

Fish consumption and its nutritional significance

¹ Parameshwari S, ² Bharathy A

¹ Former Dietician, Thanjavur Medical College Hospital, Thanjavur and Presently as Assistant Professor, Department of Home Science, Mother Teresa Women’s University, Kodaikanal, Tamil Nadu, India

² Professor and Head, Department of Orthopedics and Traumatology, Thanjavur Medical College Hospital, Thanjavur, Tamil Nadu, India

Abstract

Fish is important in the diets and livelihood of many people suffering from vitamin and mineral deficiencies. In this article, fish intake in Mallipattinam and Adirampattinam of Thanjavur District were selected. Fish consumption is also known to have health benefits for adults. Strong evidence underlines how consumption of fish, and in particularly oily fish, lowers the risk of coronary heart disease (CHD) mortality. A daily intake of 250 mg EPA+EHA (Ecosa pentanoic acid+ Ecosa hexanoic acid) per adult gives optimal protection against CHD. For optimal brain development in children, the daily requirement is only 150 mg per day. Although the importance of including fish in a healthy diet is related to its unique nutritional value, increasing evidence shows that beneficial role of fish in our diets by replacing less healthy foods. Wild and responsibly farmed fish are a healthy and good alternative to meet products.

Keywords: Fish, Cholesterol lowering effect, cardiovascular disease, Health benefits

1. Introduction

Fish contributes to food security in many regions of the world, providing a valuable supplement for diversified and nutritious diets. Fish is highly nutritious. It provides not only high-value protein, but also represents an important source of a wide range of essential micronutrients, minerals and fatty acids. On average, fish provides about 20–30 kilocalories per person per day. It provides higher levels, up to 180 kilocalories per person per day, only in a few countries where there is a lack of alternative foods, and where a preference for fish has been developed and maintained. The dietary contribution of fish is more significant in terms of animal proteins, which are a crucial component in some densely populated countries where total protein intake levels may be low. In fact, many populations, those in developing countries more than those in developed ones, depend on fish as part of their daily diets. For them, fish and fishery products often represent an affordable source of animal protein that may not only be cheaper than other animal protein sources, but preferred and part of local and traditional recipes. While the average per capita fish consumption may be low, even in small quantities fish can have a significant positive nutritional impact by providing essential amino acids that are often present only in low quantities in vegetable-based diets. Consumption of fish, our primary source of long-chain omega-3 polyunsaturated fatty acids EPA and DHA, is associated with numerous health benefits including improved infant cognitive and visual development, reduced risk of cardiovascular disease, reduced risk of non-alcoholic fatty liver, and reduced inflammation and positive clinical outcomes in inflammatory disease. Increasing fish consumption is an easy way to improve the health.

2. Materials and Methods

Two coastal areas namely Mallipattinam and Adirampattinam were selected. Pattern of fish consumption was studied in 50 households and 50 households were selected at random through interview method using a schedule.

3. Results and Discussions

The selected house hold were from lower income groups. The pattern of fish consumption by the families surveyed is tabulated in Table 1.

Table 1: Pattern of Fish Consumption

Frequency of fish consumption	Number of household Thanjavur, Tamil Nadu	
	Mallipattinam	Adirampattinam
Daily	6	9
Weekly	23	20
Twice a week	12	10
Thrice a week	9	8
Monthly	-	3
Total	50	50

The costal household consumed fish every day and also very frequently compared to other peoples, majority of the families consumed fish weekly once and none of the families were taken monthly once.

Table 2: Kinds of Fish Consumed

Kinds of fish consumed	Number of household Thanjavur, Tamil Nadu	
	Mallipattinam	Adirampattinam
Sea fish	47	49
River fish	1	-
Fresh fish	-	1
Dry fish	2	-
Canned	-	-

Kinds of Fish consumed in the target households are presented in Table II.

The varieties of fish commonly consumed in Thanjavur coastal areas were seer fish/king fish (vanjiram), sea bass (koduva), murrel (viraal), black pomfret (Karupu vavval),

silver pomfret (vellai vavval), baby shark (sura), red snapper (sankara), smelt (kilanga).

Table 3: Reason for consumption

Reason	Number of households	
	Mallipattinam	Adirampattinam
Nutrition value	10	6
Low cost	-	-
Availability	28	29
Taste	12	15

4. Reason for consuming fish

The reasons expressed for consumptions of fish by the families surveyed are tabulated in table III.

In both areas, majority 28 and 29 families from each places were indicated as the major factor for the choice of purchase of fish was availability and remaining families were expressed as the major reasons for consuming fish were taste and nutritive value.

Table 4: Per capita Daily consumption of fish

Per capita consumption (gm)	Number of household	
	Mallipattinam	Adirampattinam
<50	6	9
50-100	27	21
100-150	10	16
150-200	7	-
Above 200	-	4

Per capita daily consumption of fish in target home holds is presented in Table IV.

In the coastal areas of Thanjavur district, the per capita daily consumption ranged between 50-150g per day. Boiling and frying were the common methods adopted for cooking fish in both areas surveyed. Kulambu and curry was the common form consumed. The cooking time required for fish is less when compared to other fleshy foods because the connective tissue content is less.

5. Summary and Conclusion

In general, people in developing countries are much more dependent on fish as part of their daily diets than those living in the developed world. Realizing the important of fish to human nutrition, in addition to its role in reducing poverty and hunger. This will ensure a greater impact by improving the nutritional status of house hold, particularly those with pregnant and young children, cardiovascular diseases etc. The per capita availability of fish should be increased through sustainable aquaculture. We are familiar with the quote “An apple a day keeps the doctor away” but the day is not far off for people to say, ‘Fish in the daily diet keeps, diseases at bay’.

6. References

1. American Dietetic Association <http://www.eatright.org>
2. American Heart Association <http://www.americanheart.org>
3. Economic gains of sustainable aquaculture, The Hindu, dated 19 th October, 1995.
4. Fish, Levels of Mercury and Omega-3 Fatty Acid. American Heart Association. Retrieved October 6, 2010.

5. FAO. Fish Trade and Human Nutrition: The Role of Fish in Nutrition and Food Security. Working Document COFI: FT/XIV/2014, Bergen, Norway.
6. FAO. The State of World Fisheries and Aquaculture, 2014, 223.
7. FAO. Fish Trade and Human Nutrition: The Role of Fish in Nutrition and Food Security. Working Document COFI: FT/XIV/2014, Bergen, Norway.
8. Nutritional Aspects of Fish. Irish Sea Fisheries Board10. Reddy, V., Rao, N, P., Sastry, J. C. and Kashinath, K, Nutrition trends in India, National Institute of Nutrition, 1993, 37.
9. Relevance of fish as food, Fish Production. Food digest 1994, 17(3).
10. U.S. Environmental Protection Agency, Office of Science & Technology <http://www.epa.gov/ost/fish/>
11. WHO. Guidelines for the safe use of waste water, excreta and grey water. Vol III. Waste water and excreta use in aquaculture. WHO, Geneva, 2006, 140.