

## عنوان مقاله:

Determination of heavy metals including Hg, Pb, Cd, and Cr in edible fishes Liza abu, Brachirus orientalis and attributed cancer and non-cancer risk assessment

## محل انتشار:

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## خلاصه مقاله:

Background: Heavy metals are considered as pollutants polluting aquatic ecosystems because of their toxic effects and bioaccumulation in organisms. They can cause chronic poisoning when ingested by human. The present study was conducted to determine the concentration of heavy metals, mercury (Hg), lead (Pb), cadmium (Cd), and chromium (Cr) in the muscle tissue of Liza abu and Brachirus orientalis fish in Mahshahr, and also, to estimate the risk of muscle consumption of these fish. Methods: Forty samples of both fish species were randomly selected and after preparation and extraction and digestion processes, the metals were measured using ICP-OES Agilent Model ۵۱۰۰. Results: The mean concentrations of Hg, Pb, Cd, and Cr in the muscle tissue of the Liza abu fish were  $0.616 \pm 0.383$ ,  $1.227 \pm 1.77$ ,  $0.076 \pm 0.030$ , and  $0.567 \pm 0.267$  mg/kg dry weight, and in the muscle tissue of the Brachirus orientalis fish were  $0.846 \pm 0.659$ ,  $0.515 \pm 1.245$ ,  $0.061 \pm 0.047$ , and  $0.586 \pm 0.548$  mg/kg dry weight, respectively. HI for Liza abu and Brachirus orientalis was  $0.025$  and  $0.336$ , respectively. Conclusion: According to the results of this study, the concentrations of Hg and Cr in the muscle tissue of Liza abu and Brachirus orientalis were slightly higher than some global standards such as the World Health Organization (WHO) and Food and Agriculture Organization (FAO). HQ index was below 1 for two fish species, meaning that there was no non-carcinogenic risk. In all samples analyzed, carcinogenic risk Cr was slightly above the permissible limit of  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ , other metals were in this range.

## کلمات کلیدی:

Fishes, Hg, Cr, HI, CR

