

عنوان مقاله:

Evaluation of Exposure to BTEX in Hookah Smokers and Carcinogenic and Non- Carcinogenic Risk Assessment

محل انتشار:

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خلاصه مقاله:

To investigate the demographic characteristics, concentration of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) in output smoke and health risk assessment in hookah smokers in hookah cafés, Iran. We checked hookah cafés in the different parts of Hamadan city and analyzed location and social station of each cafés in 2016. Finally, 20 cafés selected and five samples on each cafés (total of 100 samples). BTEX compounds were sampled in output smoke from mouth smokers using charcoal and analyzed by GC- MS according to NIOSH1501 method. The quantitative risk assessment of exposure to BTEX as recommended by the United State Environmental Protection Agency method was used. The smokers demographic characteristics collected using a self-designed questionnaire. The average concentrations of benzene, toluene, ethyl benzene, o, m-Xylene and p-Xylene were 6.45, 7.02, 10.07, 7.21 and 8.36 mg/m3, respectively. The mean cancer risk for benzene was estimated as 529 × 10-5 and mean non-carcinogenic risks for toluene, ethyl benzene and o, m-Xylene and p-Xylene (TEXs) were 17.57, 5.03, 24.03 and 27.88, respectively. Hookah smoking is prevalent among youths and smokers are exposed to benzene level higher than the threshold limit value recommended by ACGIH. Cancer risk for benzene and non-carcinogenic risk for TEXs were much higher than recommended limits. Thus, in order to prevent diseases stemming from hookah smoking, urgent and increased notification about its adverse health effects and intensified regulatory laws are needed to ...

کلمات کلیدی:

BTEX Compounds; Hookah Smoke; Risk Assessment; Addiction

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