

# Ricostruzione dell'esposizione, studio di mortalità della coorte di lavoratori e intervento sugli ex-esposti ad amianto di una azienda metalmeccanica

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## KEY WORDS

Mesothelioma; asbestos exposure; mechanical industry

## SUMMARY

**«Assessment of asbestos exposure, mortality study, and health intervention in workers formerly exposed to asbestos in a small factory making drying machines for textile finishing and the paper mill industry in Pistoia, Italy».** Background and Objectives: Three malignant pleural mesotheliomas occurred among workers of a small factory that manufactured drying machines for the textile and paper mill industries using asbestos cement (crocidolite, amosite and chrysotile) as insulating panels. The Occupational Medicine Unit of the Local Health Unit of Pistoia, Italy, carried out an intervention programme in the plant in order to 1) assess past asbestos exposure via analysis of the fibre content of samples from drying machines, and of dust samples collected in the factory. Information on the characteristics of occupational exposure was also collected; 2) investigate cancer mortality by means of a mortality study of the employees and, 3) carry out a health intervention programme in workers formally exposed to asbestos in the past. Methods: Samples from the drying machines and dust samples collected in the factory were analysed using X-ray diffractometric methods. Information on the characteristics of occupational exposure were collected by interviewing plant workers. Two-hundred and fifty employees who had worked in the factory between 1962 and 2000 were included in the mortality study. Follow-up was performed from 1962 to 2002. Health intervention in workers exposed to asbestos in the past involved general practitioners and occupational physicians (first level medical examinations); pneumologists and radiologists (second level medical examinations) of the local health unit. Results: Asbestos fibres were found both in samples from drying machines and in dust samples collected in the factory. Interviews with workers showed that asbestos exposure varied considerably. The SMR for mesothelioma and lung cancer in 234 male workers were 37.0 (95%CI: 4.47-130.0), and 1.29 (95%CI: 0.26-3.78), respectively, based on mortality rates for Tuscany region. Sixty-two workers underwent first level medical examinations; 57 second level examinations. Chronic obstructive lung disease was found in 3 workers; restrictive lung disease was found in 3 employees, one of whom had pleural plaques. Conclusions: Further investigation is needed in order to identify unknown asbestos exposures in small metal engineering factories.