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A study on present and prospective fish consumption pattern in district Kaushambi Uttar Pradesh

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Abstract

The main objective of the present study to find fish-consumption level, relationship between consumers' performances and their socioeconomic characteristics and to investigate factors affecting consumer fish consumption and prospective fish consumption in district kaushambi. The study was carried out in chail tehsil of District Kaushambi Uttar Pradesh. Fish is a very important source of protein as it maintains healthy body and one of the most important sources of animal protein, vitamins and minerals. The paper presented here is to assess the fish consumption among the people of district Kaushambi. 150 respondents were chosen during July 2022 to December 2022 using a well-designed validated questionnaire. 50% of the respondents reported that they consume fish twice in a week and 30% respondents reported that they consume fish four times in a month. 75% of the respondents revealed that fish eating is good for health. About 70% of the respondents were found to unavailability of their choice fish. About 80% of the respondents were male members in the study. About 60% of the respondents were found to be in the age group of 30-60 years. Most of the respondents were 3-5 members family, literate and above poverty line. The constraints faced by the respondents were non availability of quality fish, high cost, lack of retail market, distance and scarcity of fish. Finally future prospects of consumption were discussed by establishment of Fish Market and Price Information System (FMPIS), e-commerce platforms, online market places to fish farmers/consumers in the study area.

Keywords: Animal Protein; Fish Consumption; Constraints; Quality Fish; E-Commerce Platform; Online Market Places

1. Introduction

In recent years the consumption of fish and fish products has greatly increased. The healthy source of protein and presence of unsaturated fats has determined the global demand of fish. With increase in worldwide demand the global fish production has been increased in India. India became second largest producer of fish through aquaculture in the world (Kumar et al. 2019). The importance of fish and fish products as an integral part of healthy and balanced diet is widely accepted (Ivoninskii, 2016) and their consumption contributes to dietary and nutritional requirement of populations in developed and developing countries (Majagi et al., 2020). The present study seeks to quantify the present and prospective fish consumption pattern per capita and apparent consumption, production and fish trade. In recent years India has witnessed a huge growth both in domestic consumption and export. At present the consumption of fish in India depends on various factors. These include change in lifestyle, the rising cost of meat and the rising awareness of fish as a healthy food. It is enriched with calcium, iodine, magnesium, zinc and potassium. It contains low fat and high-quality protein. It is filled with Omega 3 fatty acids, Vitamin D and B_2 (riboflavin). Major cause of rising consumption of fish in India depend upon the performance of culture and capture of fishes. In India fish contributes towards domestic food security and registered per capita consumption more than 6Kg per annum. District Kaushambi belongs to rural area and there is no more service sector to fulfill the need of the people. It was found during the study that besides providing nutritional security it helps in bringing more livelihood to the rural households. In recent years the aquaculture has been regarded as the fastest growing sector in District Kaushambi. Fish contributes to ensure domestic

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food and nutritional security. India registered a per capita yearly consumption of over 13 kilogram in 2022-23. The current per capita consumption is lower as compared to the international estimate (OECD&FAO) of 20.5 kg per capita (2019-20). Monthly consumption of fish per household has shown a quantum leap in 10 years from 2.66 kg in 2011-12 (NSS 68th round) to 4.99 kg in 2022-23 (NCAER report 2022- 23). It is observed that consumption of the fish population has grown significantly to over 13 kg per capita per annum in 2022-23 from 7kg in 2011-12(NSS). In the last five years around 28% of households reported an increase in the consumption of fish. Around 56% of the households reported that the availability of more variety of fish helps grow consumption. In Uttar Pradesh per capita/kg fish consumption is 11.09 kg in 2020-21(Handbook on Fisheries statistics 2022). The monthly household consumption expenditure on fish in proportion to total food expenditure has gone up to around 16.8% in 2022-23 as compared to 7.6 in 2011-12. In financial year 2021 the smallest union territory of India, Lakshadweep had the highest fish consumption volume of 125kg per capita. This was followed by Goa with a consumption volume of 78 kg per capita. The overall fish consumption per capita in India averaged 6.31 kilograms. With over 60% of the population being fish consumers the annual per capita fish consumption of India population is 5-8kg per capita with significant and state variations (Shyam 2020 and Sanjeev 2020). The World Health Organization has mentioned that the consumption of fish at least twice a week is one of the effective factors in prevention of cardiovascular disease, stroke and sudden death due to heart attacks attributed to the prevention of the fat in the fish (omega 3) (Li D. Ng A.et al. 2005). Research results have shown that consumption of fish particularly fatty types is beneficial for the heart and vascular system (Rosen, Jutta et al. 2006). A series of studies have shown that the resulted protection against the risk of cardiovascular disease and cardiac death are often due to the effect of Omega 3. Fish compared with red meat and white meat of chicken has similar amount of protein but has less saturated fat and cholesterol (Baghiani MH et al. 2011).

2. Materials and Methods

The study was conducted in Chail tehsil of Kaushambi District Uttar Pradesh. A total of 150 people were selected for the study. The choice of people was random. A sampling method based on the information about fish consumption was conducted. The people were interviewed for obtaining required data during the period of six months (July 2022-December 2022). A set of questions were asked to different age group of people at a particular area. The data were collected to determine the fish consumption pattern, factors affecting consumption, the fish species preferred, prospective fish consumption, and to assess the major constraints faced by the consumers. The survey was done at different places and information were collected from the people on age, education, income, expenditure, fish consumption pattern, major preferred species, major buying source, factors which drive people to consume fish and major constraints in fish consumption.

Figure 1 Map of District Kaushambi to show Manjhanpur, Chail and Sirathu tehsil

3. Results and Discussions

The study shows that majority of the respondents (80%) have male members as head of the family. The respondents were classified into different age groups such as below 30 years, 30- 60 years and above 60 years. It was found during the study that majority of the respondents (60%) were in the age group of 30-60 years whereas below 30 years it is 20% and above 60 years it is 20% was found. Further the family size of the respondents was found 3-5 members 70%, 5-7 members 25% and above 7 members family it was only 5%. The education level was found among consuming fishes were 93% literate and only 7% illiterate. The economic status of the respondents shows 90% above poverty line and only 10% below poverty line. Das et al. (2013) found that male members of the family purchased the majority of fish which accounts for approximately 86.87% of the overall respondents in the study area (table-1).

Table 1 Social profile of the fish consumers in District Kaushambi

S. No.	Family Background	Type	Frequency	Percentage
1.	Respondents	Male	120	80%
		Female	30	20%
2.	Age (Years)	Below 30	30	20%
		30-60	90	60%
		Above 60	30	20%
3.	Family Size	3-5	105	70%
		5-7	37	25%
		Above7	8	5%
4.	Education	Illiterate	11	7%
		Literate	139	93%
5.	Economic Status	Above Poverty line	135	90%
		Below Poverty line	15	10%

The fish consumption behavior of the respondents varies. It shows that 50% of the respondents had consumed fish twice in a week while 30% were four times in a month and 20% were occasionally. In terms of the quantity of fish consumption it was found during the study that majority of the respondents i.e. 40% consumed o.5 to1Kg of fish per month. About 30% of the respondents have purchased up to 2 kg of fish. More than 2 kg of fish were purchased by about 30%. The relation between education and fish consumption was found. About 54% of the respondents were agreed to great relation between education and fish consumption. About 37% of the respondents disagree and realized that education and consumption of fish has no relation and 9% have no idea. About 75% of fish consumers were aware that fish eating is good for their health. The 10% of the fish consumers were disagree to this and only 15% have no idea. It was found during the study that 30% of the fish consumers have found to eat fish of their own choice while 70% of the fish consumers have not found to eat fish of their choice (table- 2).

Table 2 Fish consumption behavior

S.No.	Parameters	Category	Frequency	Percentage
1.	Consumption Pattern	Twice in a week	75	50%
		4 times in a month	45	30%
		Occasionally	30	20%
2.	Fish quantity per visit	0.5 to 1 kg	60	40%
		Up to 2 kg	45	30%
		More than 2 kg	45	30%
3.	Education and fish consumption	Agree	81	54%
		Disagree	55%	37%
		No idea	14	9%
4.	Fish eating is good for health	Agree	111	75%
		Disagree	15	10%
		No idea	24	15%
5.	Fish choice availability	Available	45	30%
		Unavailable	105	70%

It was found during the study period that fish consumers have faced many constraints. About 60% of the fish consumers showed that the main constraints in the consumption of fish was observed to be unavailability of preferred fishes. About 20% of the fish consumers have faced the high price of fishes. About 5% of the fish consumers have faced distance as their main constraints while 10% of the fish consumers have faced lack of retail market. About 5% of the fish consumers have faced the problem of scarcity of fish. The availability of fish is decreasing day by day. Due to unavailability the prices of fishes become higher. The result shows that the irregular supply, price hike and wide fluctuations have played a major role in fish consumption. Among all groups the high fish consumption was observed in urban areas than in rural areas. It shows a significant association between income and fish consumption. (table-3).

Table 3 Constraints faced by the fish consumers

S. No.	Category	Frequency	Percentage
1.	Availability of quality fish	90	60%
2.	High Cost	30	20%
3.	Lack of retail market	15	10%
4.	Distance	8	5%
5.	Scarcity of fish	7	5%

During the study period it was found that low consumption of fish is due to low income and hence low purchasing, lack of awareness about the health benefits of fish, poor hygienic condition in the market and lack of freshness of fish, lack of post-harvest processing for domestic market and poor availability of ready-to-cook and ready to eat fishery product have a negative effect on overall fish consumption was agreed by most of the respondents. The other constraints of the farmers of Kaushambi were found during the study period are poor prices, lack of transport, lack of ready market and high post-harvest losses. The farmers also lack learning new skills, new techniques and new ways of obtaining and using information appropriately. The result of this study showed that there has been a meaningful relationship between jobs, income rate and the average amount education of people and the fish consumption.

4. Conclusion

The study reveals that the fish consumption is increasing in district kaushambi and majority of the respondents want to consume fish on daily basis, but due to unavailability of quality fish, high cost and low income they cannot fulfill their needs. The main source of purchase is the retail market. In general law of demand states that when price rises consumers reduce their consumption of fish and vice-versa. The freshness and taste of fish were considered most important in fish consumption. The main constraints faced by the fish consumers are non- availability of quality fish, high cost, distance, lack of retail market and scarcity of fish. The fisherman's need to adopt Fish Market and Price Information System (FMPIS) which provide real time information to all. The fisherman needs to use technology to enhance demand. It was found during the study that the fisherman requires to establish e-commerce platform and online market places to reach product to consumers. The fisherman's need to use modern technology in the form of investment, training, awareness program with the cooperation of the government, research entities and private organizations.

Compliance with ethical standards

Disclosure of conflict of interest

The author declares that there is no conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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