainment, marital status, income, and self-rated health status. These findings clearly show the need for research and development of public health interventions to reduce the toll of mental distress among all adults with disabilities.



Supplement to:

American Journal of Epidemiology

Volume 163 Number 11 June 1, 2006

www.aje.oxfordjournals.org

Abstracts 2006 Congress of Epidemiology

A Joint Meeting of the
American College of Epidemiology
American Public Health Association
(Epidemiology Section)
Society for Epidemiologic Research

Seattle, Washington, June 21–24, 2006

