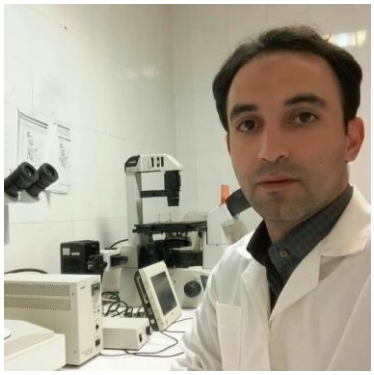


Anxiety and depression following diesel exhaust nano-particles exposure in male and female mice

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Anxiety and depressive are fundamental psychic disorder and are considered one of the most severe mental health problems globally. There is much evidence that air pollution exposure is significantly related to symptoms of anxiety and depression. Air pollution exposures in addition to increased morbidity and mortality caused by cardiovascular and respiratory diseases, may cause neuroinflammation and oxidative stress and contribute to the escalating prevalence of central nervous system (CNS) diseases. Diesel exhaust particles (DEPs), is one of the most important components of air pollution. Diesel exhaust (DE) contains more than 40 toxic air pollutants and is a major constituent of ambient particulate matter (PM), particularly of ultra fine-PM. We hypothesized that females may be less susceptible than males to DEPs exposure neurotoxicity, anxiety, and depression. So adult male and female NMRI mice were exposed to DEPs (350–400 μg/m3 for 6 h per day, five days per week and 8 weeks). The degree of depression by Forced Swimming Test (FST) and anxiety by elevated plus-maze test, showed an increase in male and female mice. But the observed effects were less pronounced in male than in female mice in a number of cases. Findings indicate that sub-chronic exposure to DEPs causes anxiety and depression, and suggest that gender may play important roles in modulating susceptibility to anxiety and depression-related DEPs neurotoxicity.

Biography
Dr. Mojtaba Ehsanifar has completed his PhD from Iran University of medical Sciences and now he continues his research on Air pollution and Health effects Such as effect of the Nano particular matter, PM, using in-vivo models (mouse) and health effects and focused on the molecular mechanisms involved in neurodegenerative diseases, lung diseases, and reproductive system in Kashan University of Medical Sciences. He has published more than 50 papers in reputed journals and presented in congresses. Also he has Cooperation as reviewer with reputed journals.

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