CONSUMER PREFERENCE AND FISH CONSUMPTION PATTERN AMONG RESIDENTS OF MUSAWA LOCAL GOVERNMENT AREA, KATSINA STATE, NIGERIA

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ABSTRACT
This study was conducted to evaluate fish consumers preference and consumption pattern for some fish species in Musawa Local Government Area of Katsina state, Nigeria. A total of one hundred and twenty (120) structured questionnaires covering data on demographic information, rate of fish consumption and type of fish consumed between July and December 2020 were sourced . The data were analysed using descriptive statistics methods. The results show that nearly half of the respondents 50 (41.67%) were in the age bracket of 35 - 44 years and mostly males 76 (63.34%), while 36.67 (45.0%) were females. The educational level displayed that nearly half of the respondents (37.50%) had tertiary education. The results displayed that nearly more than half of the respondents (80.83%) had consumed fish while only few respondents did not consumed fish (19.17%). Additionally, it is demonstrated that health benefits are the major reason for fish consumption. The major factors affecting consumption of the recognized fish species in the study area were noted to be price, availability, accessibility and healthy concerns. The major constraint for fish consumption were allergy to fish, distance to market, inadequate supply and high cost of the fish. Finally, household have different opinion on the ease of access of fish in the study area.
Keywords: Consumption, Choice, Fish, Musawa, Preference, Residents and Species

INTRODUCTION
Fish and fish products are very important source of nutrients of animal source for varying healthy nutrition. Fish and fish products are inexpensive source of animal protein and within range of the ordinary populations of most nations. Fish demands is constantly on the increase and this is due among other reasons to the ever-increasing human populace, high price of other sources of animal protein and problems of sickness and infections associated with the consumption of additional sources of animal protein (Sadauki *et al.,* 2022). Fish is a rich source of lysine (suitable for augmenting high carbohydrate nourishment), thiamine, riboflavin, vitamins A and D, phosphorus, calcium and iron; it is also high in poly unsaturated fatty acids that are significant in dropping blood cholesterol level in man. In Nigeria smoked fish products are the most readily form of fish product for consumption and out of the total of 194,000 metric tonnes of dry fish produced in Nigeria, about 61 % of it was smoked (Ezike and Ohen, 2018). Some previous research have highlighted the healthiness and nutritious benefits connected with fish eating such as increased brainpower and intellectual growth in children, reduced threats of cardiovascular sicknesses, reduced risks of high blood pressure and reduced threats of various forms of cancers (Nababa *et al*,. 2021). According to Magawata and Shina (2013), fish consumption in Nigeria is higher in the southern part of the nation compare to the northern parts of Nigeria. This might be due to inadequate uneven spreading of natural fish as a result of rainfall pattern, total number of water bodies, fishing methods, preservation, and general acceptability of fish among others (Ibrahim et al., 2013). Fish supplied in Nigeria is either through capture fisheries, fish farming or by import (Nababa *et al.,* 2021). Accordingly,——purchasers' preference makes available better relationship with actual purchase or consumption of fisheries products. Preference is considered to be most important reason influencing general nourishment consumption behaviour (Nababa *et al.,* 2021). In a nutshell, fish consumption patterns of the poor depend more on affordability than additional factors such as preference which is determined by availability of staple diets, seasonality, and the market value of fish (Idris *et al.,* 2018). The research sets out to determine the consumption pattern of households for numerous types of fish and factors that affects consumption pattern of different forms of fish in Musawa Local Government area.

METHODOLOGY
Study area: Musawa LGA is found in Katsina State. Musawa Local Government Area (LGA) is geographically local between latitude 12^0 7'48 N and longitude 7^0 40'11 E and has an area of 849 km2 with a total population of 171,714 inhabitants. The research was carried out using structured

questionnaires administered to a total of 120 respondents. Six wards were selected in the LGA and 20 respondents were randomly selected.

Data collection and analysis: The data obtained from this study was analysed using simple descriptive statistics and percentage.

RESULTS

The socio-economic status of the respondents in the settlements of Musawa is presented below (Table 1). The age distribution of the respondents displays that nearly half of the respondents 41.67 % were in the age bracket of 35 - 44 years however 25.00 %, 19.17 % and 14.17 % were in 15-24, 24-35 and above 45 years age brackets respectively. From Table 1, it can be seen that most of the respondents were Males 63.34 %, while 45.0 % were Females. Table 1 indicate that 58.34 % of the respondents were married, while 35.84 % were single with a 3.33 % of the respondent widowed and 2.50 % were divorced. The educational level displayed that nearly half of the respondents 37.50% had Tertiary education, followed by Quranic school 29.17%, Secondary school 20.83% with only few people attempting primary school levels 12.50% education. In Table 1, Occupation plays a vital a role in fish consumption, the results shows that 41.67% were Civil servant followed by Farmer 37.50% while 20.83% are Traders. The fish consumption level revealed that more than half 80.83% of the respondents had consumed fish with only few respondents did not consumed fish 19.17% according to Table 2 below. The regularity of fish consumption show that 25.00% consumed fish daily, followed by 20.83% Monthly, followed by 16.66% Once weekly, followed by Weekly 10.00% with few respondents 8.33% consume Fortnightly Table 2 below. On the source of fish in the study area, Table (2) shows that markets places were the most regularly source of fish in the study area indicating 58.33% respondents while 41.67% respondents were fishermen. On the type of fish species consumed in the study area, Table (3) shows that consuming all the species were the most commonly demonstrating 34.16% respondents, followed by *C. gariepinus* 16.66% respondents, *B. bayad* 13.33% respondent, *Tilapia* 10.00% respondents while 6.67% respondents representing *Mormyrus rume*. Lastly from Table 4, main reasons for fish consumption include; Affordability 3.33% respondents, Availability 6.67% respondents, Preference 16.66% respondents. Moreover, 54.16% of the respondent's major reason was health benefit. Among the constraints confronted by fish consumers in Musawa community, Table 4 displayed that inadequate supply of fish 4.16% respondents, Allergy to fish 12.50% respondents. Additional constraints confronting fish consumers in the study area comprise; distance to the fish market 18.34% respondents and the major constraint high cost of the fish 45.84% respondents.

Table 1. Bio data of the respondents

Parameter	**Respondents**	**Percentage** (%)
Age		
16-25	30	25.00
26-35	23	19.17
36-45	50	41.67
46 and above	17	14.17
Sex		
Male	76	63.34
Female	44	36.67
Marital Status		
Married	70	58.34
Single	43	35.84
Divorced	3	2.50
Widow	4	33.33
Educational Level		
Quran school	35	29.17
Primary school	15	12.50
Secondary school	25	20.83
Tertiary Institution	45	37.50
Occupation		

Civil servants	50	41.67
Traders	25	20.83
Farmers	45	37.50

Field Survey 2020

Table 2: Rate of fish consumption in the study area

Parameter	Respondents	Percentage (%)
Do you consume fish?		
Yes	97	80.83
No	23	19.17
How frequency do you Consume fish		
Daily	30	25.00
Twice weekly	20	20.84
Weekly	12	16.66
Fort nightly	10	8.33
Monthly	25	10.00
Source of fish in the area?		
Fishermen's	50	41.67
Marketers	70	58.33

Field Survey 2020

Table 3: Type of fish consumed in the study area

Parameter	Respondent	Percentage (%)
Tilapia	12	10.00
Bagrus bayad	16	13.33
Clarias gariepinus	20	16.66
Mormyrus rum	8	6.67
Consuming all the species	41	34.16

Field Survey 2020

Table 4: Reason and constraint for fish consumption

Parameter	Respondent	Percentage (%)
Health benefit	65	54.16
Availability	8	6.67
Preference	20	16.66
Affordability	4	3.33
Constraint for fish consumption		
Allergy to fish	15	12.50
Distance to fish market	22	18.34
High cost of fish	55	45.84
Inadequate supply of fish	5	4.16

Field Survey 2020

DISCUSSION

Fish eating differs according to numerous socio-demographic characteristics. Fish consumption occurrence is higher among women, higher profits consumers and those living in coastal regions (Verbeke and Vackier, 2005). Study proves that cultural factors, financial and environmental factors are effective in fish eating (Uzundumlu, 2017). Similarly, the economic, societal condition, changes in the family revenue, occupation as well as the level of education can cause changes in consumption areas. Consumption of fish and fishery products was moreover positively directly connected with education (Uzundumlu, 2017). Higher education status were found leading to higher purchase nonetheless did not translate into higher fish consumption (Uzundumlu, 2017). Education, changes flavour over time and usually affect eating pattern, preference for fish species and nourishment of a family this is because buyers become aware of the nutritious value of protein rich

food stuffs like beef, eggs and fish and subsequently increase their consumption (Jimoh *et al.,* 2013). The more educated an persons is, the more he will have a favourite to go for nutritious diet bearing in mind its significance to the healthy. Such persons may not decide on for low quality nourishment except when confronted with economic constraints or lack of obtainability of such quality. This comes to an agreement with the discovery documented by (Uzundumlu, 2017; Idris, *et al.,* 2018; Nababa *et al.,* 2022). Sex is a vital factor that has significant influence on the fish preference and eating pattern in Musawa local Government area of Katsina state. This is because women patronize the market and choice good quality varieties of protein rich nourishment stuffs, then increase their eating for them (Amao and Ayantoye, 2014). The distribution of homes by sex, age, marital status, and educational status is displayed in table1 which presented that the number of male controlled homes be greater than that of the female and the total percentage for male lead homes was 63.34% even though that of the female is 36.67%. This displayed that females headed homes were fewer involved in the buying and eating of fish in the research district than their male colleagues. This result is related to the outcome documented by (Amao and Ayantoye, 2014; Uzundumlu, 2017, Nababa *et al.,* 2022).The factors affecting customers‟ preference are numerous ranging from production to eating. The main difficulties comprise revenue, accessibility of the product, cheapness associated to close substitute, nutritious value etc. Availability of different species of fish in the marketplace can affect the rate at which they are consumed. If the fish is accessible in the marketplace definitely they will be consumed. Fish are vastly diversified, there are numerous species of edible fish and each species vary knowingly in relations of flavour, price, manufacture volume and place (Nababa *et al.,* 2022). To involve in fish farming (Aquaculture), an examination of consumer's preferences for each species of fish is important for successful fish farming (Musa and Ala, 2011). The contribution of fish and fish products to human nourishment and its influence on healthiness have been scrutinized from different parts in both developed and developing nations and in industrialized nations, researchers and buyers have been interested in the healthiness benefits of poly-unsaturated fatty acids (PUFAs), which lowers blood pressure, decrease the risk of heart sickness, and possibly support new-born development and intellectual development (Uneke and Uneke 2021). Accessibility of primary diets is one of the determinants of fish eating patterns of the poor and when homes lack food, fish produced by aquaculture or supplied by common-pool resources are used for cash, relatively than as food for domestic eating which is in line with this study. Fewer effort on the part of the government to boost small scale fish production. The best significant influences responsible for low regularity in eating and support are availability, accessibility and affordability of fish for consumption (Uneke and Uneke 2021).

CONCLUSION AND RECOMMENDATION

The socio-demographic features of the respondents make available the data that age, sex, marital status, education level and occupation plays key role in the fish consumption. The major factors affecting consumption of the recognized fish species in the study area were noted to be price, availability, accessibility and healthy concerns. The major constraint for fish consumption were allergy to fish, distance to market, inadequate supply and high cost of the fish. In the meantime food stuffs, particularly the protein ones meat and fish are found to be significant in the nourishment of general public in a nation, and considering the greater percentage of monthly expenditure on fish mainly among the little revenue wage earners, there should be policies by the government to bring a decrease in the prices of fish goods through improved faster fish production and delivery. Meanwhile, majority of customers buy fish because of its nutritive value and its relative cheapness, efforts should be made by government at all levels toward increasing the supply of the main goods in the marketplace. This research therefore recommends that there is requirement for economic funding as well as sensitization programs on better, safer and well-organized storage equipment and approaches accessible. Storage facilities in the market should be developed to preserve the quality of fish. Packaging and grading service should be implemented for providing fish with desired characteristics to quality conscious consumers.

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