

Human health risk assessments of trace metals on the clam *Corbicula javanica* in a tropical river in Peninsular Malaysia

ABSTRACT

This study aimed to analyse ten trace metal concentrations in the edible part of the freshwater clam *Corbicula javanica* and to provide a critical assessment of the potential risks to human health through consumption of this clam as food based on well-established indices and food safety guidelines. The clams were captured from a pristine original site and transplanted to other sites with different environmental qualities. The trace metal levels in the edible total soft tissue (TST) of the clam were below those of the food safety guidelines referred to except for Pb, which exceeded the permissible limit set by the European Commission (2006) and the US Food and Drug Administration/ Center for Food Safety and Applied Nutrition; Interstate Shellfish Sanitation Conference. (USFDA/CFSAN; ISSC) (2007). The estimated daily intake (EDI) values of the clam were found to be lower than the oral reference dose and the calculated target hazard quotient (THQ) and total THQ were found to be less than 1. Therefore, in conclusion, the human health risk for consumption of TST of *C. javanica* at both average and high-level were insignificant regardless of the environment it was exposed to.

Keyword: Human health risk assessment; Trace metals; *Corbicula javanica*; Malaysia