



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A STUDY ON FISH CONSUMPTION PATTERN AMONG THE PEOPLE OF CENTRAL KASHMIR

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Abstract

The current study was carried out in Central Kashmir region in J&K with the purpose to understand consumer's behavior and constraints faced by fish consumers in the study area. Fish is very important source of protein and other elements for the maintenance of healthy body as it is one of the most important sources of animal protein, vitamins, and minerals. In this paper, in order to assess the fish consumption pattern among the people of Central Kashmir, we chose at random 400 respondents during 2021-2022 using a well-designed validated questionnaire. The data collected was analysed statistically using appropriate statistical tools. The study revealed that majority of the respondents reported that they consume fish occasionally. Further, the respondents revealed that they consume fish for taste, freshness, nutrition purpose, health benefits, less bone, odour, flavor, easy to cook, and appearance. The majority of the respondents revealed that they had no preference of fish species and the consumption pattern of fish was associated with family status. The scarcity of fish, lack of retail units in neighborhood and high price were main constraints fish consumer face in the study area. Finally, we discuss the benefits of fish consumption, and marketing problems of fish and fish as income generating opportunity for the people in the study area.

Keywords: Kashmir, Socio-economics, Marketing, Consumer preference, Fish, Statistics.

Introduction

The fishes are the aquatic vertebrates that have gills but lack limbs. There are many fish species with different nutrition profiles and in general they are divided into two categories i.e., lean and fatty fishes, both are considered healthy to eat but fatty fishes are considered to be more important for health. Fishes play an important role in the diet of consumer and it is one of the most important sources of animal based protein. It provides number of nutrients such as Omega-3 polyunsaturated fatty acids (n-3 PUFAs), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) (in particular, in oil-rich fish), and a number of vitamins and minerals. Fish as compared to meat, poultry and eggs, is low in saturated fatty acids (Bates et al., 2012). The studies show that various species of fish have different health benefits e.g., Trout fish can provide many nutrition and health benefits mainly to women around pregnancy, young children and teenagers, and older adults. It has been found that trout contains 5 percent fat of which much comes from Omega-3 fatty acids and Omega-3 fatty acids provide many health benefits, including reducing the risk of death by heart attack, stroke or heart disease. Fish oils were discovered to have a therapeutic effect in reducing atherosclerotic lesions (Wang et al., 2004), and omega-3-long chain polyunsaturated fatty acids from fish oils can improve suboptimal cardiovascular risk (Zeng et al 2017). Asthma and other respiratory diseases are also common in today's world, and fish consumption can help to reduce their occurrences. Eating fish such as salmon, trout, and sardines as

part of a healthy diet can help children with asthma. Furthermore, fish aids in the treatment of depression, which is a serious problem. According to studies, people who eat fish on a regular basis are much less likely to develop depression (Grosso et al.2014) Weekly fish consumption is associated with increased grey matter volumes in the human brain's hippocampus, precuneus, posterior cingulate, and orbital frontal cortex (Raji et al.,2014)and is associated with a lower risk of dementia and other cognitive disorders like mild cognitive impairment in older people. It may also lower the risk of developing Alzheimer's disease (Morris et al.,2003). In a study conducted by Waweru (2012) it has been reported that trout fish helps in preventing fatal arterial clogging, and slows down ageing and help in reduction of bad cholesterol and blood pressure etc. Trout fish is delicacy for many people around the world and has mild fish smell and is ideal fish for all the age group including children which helps in better brain development. The common carp (*Cyprinus carpio*) is one of the world's most invasive fish (Kulhanek et al., 2011) which was brought to India in 1939 from Srilanka and introduced into the Nilgiris. In Kashmir it was introduced in 1956 and since then this fish has shown remarkable adaptation in various water bodies of the region, and soon began to constitute a major fishery of flat land temperate waters of Kashmir (Fotedar and Qadri, 1974). It is a fast growing and hardy fish that can withstand adverse environmental conditions and it has been successfully introduced into fresh waters throughout the world (Seegers et al., 2003; Golemi et al, 2013). In many developing countries, fish forms the major portion of animal protein in human diets. Fish oil and related actives, such as omega-3 and omega-6 PUFAs, play an important role in maintaining skin homeostasis, improving skin barrier function, and inhibiting UV-induced ageing. Consumption of fish is attributed to reduction in hyperpigmentation and accelerating skin wound healing. The amino acid arginine, as well as the omega-3 polyunsaturated fatty acids found in fish, has been shown to be extremely effective against infections and wound healing. Owing to such great benefits, it is critical to promote the consumption of fish and shellfish. It has been reported that fish plays an important role in the human diet and is one of the most important sources of animal protein and has been widely accepted globally as a good source of protein and other elements for the maintenance of healthy body (Ravichandran, 2012). Fish provides a number of nutrients, including protein, the long-chain omega-3 polyunsaturated fatty acids (*n*-3 PUFAs), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) (in particular, in oil-rich fish), and a number of vitamins and minerals. In comparison to meat, poultry and eggs, fish is low in saturated fatty acids (Bates et al., 2012). The studies found that various species of fish have different health benefits e.g., trout fish can provide many nutrition and health benefits mainly to women around pregnancy, young children and teenagers, and older adults. Trout contains 5 percent fat of which much comes from Omega-3 fatty acids and Omega-3 fatty acids provide many health benefits, which include reducing the risk of death by heart attack, stroke or heart disease. The study conducted by Waweru (2012) reported that Trout fish helps in preventing fatal arterial clogging, and slows down ageing and help in reduction of bad cholesterol and blood pressure etc. Das et al., (2013), in their study in Tripura reported 87.5% of the consumers preferred locally produced fresh fish. In another study, Davidson et al., (2012), found that Hawaii consumers were willing to pay more for wild-caught fish than farm raised and more for fresh fish than previously frozen fish with the degree of preference changeable across species. Under this background and in view of the literature available (e.g., Palash and Sabur, 2014; Prasad and Madhavi, 2014), the present study was carried out in Central Kashmir of Kashmir Valley. It is expected that the findings of the present study will help in formulating strategies for improvement in fish consumption in the study area which will go a long way in improving nutritional status of children in the area.

2. Materials and Methods

The current study on consumer behavior was carried out during the period of 2021-22 in Central Kashmir of Kashmir valley (J&K) with the help of a well-structured open ended validated questionnaire. The study was carried out to understand the behavior of fish consumers. The data for the same was collected at random from 400 respondents (150 from Srinagar, 100 from Budgam and 150 from Ganderbal) from the selected region. Fishermen were also approached to discuss the problems they face in this business. The data collected was analyzed using standard statistical tools with the help of statistical software SPSS (version 20).

3. Results and Discussion

Table 1 shows the social profile of the fish consumer in study area. It has been found that majority of the respondents were from joint families (66.75%), having male as head of the family (94.25%) and majority of respondents were male (86.75%). Further, majority of respondents were in the age group of above 45 years (47.75%), literate 92.75% and above poverty line (90.50%). Das et al. (2013) found that male members of the family purchased the majority of fish, accounting for approximately 86.87 percent of the overall respondents in Study area.

Table 1: Social Profile of the fish consumers in Central Kashmir J&K

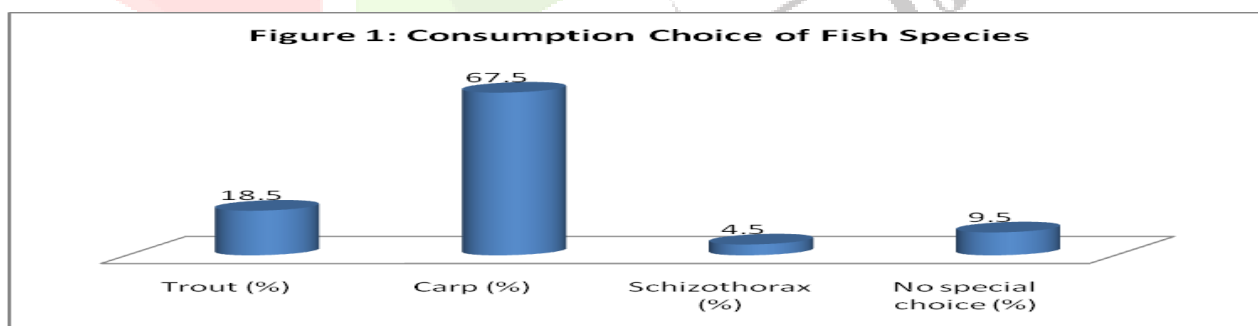
S.No.	Variable	Type	Frequency	%
1.	Family	Joint	267	66.75
		Nuclear	133	33.25
2.	Head of the house hold	Male	377	94.25
		Female	23	5.75
3.	Respondents	Male	347	86.75
		Female	53	13.25
4.	Age of the respondent (years)	Upto 25	43	10.75
		26-35	109	27.25
		36-45	57	14.25
		Above 45	191	47.75
5.	Family size	2-4	33	8.25
		5-7	157	39.25
		Above 7	210	52.50
6.	Education level of respondent	Illiterate	29	7.25
		Literate	371	92.75
7.	Economic status of family	Above poverty line	362	90.50
		Below poverty line	38	9.50

The data shown in Table 2, reveals that in response to statement 1 related behaviour of fish consumers i.e., awareness about health benefits of fish eating, 74.75% (agree + strongly agree) fish consumers were aware about the health benefits of consumption, in response to statement 2, i.e., Relation between education and fish consumption, 54.75% believed education and fish consumption pattern are related, in response to statement 3, i.e., consumption pattern, majority of the respondents (57.25%) reported that they consume fishes occasionally and in response to statement 4 i.e., Quantity of fish purchased per visit, majority of the respondents (35.25%) used to purchase upto 2kg fish. The results of our study are in agreement with earlier study (Stanzin et al., 2017).

Table 2: Behaviour of Fish Consumer in Central Kashmir J&K

S.No.	Parameters	Category	Frequency	%
1.	Eating fish is good for health	Agree	246	61.50
		Disagree	07	1.75
		No Idea	61	15.25
		Strongly agree	53	13.25
		Strongly disagree	33	8.25
2.	Relation between education and fish consumption	Agree	137	34.25
		Disagree	109	27.25
		No Idea	31	7.75
		Strongly agree	82	20.50
		Strongly disagree	41	10.25
3.	Consumption pattern	Once a month	67	16.75
		Twice a month	63	15.75
		Once a year	41	10.25
		Occasionally	229	57.25
4.	Quantity of fish purchased per visit	0.5 to 1 kg	126	31.50
		Upto 2 kg	141	35.25
		More than 2 kg	133	33.25

The data shown in Figure 1, reveals that majority of the respondents preferred Carp (67.5%), followed by Trout (18.5%), followed by no special choice and Schizothorax (4.5%).



The data presented in Table 3, reveals that in response to the questions related main constraints faced by the fish consumers in Poonch district, 40.75% respondents reported lack of retail units, followed by lack of availability of quality fish and price fluctuations (22.0%), scarcity (13.50%), long distance to fetch (12.50%), followed by long distance to fetch (12.75%) and high cost of fish (11.0%). The findings were consistent with those of Debnath et al (2014) for Tripura fish consumers, where high fish prices were the most significant constraints.

Table 3: Constraints faced by the consumer of fish in study area.

S.No.	Category	Frequency	Percentage (%)
1.	Scarcity	54	13.50
2.	Lack of retail units	163	40.75
3.	Long distance to fetch	51	12.75
4.	Lack of availability of quality fish and price fluctuations	88	22.00
5.	High cost of fish	44	11.00

The pictures shown below reveal that in study area, we do not have systematic fish market. The poor fish sellers as well as customers are facing lot of problems in fish marketing.

4. Conclusion

The present study showed that people in Central Kashmir J&K do not eat fish on the regular basis. They don't have any special preference in general, as they don't know about the various species of the fishes. The study revealed that 67.50% of the people like Carp because of its easy availability. It is also observed that people with the higher income are willing to pay higher prices although in Kashmir the price of fishes is in the ranges between Rs 200-400 /kg. The gap between the supply and the demand is very high as in Kashmir, we don't have developed fish farms and the department is not paying any special interest towards the development of fisheries in study area. We don't have frequent extension programmes organized by the Government or by the department of fisheries for awareness the people about the health as well as economic benefits of fish. The main problems faced by the consumers include lack of retail units in the market, long distance to fetch fish, wide price fluctuations and lack of supply of fish in study area. Consumers do not know how to cook fish they are only depended on the ready to eat product mainly fried products. It is suggested that either the Government or the department should organize the various extension programmes so that consumer may know about the various health and the economic benefits of fishes and people may utilize the water bodies and fields around them for fisheries purpose as Kashmir has lots of scope for fisheries.

Acknowledgement

Authors are thankful to the respondent's understudy and the people involved in this business for taking part in our study.

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