

عنوان مقاله:

Occupational Exposure to Nickel in Glaze Workers

محل انتشار:

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خلاصه مقاله:

Background: Nickel is a toxic metal used as a pigment in ceramics industries. The purpose of this study was to assess inhalation exposure to nickel in the breathing zone of glazers and non-exposed group of workers. We also compared pulmonary function between ceramic glazers and the non-exposed group. Methods: In this cross-sectional study, 49 glazers and 55 office workers were investigated. Air sampling in the breathing zone of each glazer was taken on a cellulose ester membrane filter with 37-mm diameter. The samples were then analyzed by inductively coupled plasma-atomic emission spectroscopy (ICP-AES). All the participants were required to fill out questionnaires on descriptive information. The parameters of pulmonary function were measured for both exposed and non-exposed participants. Results: The mean nickel concentration in the breathing zone of glazers was 0.09 mg/m³. Glazers had a significantly lower parameters of pulmonary function than office workers ($p < 0.05$). Level of nickel was significantly higher in tile glazers in comparison with pottery glazers. Conclusion: In factories where local or general control is not feasible, workers must use personal protective equipments. Workers also should not be allowed to eat or smoke in the workplaces with toxic materials.

کلمات کلیدی:

Nickel, Occupational Exposure, Inhalation Exposure, Air Pollution

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