

## OM52: Neuropsychological Effect of Mercury on Health and Safety of Petroleum and Petrochemical workers

H. Shirkhanloo\*<sup>1</sup>, M.J. Kian<sup>1</sup>, F. Golbabaei<sup>2</sup>, F. Eftekhar<sup>1</sup>, A. Abrahimi<sup>1</sup>

### Abstract

This study was conducted to explore the potential associations between mercury blood levels and the neuropsychological function. Mercury get distinguished from other toxic pollutants, due to their non-biodegradability can accumulate in living tissues of human body. For investigating the neuropsychological effect of mercury (Hg) on health and safety, we determined Hg in blood of petroleum and petrochemical worker by ionic liquid -liquid extraction (ILLE) and hydride generation atomic absorption spectrometry (HG-AAS). In addition, the most common clinical presentations such as; fatigue (45 %), depression (32%) and tremor (21.6%) were prepared for this research. A cohort of 50 human blood samples of petrochemical workers was studied and the most common age group was 25-50. The results compared with data from healthy matched controls. Mean concentration of Hg blood in workers were significant upper than control group respectively ( $22.41 \pm 0.89$  VS  $1.03 \pm 0.06$ ) ( $P < 0.001$ ). Mercury is very important factor must be controlled in blood of Petroleum and petrochemical workers.

**Keywords:** Mercury, Health and Safety, Petroleum and Petrochemical Workers, Neuropsychological Function, HGAAS

<sup>1</sup> -Occupational Health Engineering, School of Public Health, Kerman University of Medical Sciences

<sup>2</sup> - Occupational Health Engineering Department, School of Public Health, Tehran University of Medical Sciences Fgolbabaei@yahoo.com