LETTER

Seaweed as a Beneficial Iodine Food Source

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Vitti and colleagues (2003) have discussed iodine deficiency in Europe and have launched programs to eradicate the malady. The problem still remains worldwide, however, as stressed by WHO (2001). A clue to how it may be overcome is provided by the finding by Koutras et al (2003) that iodine deficiency is no longer a problem in Greece due to improvement in socioeconomic and nutritional conditions, and increased use of produced foods. We here would like to propose the consumption of seaweeds not only as a good source of iodine but also from the overall nutritional perspective.

There are few people suffering from iodine deficiency in Japan because people often consume seaweeds (or kelp) in addition to fish, chicken eggs, milk, and dairy products (Health Promotion and Nutrition Division, 2003; Tokudome et al., 2002). Seaweeds are particularly rich in iodine, at 100-1,000 times the level in fish. For example, kombu, a typical and commonly consumed seaweed, contains more than 100,000μg of iodine/100g, while sardine and horse mackerel, as examples of fish with the highest iodine concentrations, feature only approximately 250μg of iodine/100g (Science and Technology Agency, Japan, 2001). Japanese chicken eggs are also rich in iodine because chickens receive bone meal and shells as a supplementation for minerals, including calcium, in particular.

Seaweeds also contain vitamins and dietary fiber (Science and Technology Agency, Japan, 2001). Important minerals in seaweeds other than iodine are calcium and iron. Vitamins include vitamin B complex, folic acid and carotenoids including α- and ß-carotenes, chlorophyll, and fucoxanthin, which act as anti-mutagens or anti-oxidants (Moore MA et al., 1998; World Cancer Research Fund/American Institute for Cancer Research, 1997). Water-soluble dietary fiber in seaweeds, in particular, may play roles in improving bacterial flora, ameliorating metabolism of carbohydrate, fat, cholesterol, and bile acids, and benefiting insulin resistance.

Fortified salt and other foods clearly can prevent iodine deficiency. However, we need to limit salt consumption because it is related to hypertension. Intake of seaweeds is advised not only for prevention of lifestyle-related diseases, including cancer, cardiovascular and cerebrovascular disease but also of iodine deficiency. Furthermore, seaweed is a very palatable food because it contains glutamic acid providing a pleasant taste. Eating seaweeds has thus far been largely limited to certain Asian-Pacific countries/areas, but people worldwide could enjoy those well-balanced healthy sea vegetables as ample natural food resource if we can maintain our surrounding seas free from pollution.

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