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Title: Prevalence of silicosis among employees of a Silica factory in Sri-Lanka

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Body: Introduction Silicosis is a well-recognized, pneumoconiosis associated with exposure to silica dust. The silica industry is rapidly expanding in Sri Lanka, increasing the risk of occurrence of Silicosis. The objective is to assess the prevalence of silicosis among workers exposed to silica dust. Methods A silica industry with 250 employees was screened using a questioner. All symptomatic with cough and shortness of breathing were investigated. Details of intensity, duration of silica exposure and usage of protective measures were recorded. Chest radiography and spirometry were performed in all symptomatic patients. International Labor Organization criteria for diagnosis of silicosis were used for diagnosis. Results Out of 250 employees 25(10%) had respiratory symptoms. Chest rays of 14 workers (5.6%) showed abnormalities suggestive of silicosis. One worker had X ray changes suggestive of progressive massive fibrosis. Out of 14 patients 6 (42.8%) had duration of exposure less than 5y and 8 (57.2%) had 5 to 10y of exposure. Only 7 out of 14 patients (50%) had force vital capacity less than 80% of the predicted value at spirometry. Conclusions Silica workers at the investigated industrial facility are at a significant risk of developing silicosis. Duration of exposure in all workers was less than ten years suggesting accelerated silicosis. Education of employers and employees of silica industry, improvement of protective measures and regular monitoring of the factory environment as well as employees health should be undertaken to avert this deadly disease.