Impact of benzene exposure on lung functions of fuel stations workers in Basra City, Southern of Iraq

Abstract

Benzene exposure may affect many systems of the body especially respiratory system. Respiratory system is affected greater than the other system because the benzene is highly volatile and inhaled deeply into respiratory passageways reaching the alveoli where gas exchange occurs. This study is to show the effect of benzene on respiratory function of fuel station workers in Basra City and its role in causing respiratory diseases and problems. The study includes two groups which are apparently healthy: workers from different fuel stations (n=53) and other group includes pharmacy college staff members (n=60).The respiratory function is evaluated by measuring different pulmonary function tests: FEV1,FVC,FEV1%,PEF,MVV and ELA. The measurement was performed by using Micro Medical Lab Spirometer before 12:00pm. Data statistical analysis showed that there are significant decreases in FEV1, FVC, FEV1%, PEF of fuel station workers ($p<0.05$). The significant decrease in FEV1% suggested that alteration in the respiratory function is an obstructive pattern. In conclusion all findings in the study indicate that benzene and the additives may cause respiratory function problems and most of these are obstructive diseases.

Keywords: fuel stations, benzene, respiratory system and lung functions tests.