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PERCEPTION OF WOMEN KNOWLEDGE ON THE NUTRITIVE VALUE OF FISH IN KADUNA NORTH LOCAL GOVERNMENT AREA OF KADUNA STATE, NIGERIA

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ABSTRACT
This study investigated women knowledge on the nutritive value of fish in Kaduna North local government area of Kaduna State. One hundred and twenty (120) household wives were randomly selected for the study. Structured questionnaire was used for data collection. Date was analyzed using frequency distribution, percentages, means and logistic regression to determine the factors affecting fish consumption at the household level. The result shows that majority (91.8%) of the respondents were within the age range of between 20-40 years and majority (98.8%) posses formal education. Also a greater proportion (94.29%) of the respondents had moderate household size. Furthermore, majority (65%) belongs to one form of cooperative or the other and vast majority (79.2%) had been in marriage institution for more than 10 years. The respondents perceived the following sources of information about nutritive value of fish as important: home economics staff/extension agents; friends and relatives; books/leaflets; television; and radio. Also the following constraints were perceived as important: availability of fish; household size; method of processing; method of harvesting; and seasonality of fish supply. The following factors in the logistic regression were significant: major occupation of the respondents; years spent in marriage institution and number of years spent in formal education. It is recommended that home economics staff/extension agents and other concerned institutions should be encourage to intensify efforts in creating more awareness on the nutritive value of fish to encourage its consumption, so as to reduce the rate of mal-nutrition in the rural areas.

Key words: women knowledge, nutritive value, fish supply, extension agents

INTRODUCTION
The artisanal fishing sector In most African countries is characterized by a long-standing division of labour between men and women, many women are engaged in fishing related activities on a seasonal basis, in addition to their other economic activities such as farming and trading (Jennie, 1984). Several studies have documented women contribution to agricultural production and household food security (Rahman and Alamu, 2003; Amali, 1989; Damisa and Yohanna, 2007; Okonjo 1991; Auta *et al*. 2000).

Fish is an important component of diet for the people throughout the world. Fish makes a vital contribution to the survival and health of a significant portion of the world's population. Fish provides the essential nourishment, especially quality protein and fat (Macro nutrient), vitamins and minerals (micro nutrient). Fish is also seen as efficient converter of food for human consumption and help preventing kwashiorkor among children as a result of low protein intake and unbalanced diet and there is little or no religious restriction on its consumption (Chilimat 2010; Luna, 1983; FAO, 1989).

According to Idris (1989) fish is, however, preferred by most people as a readily available source of animal protein in some countries. Its availability has, however, been small and limited to the source of supply due to distribution difficulties. Jennie (1984) pointed out that women play an important role though not exclusive, role in smoking, drying and marketing fish. In some countries fish processing and marketing is dominated by women. It is important to point out that despite the numerous roles performed by women in fishery industry; local women have little or no knowledge about the nutritional value of fish. This can be seen in the quantities of fish being consumed at the household level, this directly or indirectly is as a result of their perception about the nutritive value of fish, and this is why malnutrition is still a problem in many developing countries particularly in Africa. The consequences includes; nutritional blindness, poor learning capabilities, poor growth and increase morbidity and mortality rates. (Chilima, 2010). Many factors contribute to nutritional status; insufficient knowledge about nutrition and health, heavy labour, competing demands for women time, morbidity, low income, insufficient food at the household level, and accessibility to health and other supporting services and price policies (Gittinger *et al* 1990; Elias, 1990; Kennedy 1990; Saito *et al* 1990).

"Ignorance", it is believed to be a disease. Lack of sufficient knowledge about the nutritive value of fish is assumed to be responsible for low consumption of fish by the rural people, despite its accessibility and availability. It is on these bases that this paper was sets to find out the perception of rural women on the nutritive value of fish. Specifically, the objective of this study was to examine the socioeconomic characteristics of the respondents, determine the level of awareness of household wives on the nutritive value of fish, and to determine their perception about the nutritive value of fish and constraints affecting fish consumption.

METHODOLOGY

The study was carried out in Kaduna north local government area of Kaduna State; six wards were randomly sampled for the study out of the twelve wards. The selected wards includes Doka, Kawo, Shaba, Unguwar, Kanawa, Unguwar, Gagi and Kabala Doki. In all one hundred and twenty household wives were randomly selected. The State is located in the northern guinea savannah, between latitude 9 and 12N and longitude 6E and 9E of the prime meridian. The farmers grow crops like millet, guinea corn and bean, and reared animals like cattle, sheep's and goats. The use of primary and secondary data was employed for this study. Secondary data were the information obtained from literatures, projects reports, official documents publications, consultations and library materials among others. Primary data were obtained through the use of structured and validated questionnaire consisting of both open and close-ended questions to elicit information from the target respondents. Trained enumerators who have the knowledge of the local dialect of the clientele were used for the collection of information required.

Analytical Techniques

Descriptive statistics such as frequencies, percentages, means and inferential statistics mainly logistic regression were used for the analysis. In calculating perception of information sources of rural women knowledge about nutritive value of fish and their perception about the constraints faced, these were measured by using a 4-point scale of 4

= very important, 3 = important, 2 = slightly important, 1 = not important, the midpoint value of the scale (1+2+3+4) were summed up to get 10. The sum was further divided by 4 to obtained 2.5 which is the mean. Any information source with a mean score of equal or above the cut-off mean of 2.5 was regarded as an information source perceived as important and any score less than 2.5 as not important. The same scale was also used to determine the respondent's perception of the constraints.

Logistic regression model was used to determine the factors affecting fish consumption. The implicit of the model is as specified below

$Y = X_1+X_2+X_3+X_4+X_5\ X_6+X_7$

Y = Level of awareness (knowledge)

X_1 = Household size

X_2 = Numbers of spent in formal education

X_3 = Occupation

X_4 = Cooperative membership

X_5 = Years in marriage

X_6 = Income (₦)

X_7 = Age

RESULTS AND DISCUSSION

Table 1: Socio-economic characteristics of respondents

Variables	Frequency	Percentage
Age		
<20	2	1.7
21-30	27	22.5
31-40	27	22.5
41-50	53	44.2
Above 51 years	11	9.2
Marital status		
Married	89	74.2
Divorced	8	6.2
Widow	23	19.2
Education		
Illiterate	3	2.5
Education	117	98.5
Household size		
1-5	60	80.0
6-11	53	44.2
11-5	3	2.5
16 and above	4	3.3
Cooperative membership		
Yes	78	65
No	42	35
Years spent in marriage institution		
Less 10 years	25	20.80
11-20 years	35	29.20
Above 20 years	60	50.00

Source: Field Survey, 2011

The details in table on1 revealed that majority (91.8%) of the respondents are in their active years and about 74.2% are still together with their spouses. A total of 98.5% are educated and the remaining 2.5% are illiterates, the table also indicates that 50% had small household size of between 1-5 people, while 44.2% had moderate household size of between 6-10 people and the remaining 5.8% had large household size of 11 people and above, 65% of the respondents belongs to one form of cooperative society or the other and 50% of them had been in marriage institution for more than 20 years. 29.20% for more than 11 year and only 20.80% had been in marriage institution for less than 10 years, this implies that majority of the respondents were experience household wives.

Table 2: Distribution of respondents by their awareness of the nutritive value of fish, quantity and frequency of fish consumption by households.

Variables	Frequency	Percentage
Nutritive knowledge of fish		
Aware (Yes)	117	97.5
Not aware (No)	3	2.5
Frequency of fish consumption		
Frequently	87	72.5
Occasionally	23	19.7
Rarely	10	8.3
Quantity consumed		
Very small	90	75
Small	20	16.7
Enough to meet the requirement	10	8.3

Source: Field Survey, 2011.

Table 2 shows that majorities (97.5%) of the household wives were aware of the nutritive value of fish, and also majority (72.5%) claimed they consumed fish frequently. It is however disheartingly that majority (75%) claimed they only consumed very small quantity, despite their knowledge about its nutritive value. This could be attributed to the poverty level of the people, which implies that majority of the households could not afford to consume enough fish to meet their protein requirement.

Table 3: Distribution of respondents according to their perception of the importance sources of information

Sources	RATING						
	Very important	Important	Slightly important	Not important	Sum	Mean	Overall perception
Home Econs/Ext Staff	59(49.1)	48(40)	2(1.66)	11(9.16)	395	3.29	Important
Friends and Relations	27(22.5)	75(62.5)	17(14.16)	1(0.83)	368	3.06	Important
Fish Sellers	10(8.3)	12(10.0)	44(36.7)	54(45.0)	218	4.81	Not Important
Books/Leaflet	58(48.3)	39(32.5)	6(5)	17(14.16)	378	3.15	Important
Television	48(40)	59(49.1)	2(1.66)	11(9.16)	384	3.2	Important
Radio	75(62.5)	27(22.5)	17(14.16)	1(0.83)	433	3.61	Important

Source: Field Survey, 2011.

Table 3 shows the rating of sources of information about the nutritive value of fish by the respondents. The following sources were rated as important sources of information; Home Economics/Extension Staff (3.29) Friends and Relatives (3.06), Books/Leaflets (3.15), Television (3.20) and Radio (3.61) because their mean were above 2.50. The study therefore revealed that it is only fish sellers as a source information that was perceived by the respondents as un-important. This finding supports the findings of Farinde and Soetan, (1999) that radio plays an important role in the dissemination of information. The results also shows that the respondents had access to different information sources (Van den Ban and Hawkins, 1996), which according to LEISA (2002) will help respondents share and exchange experiences.

Table 4: Respondents perception of the nutritive value of fish

Perception	Frequency	Percentage
Very nutritious	47	39.2
Nutritious	71	59.2
Not nutritious	2	1.6

Source: Field Survey.2010.

Table 4 reveals that majority (59.2%) of the respondents perceived that fish is nutritious while 39.2 % also perceived fish as very nutritious and only 1.6% perceived that fish is not nutritious. This implies that vast majority (98.4%) of the respondents possessed the knowledge about the nutritive value of fish. This finding is contrary to the findings of Chilima (2010) who claimed that despite the numerous roles performed by women in fishery industry; local women have little or no knowledge about the nutritional value of fish.

Table 5: Perception about the constrainst faced by the respondents

Constraints	**R A T I N G**						
	Very important	**Important**	**Slightly important**	**Not important**	**Sum**	**Mean**	**Overall perception**
Availability of Fish	71(59.1)	36(30.0)	2(1.7)	11(9.2)	407	3.4	Important
Lack of knowledge	13(1.08)	28(23.3)	40(33.3)	39(32.5	257	2.14	Not Important
Fish odour	10(8.3)	12(10.0)	44(36.7)	54(45.0)	218	1.81	Not Important
Distribution difficulty	77(64.2)	28(23.3)	2(1.7)	13(10.8)	409	3.4	Important
Household size	67(55.9)	22(18.3)	6(5.0)	25(20.8)	371	3.1	Important
Quality of fish	85(70.9)	32(26.7)	1(0.8)	2(1.6)	440	3.0	Important
Method of harvest	69(57.5)	35(29.2)	2(1.7)	14(11.7)	399	3.3	Important
Method of processing	77(64.1)	36(30.0)	5(4.2)	2(1.7)	428	3.6	Important
Method of storage	77(64.2)	28(23.3)	2(1.7)	13(10.8)	409	3.4	Important
Spoilage	69(57.5)	22(18.3)	16(13.3)	13(10.8)	387	3.2	Important
Cost	37(30.8)	24(20.0)	21(17.5)	38(31.7)	300	2.5	Important
Seasonality	43(35.8)	20(16.7)	20(16.7)	37(30.8)	309	2.6	Important

Source: Field Survey, 2011.

The respondents were faced with a lot of constraints as indicated on table 4 above, the perceptions of the respondents about the constraints however varied. Based on the mean

rating, the following constraints were considered by the respondents as important or major constraints: availability of fish (3.40), Household size (3.10) distribution difficulty (3.40), quantity of fish available for consumption (3.00) method of harvesting fish (3.30), method of processing (3.6) method of storage (3.4), spoilage (3.2), cost (2.5) seasonality (2.60), because their means are equal to or above 2.50. This study therefore revealed that lack of knowledge (2.14) and fish odour (1.81) are considered as not important or major constraints. This finding is in line with that of Idris (1989) who pointed out that fish is preferred by most people as a readily available source of animal protein, its availability has, however, been small and limited to the source of supply due to distribution difficulties.

Table 5: Estimation of the determinant factor of the logistic regression model of women awareness of the nutritive of fish

Variables	Estimate (B)	P-value	Odds
(X_1) Family size	0.060	0.718	1.062
(X_2) Years spent in Education	0.157*	0.094	1.170
(X_3) Occupation	-1.582**	0.034	0.206
(X_4) Cooperative members	-0.797	0.435	0.450
(X_5) Marriage years	0.176**	0.043	1.192
(X_6) Income	0.000	0.582	1.000
(X_7) Age	-0.048	0.413	0.953
Constant	6.552	0.073	700.449

Sources: Field Survey, 2011.

*Significant at 10%; **Significant at 5%; NS: Not Significant

Entries in table 5 shows that major occupation and year of marriage were significant at 5% and number of years spent in school were significant at 10%. Other variables (household size, cooperative membership, income of respondents and age) were not significant determinant factors that affect the rate of fish consumption. About 20% of the respondents' major occupation will have a positive influence on the awareness of nutritive value of fish while (years in marriage) the odds were two (2) times of those who are not aware.

In summary, although age and cooperative membership were not significant, they have a negative impact on the awareness of nutritive value of fish. If all the factors mentioned above are not put into consideration the number of those who are aware will have been 700.449 times more than those who are not aware. Table 5 also shows that there was significant relationship between major occupation, number of years in marriage institution, years spent in formal education and the respondent's awareness.

CONCLUSION AND RECOMMENDATIONS

This study has shown that home economic/extension staff is the most important source of information in creating awareness about the nutritive value of fish. The study also shows that majority (79.20%) have been in marriage institution for more 10 years, 97.5% claimed they were aware of the nutritive value of fish. The following information sources were perceived important by the respondent's: home economics/extension staff,

friends and relations, book/leaflets, television and radio. Fish sellers were however not considered as important source of information. In the same vain the respondents perceived the following constraints as important or major constraints: availability of fish, household size, quantity of fish consumed, method of harvesting, method of processing, storage, spoilage, cost and seasonality in supply, while lack of knowledge and fish odour were considered as un-important constraints.

On the bases of the above it is recommended that home economics/extension staff and other concerned institutions should be encourage in creating more awareness about the nutritive value of fish to encourage it consumption in the rural areas, so as be able to overcome and avoid most nutritional diseases in the rural areas. Also the constraints identified by the respondents as important or major constraints should be address through joint effort by all stakeholders in the society, and finally efforts should be geared towards using the information sources identified by respondents as important to create more awareness about the nutritive value of fish to enhance it consumption and to reduce mal-nutrition.

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