

Asbestos Exposure and Cancer Mortality among Petroleum Refinery Workers: A Poisson Regression Analysis of Updated Data

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ABSTRACT. In this study, the authors investigated the relationship between asbestos exposure and respiratory cancer mortality in maintenance workers and other blue collar workers at an Italian oil refinery. The cohort contained 931 men, 29,511 person-years, and 489 deaths. Poisson regression analysis using white-collar workers as an internal referent group provided relative risks (RRs) for main causes of death, adjusted for age, age at hiring, calendar period, length of exposure, and latency. Among maintenance workers RRs from all tumors (RR = 1.50), digestive system cancers (RR = 1.41), lung cancers (RR = 1.53), and nonmalignant respiratory diseases (RR = 1.71) were significantly increased ($p < 0.05$); no significant excess was found for all causes and among both maintenance (RR = 1.12) and other blue-collar workers (RR = 1.01). Results confirm the increased risk of death from respiratory diseases and cancer among maintenance workers exposed to asbestos, whereas other smoking-related diseases (circulatory system) appear not statistically different among groups.

<Key words: asbestos, lung cancer, oil industry, respiratory diseases, smoking>