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Title: Prevalence of obstructive and restrictive functional patterns in a population of enviromental asbestos exposed

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Body: BACKGROUND. Tremolite is one of the six recognized types of asbestos. This material is toxic and inhaling the fibers can lead to asbestosis, lung cancer and both pleural and peritoneal mesothelioma. Resident population in the area of Lagonegro (Basilicata, Italy) has been shown to be exposed to enviromental tremolite pollution, deriving from superficial rocks and asbestos caves. A branch of the ongoing health surveillance program for residents is evaluating the prevalence of obstructive or restrictive pulmonary functional patterns. METHODS. A total number of 1353 individuals were included into this study. The study group was composed by 695 residents in the tremolite-exposed area of Lagonegro (age 49.35±16.68, current smokers 122, ex-smokers 134). The control group was composed by 658 individuals living in areas not tremolite-exposed (age 54.13±17.75, current smokers 121, ex-smokers 174). All the participants to the study performed a lung function test. RESULTS. Prevalence of obstructive disease was 0.58% in the exposed group and 2.58% in the non-exposed group (p=0.029). Only current or ex smokers showed obstructive pattern respectively 3.7% and 3.9%. Odds Ratio for obstructive disease in tremolite-exposed subjects was 0.236 (95% CI 0.079-0.708). Prevalence of restrictive disease was 5.2% in the exposed group and 5.9% in the non-exposed group (p=0.539) CONCLUSIONS. According to our data, tremolite exposure has apparently no influence on the prevalence of functional respiratory deficit. It is necessary to follow the exposed group in time by repeated measurements.