333

THE RELATION OF OCCUPATIONAL STATUS TO SYMPTOM REPORTING IN A SAMPLE OF CAUCASIAN AND CHINESE MIDLIFE WOMEN. R. Green,* E. Gold, and S. Samuels (University of California, Davis, CA 95616)

This study examined the relation of occupational status to 12 self-reported physical and psychological symptoms in midlife women. We conducted a population-based cross-sectional telephone survey in 1995-1996 of Chinese and Caucasian women 40-55 years old who were members of a Northern California health maintenance organization. Current job titles were coded, and occupational status was assigned to each job using Nam-Powers-Terrie scores, ranging from 1 to 99. Analysis was confined to women with complete occupational information who did not report current use of exogenous female hormones (Chinese = 480, Caucasian = 494). We used logistic regression to control for menopausal status and selected demographic and lifestyle variables. The non-working women were more likely to report headache than the women in the highest quartile (scores of 86-99) of occupational status (adjusted prevalence odds ratio (POR) = 1.89, 95% confidence interval (CI) = 1.15-3.10). Among working women, the adjusted prevalence of headache did not differ significantly among quartiles of job status. Non-working women were less likely to report feeling tense or nervous than working women in the highest quartile of occupational status (adjusted POR = 0.54, 95% CI = 0.32-0.90). Among working women, feeling tense or nervous was strongly positively associated with occupational status as a continuous variable in the multiple logistic regression model (P value for linear trend = 0.0016). Compared with women in the highest job status category, non-working women and women with lowest job status were much more likely to report their general health to be fair or poor versus excellent. The prevalence of feeling tense or nervous and self-reported general health status thus increased with increasing occupational status in both ethnic groups.

334

UNI-VARIATE RISK FACTORS FOR FIREFIGHTER LINE-OF-DUTY INJURIES. A. Fabio,* M. Ta, E. Schmidt, and S. Strotmeyer (National Institute for Occupational Safety and Health, Morgantown, WV 26505)

Background - The National Fire Protection Association estimated that in 1997, 87,500 United States firefighters (8.1 per 100 firefighters) were injured in the line-of-duty. The relative scarcity of epidemiologic research in this area demonstrates the need for further investigation of the factors associated with risk of injury. Objective - The purpose of this analysis was to identify uni-variate risk factors that merit further exploration. Methods - As part of NIOSH's Fire Fighter Fatality Investigation and Prevention Program, an analysis of the National Fire Incident Reporting System (NFIRS) - which includes fire incident data on approximately 44% of all U.S. fires, and contains information on the nature of the fire and the extent and method of response - was conducted. Various potential risk factors were analyzed to quantify injury risk. Results - From 1993 to 1997, a total of 4,156,545 fire incidents were reported to NFIRS, of which over 37,000 involved at least one firefighter injury. Significant risk factors were: (a) civilian injury or death (at least one versus none - odds ratio (OR)=10.1, 95% CI = 9.8-10.5), (b) time of day (night versus day - OR = 1.49, 95% CI = 1.46-1.52), (c) level of fire origin (ground versus 10 – 49 feet above ground - OR = 3.4, 95% CI = 3.3-3.5; ground versus below ground - OR = 3.0, 95% CI = 2.9-3.2), and (d) estimated dollar loss (median $100 vs. $17,500, $p < 0.001$). Conclusion - As epidemiologic studies examining risk factors for line-of-duty injuries to firefighters are a rarity, this analysis provides key information to guide future research, such as the relationship between firefighter and civilian injury, time of day or level of fire origin.

335

A COHORT MORTALITY STUDY OF PHILADELPHIA FIREFIGHTERS. D. Baris,* T. J. Garrity, J. L. Telles, E. F. Heineman, A. Olshan, and S. H. Zahm (National Cancer Institute, Bethesda, MD 20892)

Firefighters are exposed to a wide variety of toxic chemicals including known and suspected carcinogens. Previous studies have reported excess risk of some cancers but have been limited by small numbers or little information on employment characteristics. We conducted a retrospective cohort mortality study among 7,789 Philadelphia firefighters employed between January 1, 1925 and December 31, 1986. For each cause of death, the standardized mortality ratios (SMRs) and exact Poisson 95% confidence intervals (CI) were estimated. We also compared mortality among groups of firefighters defined by the estimated number of career runs and potential for diesel exposure. In comparison with the U.S. White men, the firefighters had similar mortality from all causes of death combined (2220 deaths, SMR = 0.96, 95% CI = 0.92-0.99) and all cancers (SMR = 1.10, 95% CI = 1.00-1.20). There were statistically significant deficits of deaths from nervous system diseases (SMR = 0.47), cerebrovascular diseases (SMR = 0.83), respiratory diseases (SMR = 0.67), genitourinary diseases (SMR = 0.54), all accidents (SMR = 0.72), and suicide (SMR = 0.66). Statistically significant excess risks were observed for colon cancer (SMR = 1.51) and ischemic heart disease (SMR = 1.09). The risks of mortality from colon cancer (SMR = 1.68), kidney cancer (SMR = 2.20), non-Hodgkin's lymphoma (SMR = 1.72), multiple myeloma (SMR = 2.31), and benign neoplasms (SMR = 2.54) were increased among firefighters with at least 20 years of service. Our study provides no evidence for an association between the occupation of firefighting and increased risk of overall mortality, all cancers combined, or lung cancer. However, we observed increased mortality for cancers of the colon and kidney, non-Hodgkin's lymphoma and multiple myeloma. There was insufficient follow-up since the introduction of diesel equipment to adequately assess risk.

336

PHOTOCOPIER TONER DUST AND RISK OF SARCOIDOSIS AMONG AFRICAN-AMERICANS. K. Kirkey,* B. Rybicki, M. Major, M. Maliarik, and M. Iannuzzi (Henry Ford Health System, Detroit, MI 48202)

Few studies have examined the risk of sarcoidosis associated with specific occupational exposures. In an ongoing family study of sarcoidosis in African-Americans, we detected a positive association between sarcoidosis and ever working in a sales or clerical occupation. This finding, and case reports of sarcoidosis-like conditions in patients with photocopier toner dust exposure, led us to examine such an exposure more closely in our study sample. Therefore, we collected data on history of photocopier use and maintenance from 72 sarcoidosis cases and 120 unaffected siblings and parents in 71 African-American families of index cases. Among the 192 study subjects, 65% had ever used a photocopier, with affected family members (78%) more likely to have used a photocopier compared with unaffected members (58%). Sarcoidosis was statistically significantly associated with ever using a photocopier (odds ratio [OR] = 2.51 95% confidence interval [CI]: 1.30-4.86), ever working where there was a photocopier nearby (OR = 2.04 95% CI: 1.09-3.83), ever changing photocopier toner, and doing photocopier maintenance (OR = 4.72 95% CI: 1.78-12.53). To account for the non-independence of family data, we used a conditional logistic regression model to assess the risk of sarcoidosis from photocopier exposure after adjusting for age and sex. The adjusted OR for being affected with sarcoidosis and ever using a photocopier was 2.07 (95% CI: 0.95-4.50). These results suggest that photocopier toner dust may be an undetected antigen in the pathophysiology of some patients diagnosed with sarcoidosis. Given the ubiquitous exposure to photocopiers in the modern workplace, further investigation of the possible pathogenicity of photocopier toner dust in pulmonary disease is warranted.

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