

7th World Congress on

Healthcare & Technologies

September 26-27, 2016 London, UK

THE EFFECT OF *Cinnamomum Zeylanicum* and *Vaccinium Myrtillus* on TRACE ELEMENT, COGNITIVE NEUROPSYCHOLOGICAL DISORDERS, OXIDATIVE STRESS AND DNA DAMAGE IN WORKERS EXPOSED TO WELDING FUMES

Ali Akbar Malekiran^{a,b}, Neda Baghinia^c, Gholamhassan Vaezi^c, Mohammad Abdollahi^b and Seyed Ahmad Kashfizadeh^d^aPayame Noor University, Iran^bTehran University of Medical Science, Iran^cIslamic Azad University, Iran^dKnowledge Mohit Palayesh Arya, Iran

Nickel (Ni) and chromium (Cr) as heavy metals are toxic industrial chemicals that can have dangerous effects both on those exposed to them in their working place and those who are exposed to them in their environment. Oxidative stress may be the result of disrupted metal ion homeostasis in which excessive reactive oxygen species (ROS) overpowers the body's antioxidant defense and finally, some effects such as protein modification, DNA damage, lipid peroxidation (LPO) may take place. Some natural sources of antioxidant compounds are medical plants which can protect organisms against oxidative stress. So, the present study was conducted to explore beneficial effects of *Vaccinium myrtillus* (3gr/day) and *Cinnamomum zeylanicum* (0.5gr/day) on workers by measuring mark out element and oxidative stress biomarkers. The study was done on 31 male workers who worked in an industrial factory. In the serum, Ni, Cr, TAC (total antioxidant capacity), LPO, MPO (Myeloperoxidase) and DNA Damage before and after the interferences were calculated. For the analysis the data paired t-test and Pearson correlation analysis was applied. After administration of infusion a reduction in MPO was observed. Similarly, decreases in 8-OH-dG, Ni and Cr were observed, however, these decreases weren't significant. Also, there was not a significant correlation between a worker's history and oxidative parameters. There was a negative correlation between TAC and psychomotor speed. The oral administration of the infusion with its flavonoid compounds may be useful for the protection of the welding workers from the toxic effect of Ni and Cr that is mediated through oxidative stress.

malekiran1973@gmail.com