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# Aquatic Origin Foods: A Nutritional Pool

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**ABSTRACT**

Aquatic origin foods include a different group of flora and fauna, vegetation and microorganisms, each with distinctive nutrients qualities. Aquatic food products are the healthiest and most nutrient dense food sources in the world. It contains major essential protein, omega-3 fatty acids and vital source of micronutrients, such as iron, zinc, calcium, iodine, vitamins A, B12 and D. These are necessary for continuous improving nutrition and productive health outcomes of huge populations suffering as of the "triple burden of malnutrition". Diet supplemented with different aquatic origin foods lowers the risk of disease-related death due to coronary heart. Consuming aquatic source foods may also lower the risk of a number of other harmful health consequences, such as cognitive decline, depression, anxiety, non-fatal coronary disease of heart, congestive failure of heart, fibrillation of artery and other inflammatory disorders.

**KEYWORDS**

Aquatic, health, nutritional, foods, public

## Introduction

Oceans and inland water bodies provides a vital source of nutritious food globally. Foods of aquatic origin include a different group of flora and fauna, vegetation and microorganisms, each with distinctive nutrients qualities, such as iron, zinc, calcium, iodine, vitamins A, B12 and D and omega-3 fatty acids. The micronutrients available in aquatic foods are extremely bioavailable (WHO, 1985). Marine source foods furthermore enhance the absorption of micronutrients such as iron and zinc, when consumed together from plant-source foods (Barre *et al*., 2018). The production of water source foods has a lesser environmental impact than of most terrestrial source of animal foods (Hilborn *et al*., 2018).

Foods of aquatic origin are flora and fauna, vegetation and microorganisms, as well as cell- and plant-based foods emerging with application of new technologies (Lala-Pritchard and Johnstone, 2020). It includes finfish, crustaceans (shrimp, crabs), cephalopods (squids, octopus), other molluscs (clams, cockles, and sea snails), aquatic plants (Ipomoea aquatica, or water spinach), algae (seaweed), and several other aquatic species (mammals, insects and sea cucumbers). Aquatic foods arrive from interior waterways (such as lakes, rivers, and wetlands), coastal (such as estuaries, mangroves, and near-shore), and marine. They can be farmed or collected in the wild, and provide a variety of foods in all different seasons and geographical locations (Golden *et al*., 2021). More than 2,370 taxa are harvested by wild fisheries, while 624 species types are cultivated by aquaculture farmers.

## Nutritional pool

Aquatic origin foods and its products are the healthiest and most nutritious food sources globally based on their nutrient makeup. Aquatic feeds (whether captured or cultivated) typically provide the following nutritional and health benefits.

- Aquatic feeds having higher moisture content and a higher protein on weight basis in edible fresh (mean 17.3%) (Tacon and Metian, 2013).
- Fish is a rich source of nutrient and is usually low in saturated fats, carbohydrates and cholesterol. It is a source of high biological value protein and contains a broad range of vital micronutrients such as iron, zinc, calcium, iodine and polyunsaturated omega-3 fatty acids (Thilsted *et al*., 2016).
- Fish are a wealthy supply of vitamin B12 and D, which is necessary for various physiological functions. It is a source of high biological valued bioavailable calcium, small fish are

principally significant in the diets of the poor population (Hansen *et al*., 1998).

**Aquatic foods and public health**

There is plenty evidence supporting the nutritional and health benefits of aquatic foods. Aquatic foods eating has been linked to a lower risk up to 36% of death from heart disease, according to research by Mozaffarian and Rimm (2006), and a meta-analysis by Zhao *et al*. (2016) indicated that consumption of fish per day 60 g is linked to a lower risk of death up to 12%.

Aquatic origin foods progress human health through three pathways such as major by reducing deficiencies of micronutrient (for example, calcium, iron and vitamin A) which can lead to subsequent disease, providing the leading source of the omega-3 long-chain polyunsaturated fatty acids such as docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) (hereafter referred to jointly as DHA+EPA), which reduces the risk of different heart disease and promote brain and eye health (Rimm, *et al*., 2018).

The globally 1.4 million fatalities in 2010 were recognized to diets lacking in seafood omega-3 fatty acids, according to research reported by Lim *et al*. (2012). Ezzati and Riboli (2013) estimated, based on similar data, that diets deficient in aquatic origin foods account for around 1% of the worldwide burden of disease-related disability.

High amounts of riche essential fatty acids, animal protein and accessible vital minerals and vitamins are linked to the health advantages of fish and aquatic food (Bogard *et al*., 2015b; Wheal *et al*., 2016). In additionally, other aquatic origin foods and fish enhances the uptake of essential micronutrients from plant-source foods in the serving food (Michaelsen *et al*., 2009; Sandstrom *et al*., 1989).

The aquatic source protein and omega-3 fatty acids have presently received attention in current research and policy consultation, regarding the high nutritional benefits of aquatic source foods such as fish and shellfish, several fish and shellfish have important in addressing deficiencies in other vital micronutrients, together with vitamin A, calcium, vitamin B12, iron and zinc (Kawarazuka 2010, Golden *et al*., 2016). In comparison to several vegetables, fortified staples and food supplements, fish and shellfish characteristically contain these nutrients in higher and easily accessible forms (Bogard *et al* 2015, Thilsted et al 2016).

According to Hicks *et al*. (2019), finfish captures alone can gather the vital nutritional requirements of everyone reside surrounded by 100 km of the coastal in numerous nations that are experiencing essential nutrient deficits. The potential vital nutritional profit of different fish and other aquatic foods are not limited to coastal population. The report of FAO 2020, inland aquaculture produced 51.3 mmt in 2018, which is extensively more than either marine source aquaculture (30.8 mmt) or captured freshwater fisheries (12 mmt). Inland capture fisheries production has also been increasing annually, with the most current data representing an 11.6 million metric tonnes (mmt) in 2018.

**Conclusion**

It is evident and nutritional analysis that aquatic origin foods and its products are the one of the healthiest and most nutrient dense food sources in the world. It contains major essential protein, omega-3 fatty acids and vital source of micronutrients. These are necessary for continuous improving nutrition and productive health outcomes of huge populations suffering as of the "triple burden of malnutrition". Diet supplemented with fish and other different aquatic origin foods lowers the risk of disease-related death due to coronary heart, and it lowers the chance for a woman's offspring grow with neurodevelopmentally and less optimally. Consuming fish and other aquatic source foods may also lower the risk of a number of other harmful health consequences, such as cognitive decline, depression, anxiety, non-fatal coronary disease of heart, congestive failure of heart, fibrillation of artery and other inflammatory disorders.

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**Conflict of interest**

The authors declare that they have no conflict of interest.

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