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## Determination of heavy metal level in Tuna fishes from Laccadive sea and their associated health risk

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### Abstract

The concentration of heavy metals in Yellowfin tuna and Skipjack tuna from the coastal waters of Laccadive sea were determined by ICP-OES to evaluate the probable toxic effects to the Maldivian. The samples were collected from different atolls of Maldives to ensure a good representation of sample distribution. The metal concentration of tuna fishes lies within the maximum tolerable limit set by different health organizations. The EDI of each metal was much lower than their respective TDI/PTMI/PTWI. The THQ values for individual metal were well below 1, indicating no health risk for humans due to the intake of individual metal. The maximum targeted cancer risk value for inorganic As was  $10^{-4}$ , indicating low carcinogenic risk from consumption of tuna fish from the Maldives. According to these results, the consumption of tuna in the Laccadive sea is safe for human health.

### References

- [1]. Alam, M.G.M., A.T., Allinson, G. Laurenson, L.J.B. Stagnitti, F. and Snowa, E.T. A comparison of trace element concentrations in cultured and wild carp (*Cyprinus carpio*) of Lake Kasumigaura, Japan. *Ecotoxicology and Environmental Safety*, 2002. 53: p. 348–354.
- [2]. Lubomir Makedonski, K.P., Mona Stancheva, Determination of heavy metals in selected black sea fish species. *Food Control*, 2017. 72: p. 313-318.
- [3]. Khandaker, M.U., et al., Assessment of Radiation and Heavy Metals Risk due to the Dietary Intake of Marine Fishes (*Rastrelliger kanagartha*) from the Straits of Malacca. *PLoS One*, 2015. 10(6): e0128790.
- [4]. Zhong, W., et al., Health risk assessment of heavy metals in freshwater fish in the central and eastern North China. *Ecotoxicol Environ Saf*, 2018. 157: p. 343-349.
- [5]. Authority, E.F.S., Safety of aluminium from dietary intake. *EFSA Journal*, 2008. 754: p. 1-34.

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