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Lead poisoning outbreak among opium addicts in Iran: An emerging health hazard

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Objective: During the last decade, lead (Pb) poisoning among opium addicts has been an increasing problem in Iran. It is thought that Pb is deliberately added to opium to increase its weight thereby maximising profitability. The location for cultivation of opium may be another reason. There has been a sharp increase in numbers of opium dependent patients with Pb poisoning presenting to a hospital in the Kerman Province. This study highlights the clinical effects of lead toxicity associated with opium use.

Methods: Between January and June 2016 all opium user patients with signs and symptoms indicative of Pb poisoning were enrolled in the study (n=249) using a census method to confirm and assess the apparent Pb poisoning outbreak. Blood Pb levels (BLL), demographic information, user preferences, symptoms and para-clinical data were evaluated. Opium abusers with Pb poisoning were enrolled for follow-up in a cross-sectional study.

Results: The patients used Taryak (raw opium) (83.9%), Shireh (refined opium) (6.4%) or a combination of both (9.7%) via ingestion (71.9%), smoking (8.4%) or a combination of both (19.7%). The overall mean BLL (±SD) was 94.23 ± 58.17 µg/dL (range: 10-350 µg/dL). The median BLL was not different significantly between consumers of refined opium (Shireh) and of opium (Taryak). The Regression analysis showed the BLL was not significantly correlated with the kind of opium, using method, time and quantity of consumption. Common symptoms included abdominal pain (87.1%), constipation (76.3%), anorexia (71.5%) and abdominal colic (27.9%). The receiver operating curve (ROC) identified BLL as an indicator of anorexia (AUC=53.8%), myalgia (AUC=63%) and abdominal pain (AUC=53%).

Conclusion: This study has identified an unprecedented outbreak of opium-related Pb poisoning in the Kerman province. Raised awareness of this emerging Pb source is recommended. Pb poisoning should be considered among the primary differential diagnosis of opium addicts with gastrointestinal symptoms.