

IODINE CONTENT IN KOREAN FOODS AND DIETS. Kim J.Y., Moon S.J., Chung Y.J.¹, Chung Y.S.¹ Department of Food and Nutrition, Yonsei University, Seoul 120-749, Korea., ¹Korea Atomic Energy Research Institute, Taejon 305-600, Korea.

In Korea, there are plenty of kinds of seaweed such as laver, sea mustard, sea tangles, sea lettuce, and fish rich in iodine. This study was to analyze the iodine content in commonly consumed Korean foods and diets. Food samples were purchased from 3 different markets selected randomly. The iodine contents in the foods were determined by neutron activation analysis(NAA). All irradiation of food samples were done at a pneumatic transfer system(thermal neutron flux: $1 \times 10^{13} \text{ n/cm}^2 \cdot \text{s}$) of TRIGA Mark-III research reactor of the Korea Atomic Energy Research Institute. The dietary intake of iodine was assessed by a semi-quantitative food frequency questionnaire.

The results indicated that the iodine content was high in seaweed, fish, and iodine-enriched eggs in order and very low in grain, beans, fruits and vegetables. Edible seaweed contained iodine levels of between 13700 and 1790600 $\mu\text{g/kg}$. Levels in fishes and shellfishes were between 478 and 2840 $\mu\text{g/kg}$. Ordinary eggs contained 314 $\mu\text{g/kg}$, on the other hand, iodine-enriched eggs contained 1869 $\mu\text{g/kg}$. The average content of iodine in cow's milk was 207 $\mu\text{g/kg}$. There was seasonal variation in the iodine content of milk, it was highest in winter and lowest in summer milk. The iodine contents of most vegetables and fruits were below 10 $\mu\text{g/kg}$ respectively. The sequence of high iodine content in one serving was as follows: sea tangle, sea mustard, fish, iodine-enriched eggs, laver and milk. The iodine intake level of Korean adults was shown to have a wide range(60.7 μg ~ 4086 μg with an average of 479 μg). It depended mostly on whether they consumed sea tangle and sea mustard. It was found that there was no significant difference in sex and age. The major food sources of dietary iodine included seaweed(66%), milk and dairy products(11%), and fish(9%) in sequence. The contribution of seaweed to total iodine intake tended to increase with age, decrease in milk.

Therefore, the dietary iodine intake of Koreans seemed to be higher than other countries. This study may provide basic data in establishing the recommended dietary allowance(RDA) of iodine, and the iodine content of foods consumed by Koreans which have not been analyzed yet. Furthermore, it may be useful in the cure and prevention of thyroid diseases in iodine sufficient areas.