Daily intake of TBT, Cu, Zn, Cd and As for fishermen in Taiwan

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摘要

Abstract

The consumption of contaminated seafood has been reported as an important route of human exposure to metals in Taiwan. We consider the concentrations of TBT, Cu, Zn, Cd, As, and the consumption of oysters of Taiwanese to be the important informationrelated to public health in Taiwan. Therefore, the aim of this study was to evaluate the public health risks associated with TBT, Cu, Zn, Cd and As from shellfish for the general population and fishermen of Taiwan. In general, TBT concentrations in various oysters ranging from 0.32 to 1.51 mug/g dry wt. varied with sampling locations. The highest TBT, Cu, and Zn geometric mean (GM) concentrations in oysters of 1.51, 1180 and 1567 mug/g dry wt. were obtained from the Hsiangshan coastal area. Thevalues of oyster consumption for fishermen were 94.1 and 250 g/day for typically and maximally exposed individuals, respectively. In particular, the highest intake (250 g/day) from fishermen was almost two times greater than that of the general population (139 g/day). The THQ (target hazard quotient) values of Hsiangshan's fishermen are 3.87 and 20.50 for TBT and Cu. for maximally exposed individuals are higher than other oyster culture areas. It is interesting that those consuming oysters fromHsiangshan, Lukang, Taishi caused abnormally high THQs of TBT and other metals (100% over 1.0), and TBT was attributed to only 3-21% of the total THQs in different fishermen of Taiwan. Our results suggest that current environmental levels of TBT andother metals are associated with a significant potential threat to human health for fishermen resident in coastal areas of Taiwan. [References: 31]