Title: Nutritional Composition of Seven Selected Seaweed Species Commonly Available in Bangladesh: A Systematic Review and Meta-Analysis

Author names: Nafisa Naoar, Md. Shahedul Islam, Fahmida Sultana, Md. Asaduzzaman, S. M. Rafiquzzaman, Abdul Hannan, Nushrat Jahan, Abdullah-Al Mamun

Abastact: This study systematically reviewed macronutrients, micronutrients, and potential health risks associated with heavy metals in seaweed. The selected seaweed species contained considerable protein (approximately 15–20 g/100 g dry weight), ash (approximately 15–28 g/100 g), and crude fiber (approximately 8–24 g/100 g), while lipids were consistently low (approximately 1–7 g/100 g). Seaweed is abundant in proteins and contains many important amino acids, including arginine, leucine, threonine, and tyrosine, among others, in specific species. Seaweed has tiny quantities of fatty acids. The monounsaturated fatty acids (MUFA) range from 8.4 to 20 mg/100 g, whereas the polyunsaturated fatty acids (PUFA) range from 4.8 to 22 mg/100 g. Whereas a tiny amount of omega-3 PUFA has been observed in Enteromorpha intestinalis (EPA 0.3 mg/100 g) and Ulva lactuca (DHA 0.66 mg and EPA 1.1 mg per 100 g) only. However, the limited number of studies have revealed very low amounts of vitamins. Seaweed may also contribute a significant proportion to daily nutrient requirements; for example, 8 g of seaweed can provide 1.35%–3.63% of protein and 0.02%–12.57% of calcium for adults. This review is the first to report selenium and iodine levels in Bangladeshi seaweeds, contributing novel insights, and also evaluates potential health risks.

Keywords: aquatic food food security micronutrients nutrition seaweed

https://www.semanticscholar.org/author/Nafisa-Naoar/2404823355