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بررسی غلظت و ارزیابی ریسک سلامت فلزات سنگین در پساب بیمارستان ولیعصر فسا جهت امکان سنجی

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Abstract:**Risk Assessment of Heavy Metals in Wastewater of Valiasr Hospital of Fasa for the feasibility of using for irrigation**

Introduction: Hospital wastewater is a health hazard due to contaminants such as pharmaceuticals and antibiotics, chemicals and heavy metals if not treated properly and discharged into the receiving waters. This study investigates the concentration and health risk assessment of heavy metals in wastewater of Valiasr Hospital in Fasa for feasibility of irrigation use.

Methods: In this descriptive cross-sectional study, the study population was the sewage of Valiasr Hospital in Fasa in 1997. In this study, heavy metals concentrations of lead, zinc, cadmium, vanadium, nickel, molybdenum, manganese, mercury, iron, copper, chromium, cobalt, barium were measured in wastewater treatment plant of Valiasr Hospital in Fasa and irrigated with standard values for irrigation. The green space was compared.

Results: In this study, concentrations of arsenic (As), lead (Pb), zinc (Zn), cadmium (Cd), vanadium (V), nickel (Ni), molybdenum (Mo), manganese (Mn), mercury (Hg) were studied., (Fe), (Cu), Chromium (Cr), Cobalt (Co), Barium (Ba) in wastewater treatment effluent of Valiasr Hospital in Fasa, respectively, 0.002, 0.002, 0.02, 0.00005, 0.05, 0.008, 0.011, 0.02, 0, 0.04, 0, 0.01, 0.012, 0.018 mg / L were recorded in summer. The highest health risk index (Risk Assessment Index) among metals for the summer related to Zn (4.49×10^{-7} , barium (Ba), 4.24×10^{-7} , molybdenum (Mo), 7.2×10^{-4} , recorded.

Conclusion: In this study, the concentrations of metals in both the summer and winter in the effluent of Valiasr Fasa treatment plant were within the standard range. Not in the blue.

Keywords: Wastewater Treatment Plant, Fasa Valiasr Hospital, Wastewater Treatment, Heavy Metals, Irrigation Cost