

Thesis Title Dietary Intake of Lead and Cadmium of
Thai Adults in Ubonratchathani province

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ABSTRACT

Nowadays, the growth of industry and agriculture in Thailand have increased. A lot of heavy metals which are harmful to human health such as lead and cadmium are widely used in many ways. As a result of the uses of these metals, they have the chances to contaminate the environment including the food chain. Food is normally the major source of lead and cadmium exposure in the general population. Therefore, the objective of this study is to determine the dietary intake of lead and cadmium in Thai adults living in Ubonratchathani province in comparison with dietary intake of lead and cadmium in Bangkok area which had been studied earlier.

Food samples were collected from 40 healthy Thai adults living in rural area of Ubonratchathani province by duplicate portion technique, including drinking water and beverages, for five consecutive days including weekend. Each sample was homogenate, subsampled and

freeze-dried, after that the sample was wet digested in the closed system with concentrated nitric acid and extracted before analysis for the content of lead and cadmium. Analysis was performed by Graphite-Furnace Atomic Absorption Spectrometer (GFAAS).

The dietary intake of lead and cadmium were found to be 255.96 $\mu\text{g}/\text{week}$ and 105.07 $\mu\text{g}/\text{week}$ respectively. The dietary intake of both toxic elements were lower than the intake of subjects in Bangkok significantly and both were well within provisional tolerable weekly intake.