Title:
The study of changes in the serial peak flowmetry test in the workers of car painting workshops in Isfahan

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Abstract:
Background and Aim: Workers working in car painting workshops are exposed to different contaminants including isocyanates. One of the most important sequelae of this exposure is occupational asthma. The aim of this study was to identify alterations in peak expiratory flow test in the workers working in the car painting workshops.

Materials and Methods: This was a cross-sectional descriptive study. 43 workers were selected randomly from the car painting workplaces in Isfahan. The peak expiratory flow of the workers was measured by means of a peak flow meter set at the beginning and at the end of the work shift, for one week.

Results: The mean percentage of alterations in peak expiratory flow was 6.91% on the first day and 8.11% on the last day of week. The mean percentage of alternation of peak expiratory flow of the workers were 11.2±1.8 and 7.9±1.9 an the day of exposure to the contaminants after painting, and also one day after exposure respectively, which was indicative of pathological changes in the lungs of the workers, as shown by standard tests of pulmonary
function. 72% of the workers after exposure to the contaminants showed alternation of more than 10% in the peak expiratory flow.

**Conclusion:** This study showed there is high risk of occupational asthma and other lung diseases in the workers working in car painting workshops and peak flow meter test can be useful for assessment of pulmonary disorders

Keywords:
Peak Flow, Car Painters, Occupational asthma