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## SHC 6. EVALUATION OF COGNITIVE NEUROSCIENCE STATE AND OXIDATIVE STRESS AND BLOOD FACTORS IN CEMENT FACTORY WORKERS

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Cement factories are regarded as pollutant industries due to high dust production. Cement factory workers are seriously exposed to pollution through skin absorption, inhalation and ingestion of the dust. Cement dusts are contained of several molecules that are participated in free radicals over production and various illness pathogenesis. Therefore, the present study aimed to assess the oxidative stress, blood factors and cognitive neuroscience state among cement factory workers.

The present study conducted as a cross-sectional study with a control group. The research sample was included of 41 workers exposed to cement factory dust and 41 well-matched subjects with no history of occupational cement exposure as control group. In order to assess oxidative stress indicators, the biochemical factors, lipid peroxidation and total antioxidants of blood serum sample of subjects were analyzed. Moreover to assess psychiatric disorders, a cognitive neurological questionnaire was used which consisted of 74 questions to measure cognitive functions, psychomotor speed, selective attention, verbal, non-verbal and prospective memory, visual and spatial functions, and initiative/ energy levels.

The results indicated, lipid peroxidation and antioxidant activity revealed no significant differences between cement factory workers and control group. Additionally, triglycerides and alanine amino transferase decreased significantly while alkaline phosphatase represented a significant increase in workers. However, the non-verbal memory impairment subscale was significantly higher in workers in compare to control group.

The results suggested that cement dust exposure might induce adverse effects on the biochemical parameters and could be associated with risk of oxidative stress and neurocognitive disorders.

The results showed that workers exposed to cement dust were at the risk of oxidative stress and blood and liver abnormalities.

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