Dietary exposure to essential and potentially toxic elements for the population of Hanoi, Vietnam. - DTU Orbit (09/11/2017)

Dietary exposure to essential and potentially toxic elements for the population of Hanoi, Vietnam.

Knowledge of the dietary intake of essential and toxic elements in fast-developing Southeast Asian countries such as Vietnam is limited. Iron and Zn deficiency in Asia is a well-known problem and is partly due to rice constituting a major part of the diet. Dietary habits are changing and there is a need to build more knowledge so that authorities can give dietary recommendations. The aim of this study was to determine the total dietary intake of essential and potentially toxic elements and to assess the nutritional quality and food safety risks of the average Hanoi diet. 22 foods or food groups were identified and 14 samples of each food group were collected from markets and/or supermarkets in the period 2007-2009. Water spinach, water dropwort, watercress, water mimosa and pond fish are typically produced in wastewater-fed systems. Therefore, these samples were collected both at markets and from wastewater-fed production systems. The results showed little or no risk of toxic elements from the Hanoi diet in general. Further, element contributions from wastewater-fed products were low and does not seem to constitute a problem with respect to potentially toxic elements. A comparison of the average Hanoi dietary intake of essential elements to required intakes shows that the Hanoi diet is sufficient in most elements. However, the diet may be insufficient in Ca, Cr, Fe, K and possibly Zn for which dietary diversification of biofortification might provide solutions.

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