

Impact of Paint Occupational Exposure on Reproductive Markers: A Case Study in North East Algeria

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Abstract : Solvents are widely used in paint industry, where humans are highly exposed, especially from inhalation. A case report describes how paint affects reproductive markers and the health of workers. Sixty four subjects were chosen and divided into two groups; a control and an exposed group. A questionnaire was given to male workers from similar socio-economic status in order to know their ages, working conditions, clinical symptoms, working period, smoking history, shift, medical history and nutrition. Blood was withdrawn in the morning from volunteers. The measurement of blood testosterone and prolactin concentrations was then carried out. Results showed that the ages of the two groups were almost similar and were up to 47 and 43 years. The period of employment was 17 years and 14 years for the control and the exposed workers, respectively. Concerning clinical symptoms, the frequency of neuropsychological symptoms of the two groups are presented. It is clear that the symptom of memory loss, headaches are the highest among exposed workers followed by poor coordination, poor concentration and insomnia. On the other hand, the symptoms' frequency in the control was less than that of the exposed group. Testosterone concentration has significantly decreased in group 2 (4.61 ± 2.005 ng/ml) and group 3 (4.25 ± 1.67 ng/ml) of exposed workers. On the other hand, prolactin concentration was higher in group 3 compared to other groups. To conclude, paint industry has disturbed reproductive markers and created high frequency of neuropsychological symptoms.

Keywords : blood, paint, prolactin, occupational exposure, organic solvent, reproductive toxicity, testosterone

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020