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## POTENTIAL PUBLIC HEALTH RISK ASSESSMENTS OF HEAVY METALS EXPOSURE VIA CONSUMPTION OF TROPICAL MARINE MUSSELS

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Present study covered a total of 40 popular and edible tropical marine green-lipped mussel *Perna viridis* populations which were collected from 20 geographical sites from the coastal waters of Peninsular Malaysia between 2002-2009. The mussels were determined for the concentrations of Cd, Cu, Fe, Ni, Pb and Zn in their edible soft tissues. In comparison with the maximum permissible limits (MPL) set by existing food safety guidelines, all metal concentrations found in all the mussel populations were lower than the prescribed MPLs. In terms of the heavy metal concentrations determined in the mussels and the provisional tolerable weekly intake (PTWI) prescribed by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and oral reference doses (RfD)s by the USEPA, all the studied metals (except for Pb) were unlikely to become the limiting factors for the consumption of mussels from all the populations investigated. The estimated daily intake (EDI) for average level mussel (ALM) and high level mussel (HLM) consumers of mussels were found to be lower than the RfD guidelines for Cd, Cu, Fe, Ni and Zn. Furthermore, the target hazard quotient (THQ) were found to be less than 1 for ALM consumers but higher than 1 for HLM consumers in some sites. Therefore, there were no potential human health risks to the ALM consumers of the marine mussels. However, for Pb's THQ values, the Pb levels in some mussel populations could create a health risk problem.

## SALT INTAKE AND BLOOD PRESSURE AMONG SCHOOL CHILDREN IN IBADAN, SOUTH-WEST NIGERIA: A CROSS-SECTIONAL STUDY

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The relationship between obesity/overweight, salt intake and Blood Pressure (BP) has been observed recently among children in developed countries. Due to current epidemiological transition, it became necessary to investigate if this pattern exists in a developing country. Thus the aim to assess the association between salt intake and BP by weight status among school children in Ibadan, Nigeria. A total of 327 school children aged 8-17 years were recruited. Anthropometric measures, BP and spot urine samples were obtained. Urine samples were analysed by flame photometric method. Mean age was 13.58±1.93 years. Participants consumed an average of 2713mg/day of Sodium, 67% had intakes above WHO recommended ≤2300mg/day. 17.2 % were Overweight/Obese. The prevalence of pre-HBP and HBP were 28.4% and 9.5% respectively, and dietary pattern (fast food and soft drink consumption) was associated with high sodium intake and BP. Mean adjusted SBP increased progressively with sodium intake quartile from 104.2mmHg to 114.7mmHg overall (P<0.001) and from 108.1mmHg to 121.0mmHg among those overweight/obese (P=0.003). Adjusted odds ratio comparing risk for pre-HBP/HBP among participants in the highest versus lowest sodium intake quartile were 2.1 (95% CI: 0.86-5.29) overall and 2.9 (95% CI: 1.48-8.03) among those overweight/obese. Sodium intake and weight status had synergistic effects on Pre-HBP/HBP risk (RERI=0.24). The findings corroborates the association between high salt intake and hypertension and this may be stronger among those overweight/obese. Therefore a need to initiate salt reduction programme and promote school based interventions to improve healthier dietary choices and increased levels of physical activity among children.