

CONSUMER PREFERENCE ON DEMAND FOR LOCAL, IMPORTED FROZEN AND FRESHLY SLAUGHTERED CHICKEN MEAT IN IFE/IJESA SENATORIAL DISTRICT OF OSUN STATE

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ABSTRACT

Chicken meat is considered an easily available source of high-quality protein that is necessary for proper body functioning and growth. This study investigated consumer preference on demand for local frozen (LF), imported frozen (IF), and freshly slaughtered (FS) chicken meat in Ife/Ijesa Senatorial District of Osun State, Nigeria. Data used for the study were obtained from 200 respondents randomly selected from four Local Governments which include Ife East, Central, Ilesa East, and Obokun. Data obtained were analyzed using descriptive statistics with the aid of SPSS version 20 and STATA. The findings of the study revealed that 40% of the consumers claimed that they preferred LF chicken which is largely influenced by health, cost, and convenience. A paired *t*-test revealed that there is a significant difference in the consumption of LF and IF chicken ($t = 2.45$) while there is no significant difference in the consumption of LF and FS chicken ($t = 1.03$). Sensory evaluation tested on a nine-point hedonic scale revealed that consumers preferred most LF chicken with a Weighted Mean Score (WMS = 7.13) above others. The study revealed that purchase decisions were mostly based on price (WMS = 4.6) followed by health attributes (WMS = 4.06), and convenience attributes (WMS = 3.97). The authors concluded that there is an opportunity to explore LF chicken production and market due to its acceptability over other chicken meat types. Therefore, people should invest in the poultry industry, across the supply chain from processing to marketing of local chicken.

Keywords: Consumption, Demand, Frozen chicken, Freshly slaughtered, Preference

INTRODUCTION

Meat is one of the most valuable products from livestock and for many serves as their first choice of animal protein (Fakolade, 2018). Consumption of poultry meat has grown faster than that of any other meat (Mottet and Tempio, 2017). According to the FAO (2012), poultry accounts for approximately 33% of world meat intake. The meat is rich in protein and is a good source of phosphorous and other minerals and of B-complex vitamins (Fakolade, 2022). Poultry meat contains less fat than most cuts of beef and pork. It has a higher

proportion of unsaturated fatty acids than saturated fatty acids there are no religious or cultural constraints associated with its consumption (Pettracci, *et al.*, 2013). Poultry has recorded a tremendous increase in production and consumption substantially over the last 40 to 50 years. More increase is still expected, especially in developing countries (Baldi *et al.*, 2020). This may make chicken meat to become the most valuable meat protein source for a teeming population all over the countries of the world

The preference of consumption of chicken meat over other meat types can be considered to be global. However, the tastes and levels of preferences by urban consumers appear to be changing at a faster pace than domestic industries can produce. Consumers now prefer convenient forms of chicken that are pre-cut ready-to-cook or even ready-to-eat and of certain sensory characteristics.

However, it is worth being noted that consumption of chicken like other food products is not evenly distributed in Nigeria, according to (Dauda *et al.*, 2013) chicken consumption in Nigeria is only high in the Southern part of the country but very low in the northern part. Chicken supply in Nigeria is either through local productions or by importation (Anene *et al.*, 2010) but, most chicken consumed in Nigeria is imported despite the ban on importation (Kayode *et al.*, 2018).

Frozen chicken importation in Nigeria may continue for some time because supply from local productions in Nigeria has been erratic and on the decline in recent years and the growth rate in Poultry production is not yet sufficient for the ever-increasing demand. Consumption of chicken meat is considered over other sources of animal protein as its consumption is lower in the risk of several diseases and premature death than red meats and helps in weight loss. Therefore, it is one of the safest, highest-quality protein meats available and has positive effects on human health than other red meats (Mirmiran *et al.*, 2020). The study of consumer preferences is crucial in assisting firms and producers to improve their marketing strategies by understanding issues such as how consumers feel and respond to pricing in relation to different alternatives available in the market (Fernandes and Remelhe 2016). However, less research attention has focused the on chicken meat demand imminent dichotomy

in preference for local chicken meat over imported. It is on this note that this study intended to examine the consumer preference on demand for local, imported frozen, and fresh chicken meat in the Ife/Ijesa senatorial district of Osun State. The specific objectives were to describe the socio-economic characteristics of consumers of chicken meat, analyze the consumer preference for different chicken meat, and evaluate differences in the consumption of chicken meat between freshly slaughtered, locally frozen, and imported frozen by the consumers in the study area.

Hypotheses of the study:

H₁: There is no significant difference in the consumption of local frozen chicken and imported frozen chicken meat by the consumers in the study area.

H₂: There is no significant difference in the consumption of local frozen chicken and freshly slaughtered chicken meat by the consumers in the study area.

MATERIALS AND METHODS

Study area

The study was conducted in Ife/Ijesa Senatorial District of Osun State one of the states in south west region of Nigeria. Comprising 10 Local Government Areas (LGAs). The study area includes areas such as Ife East, Ife Central, Ife South, Ife North, Ilesa East, Ilesa West, Atakumosa East, Atakumosa West, Obokun, and Oriade Local Governments. With an estimated population of 985,686 (NPC, 2006) and a land area of 1,864 km² on latitude 7.6°N and 7.4°N; between longitude 4.7°E and 4.5°E. Rural households in the study area rear sheep, goats, local chickens and pigs. Also, intensive rearing of cockerels, layers and broilers exotic birds have become popular in the study area.

Source and type of data

Primary data were used for this study. The primary data were obtained with the aid of a well-structured questionnaire and unstructured interview. Also, data were obtained from the meat laboratory of the teaching and research farm, of the College of Agriculture, Osun State University, Ejigbo, Nigeria. The questionnaires were structured to capture data on the socioeconomic variables of the consumers, information on consumers' preferences, and factors influencing the level of satisfaction with the choice of chicken meat.

Sampling techniques and data collection

A multi-stage sampling procedure was employed in selecting the consumers in the study area. The first stage was the purposive selection of Osun East Senatorial District of Osun State based on the prevailing business activities of chicken meat. The second stage was the purposive selection of four Local Government Areas (LGAs) out of ten in the senatorial district based on their cosmopolitan nature. The selected four LGAs were Ife East, Ife Central, Ilesa East, and Obokun LGA. The last stage was a random selection of fifty (50) respondents from each LGA to give a total of 200 respondents which made up the sample size of the study.

Data Analysis

The collected data were analyzed using SPSS 20 and STATA 14 versions. Descriptive analysis was used to profile the socioeconomic characteristics of the consumers and preferences of consumer consumption

RESULTS

Socio-economic Characteristics of the Chicken Meat Consumers

Table 1 presents the socio-economic characteristics of the chicken meat consumers in Osun East Senatorial District,

Osun State. Results in Table 1 revealed that 30.5% of the consumers are in the age range of 18-29 years, 48.5% are in the range of 30-49 years, 21% are above 50 years of age and the mean age is 38.2 ± 12.9 years. More than half (56%) of the chicken meat consumers are female while males constitute the remaining 44%. The results showed that about three-quarters (69.5%) of the consumers were married. Half (51%) of the consumers had between 4-6 members size of household with a mean of 4 ± 2 members per household. The results on the level of education as reported in Table 1 indicate that few (35%) of the consumers had secondary education, 6.5% had primary education, and more than half (53.5%) had tertiary education. The results in Table 1 showed that less than half (40.5%) of the consumers earn a monthly income of ₦50,000 and above, while a few (6.5%) earn above ₦80,000 and 15.5% of them are below an income of ₦20,000. The average income earned was $₦49,150 \pm 23,887.04$.

Attributes of Consumers of Chicken Meat

Table 2 presents the attributes of consumers of chicken meat in the study area. The knowledge about the benefit of consumer consumption as revealed by findings in Table 2 showed that more than three-quarters (76.5%) of the consumers understand that it is important for the growth and development of their body, while few (4.45%) of the consumers did not know the importance. The findings in Table 2 revealed that 40.0% of the consumers preferred local frozen chicken, followed by 31% for freshly slaughtered chicken while imported frozen chicken is preferred by 29% of the consumers. The frequency of consumption as shown in Table 2 showed that 44% consumed it weekly, 41% monthly, and 15% daily. The findings in Table 2 revealed consumers' preference for chicken purchase places in which a larger proportion (37.5%) of the consumers buy chicken from

farms, followed by 30% from open market stalls, while the least patronage (28%) was from street vendors. The results in Table 2 present consumers' reasons for purchasing place choice which showed that confidence in the seller was the most stated reason (30.5%), followed by availability of the chicken (27.5%) and closeness to residents (24%) stated as the third reason.

Factors influencing the level of Satisfaction for the Choice of Chicken Meat

The various factors influencing the level of satisfaction with the choice of chicken meat

are presented in Table 3. The results in Table 3 present the distribution of consumers of chicken by their level of satisfaction, which includes Health, Convenience, Natural Content, and price. The result shows that price with a weighted mean score of 4.6 turned out to be ranked highest, followed by health (Weight mean score of 4.06), Convenience (Weight mean score of 3.97), and Natural content (Weight mean score of 3.92).

Table 1: Socio-economic Characteristics of the Chicken Meat Consumers in Osun East Senatorial District, Osun State

Characteristics	Frequency	Percentage (%)
Age		
≤ 29	61	30.50
30-39	47	23.50
40-49	50	25.00
≥ 50	42	21.00
Mean = 38.2	S.D = 12.9	
Sex		
Male	88	44.0
Female	112	56.0
Marital Status		
Single	2	1.0
Married	139	69.5
Divorced	39	19.5
Widow/ Widower	10	5.0
Separated	10	5.0
Household Size		
≤ 3	66	33.0
4 – 6	102	51.0
≥ 7	32	16.0
Mean = 4.0	S.D = 2.0	
Level of Education		
No formal education	10	5.0
Primary	13	6.5
Secondary	70	35.0
Tertiary	107	53.5
Income (₦)		

0-19,000	31	15.5
20,000-50,000	75	37.5
51,000-80,000	81	40.5
81,000-120,000	13	6.5
Mean = 49,150	S.D = 23,887.04.	

Source: Field Survey Data, 2021.

Table 2: Distribution of Attributes of Consumers of Chicken Meat in Osun East Senatorial District, Osun State

Characteristics	Frequency	Percentage (%)
Knowledge of Chicken Benefit		
No idea	9	4.5
Diseases prevention	37	18.5
Important for growth	153	76.5
Protecting eyes	1	0.5
Choice		
Local Frozen	80	40.0
Imported Frozen	58	29.0
Freshly Slaughtered	62	31.0
Frequency of consumption		
Everyday	30	15.0
Weekly	88	44.0
Monthly	82	41.0
Place of chicken purchase		
Street Vendor	28	14.0
Supermarket	37	18.5
Farm	75	37.5
Open Market Stall	60	30.0
Reason for choosing purchase outlet		
Low price	32	16.0
Have confidence in seller	61	30.5
Near residence	48	24.0
Readily available	55	27.5
Credit sales offer	4	2.0

Source: Field Survey Data, 2021.

Table 3: Factors influencing the level of Satisfaction for the Choice of Chicken Meat in the study area

Factors	Strongly Agreed	Agreed	Undecided	Disagreed	Strongly Disagreed	WMS	Rank
Price	139 (69.50)	53 (26.50)	6 (3.00)	2 (1.00)	-	4.60	1 st
Health	54 (27.00)	107 (53.50)	36 (18.00)	3 (1.50)	-	4.06	2 nd
Convenience	89 (44.50)	56 (28.00)	16 (8.00)	38 (19.00)	1(0.50)	3.97	3 rd
Natural Content	68 (34.00)	71 (35.50)	39 (19.50)	20 (10.00)	2 (1.00)	3.92	4 th

Source: Field survey Data, 2021. Values in parentheses are percentages

Taste Analysis for local frozen chicken, imported frozen chicken, and freshly slaughtered chicken

Table 4 presents taste analysis for three samples of chicken meat which include local frozen, imported frozen and freshly slaughtered chicken. The taste was tested on a nine-point hedonic scale for colour, flavour, tenderness, juiciness, texture and overall acceptability following Fakolade, 2011. Results on colour in Table 4 revealed that local frozen chicken ranked first with a

weighted mean score (WMS) of 6.1 which implies that people preferred local frozen chicken based on colour. On flavour, freshly slaughtered chicken was the most preferred with a WMS of 5.2. Considering tenderness, local frozen was most preferred with a WMS of 6.5. Also, the local frozen chicken was preferred above the others with a WMS of 4.9 based on juiciness. The results revealed that local frozen chicken with a WMS of 5.9 was the most preferable meat based on texture while it was also overall acceptable with a WMS of 7.13.

Table 4: Taste analysis of chicken meat in the study area

COLOUR			
	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Dark	-	1 (6.67)	-
Just dark	-	1 (6.67)	1 (6.67)
Moderately dark	1 (6.67)	7 (46.67)	1 (6.67)
Slightly perceptible	3 (20.00)	-	1 (6.67)
Intermediate	1 (6.67)	-	-
Slightly light	5 (33.33)	2 (13.33)	5 (33.33)
Moderately light	1 (6.67)	1 (6.67)	4 (26.67)
Very light	4 (26.67)	2 (13.33)	3 (20.00)
Extremely light	-	1 (6.67)	-
WMS	5.9	5.1	6.1
Rank	2 nd	3 rd	1 st
Flavour			
	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Not perceptible	-	1 (6.67)	-

Just perceptible	2 (13.33)	2 (13.33)	1 (6.67)
Moderately perceptible	3 (20.00)	3 (20.00)	2 (13.33)
Slight perceptible	2 (13.33)	2 (13.33)	2 (13.33)
Intermediate	1 (6.67)	2 (13.33)	2 (13.33)
Slightly strong	4 (26.67)	5 (33.33)	4 (26.67)
Strong intense	2 (13.33)	-	4 (26.67)
Slightly intense	-	-	-
Extremely fine	1 (6.67)	-	-
WMS	4.9	4.1	5.2
Rank	2 nd	3 rd	1 st

	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Extremely tough	-	-	-
Very tough	-	3 (20.00)	4 (26.67)
Moderately tough	1 (6.67)	3 (20.00)	1 (6.67)
Slightly tough	1 (6.67)	1 (6.67)	3 (20.00)
Intermediate	-	-	2 (13.33)
Slightly tender	4 (26.67)	3 (20.00)	-
Moderately tender	7 (46.67)	5 (33.33)	4 (26.67)
Very tender	1 (6.67)	-	-
Extremely fine	1 (6.67)	-	1 (6.67)
WMS	6.5	4.8	4.7
Rank	1 st	2 nd	3 rd

	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Extremely dry	-	-	-
Very dry	2 (13.33)	2 (13.33)	4 (26.67)
Moderately dry	4 (26.67)	4 (26.67)	2 (13.33)
Slightly dry	2 (13.33)	5 (33.33)	3 (20.00)
Intermediate	-	-	1 (6.67)
Slightly fine	1 (6.67)	1 (6.67)	-
Moderately fine	4 (26.67)	1 (6.67)	-
Very fine	2 (13.33)	2 (13.33)	4 (26.67)
Extremely fine	-	-	1 (6.67)
WMS	4.9	4.3	4.8
Rank	1 st	3 rd	2 nd

	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Extremely coarse	-	-	-
Very coarse	-	3 (20.00)	3 (20.00)

Moderately coarse	1 (6.67)	2 (13.33)	2 (13.33)
Slightly coarse	2 (13.33)	4 (26.67)	2 (13.33)
Intermediate	2 (13.33)	1 (6.67)	1 (6.67)
Slightly light	5 (33.33)	2 (13.33)	-
Moderately light	3 (20.00)	3 (20.00)	6 (40.00)
Very light	2 (13.33)	-	-
Extremely fine	-	-	1 (6.67)
WMS	5.9	4.4	5.1
Rank	1 st	3 rd	2 nd
Acceptability			

	LOCAL FROZEN	IMPORTED FROZEN	FRESHLY SLAUGHTERED
Dislike extremely	-	-	-
Dislike very much	-	-	-
Dislike moderately	-	2 (13.33)	-
Dislike perceptible	-	-	-
Intermediate	1 (6.67)	2 (13.33)	-
Like slightly	-	-	2 (13.33)
Like moderately	4 (26.67)	2 (13.33)	5 (33.33)
like very much	9 (60.00)	5 (33.33)	6 (40.00)
Like extremely	4 (26.67)	1 (6.67)	2 (13.33)
WMS	7.13	6.89	7.11
Rank	1 st	3 rd	2 nd

Source: Field survey Data, 2021.

Values in parentheses are percentages

Paired differences in consumption of chicken meat (local frozen and imported frozen) by the consumers in the study area

Table 5 presents the paired differences in the consumption of chicken meat between local frozen and imported frozen by the consumers in the study area. Results from Table 5 showed that the difference in consumption of local frozen and exotic frozen chicken meat is statistically significant ($p < 0.05$) with a mean consumption of local frozen (0.95) and imported frozen (0.67) and a mean

difference of (0.28). This result showed that the null hypothesis which stated there is no significant difference in the consumption of local frozen and imported frozen chicken meat by the consumers in the study area is rejected and the conclusion is drawn that there is a significant difference in the consumption between the local frozen and imported frozen chicken. This implies that the level of consumption of local frozen chicken meat is at a higher level than imported frozen chicken.

Table 5: Paired t-test of difference in consumption between local frozen and imported frozen chicken meat.

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
Local	80	0.945	0.0954222	1.349474	0.7568315	1.133168
Imported	58	0.67	0.0814782	1.152275	0.5093286	0.8306714
Diff		0.275	0.1486856	2.102732	-.0182016	0.4807482

diff = mean(local) - mean(imported) t = 2.45
 Ho: diff = 0 degrees of freedom = 125

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.9671 Pr(|T| > |t|) = 0.0359 Pr(T > t) = 0.0329

Source: Field survey Data, 2021.

*Significant at the 5% level (critical t = 1.96)

Paired differences in consumption of chicken meat (local frozen and freshly slaughtered) by the consumers in the study area

Table 6 presents the paired differences in the consumption of chicken meat between local frozen and freshly slaughtered by the consumers in the study area. The paired t-test as shown in Table 6 revealed that the null hypothesis which stated earlier that there is no significant difference in the

consumption of local frozen and freshly slaughtered chicken meat by the consumers in the study area is accepted as the difference in consumption of local frozen and freshly slaughtered chicken meat is not statistically significant (t = 1.03). Therefore, the conclusion drawn from the result is that there is no difference in the level of consumption between local frozen and freshly slaughtered chicken in the study area.

Table 6: Paired t test of difference in consumption between local frozen and freshly slaughtered chicken meat.

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
Local	80	0.945	0.0954222	1.349474	0.7568315	1.133168
Freshly slaughtered	62	0.783	0.0914414	1.293176	0.6021816	0.9628184
Diff		.162	.1577933	2.102732	-.1486614	0.4736614

diff = mean(local) – mean (Freshly slaughtered) t = 1.03
 Ho: diff = 0 degrees of freedom = 141

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
 Pr(T < t) = 0.8478 Pr(|T| > |t|) = 0.3043 Pr(T > t) = 0.1522

Source: Field survey Data, 2021.

*Significant at the 5% level (critical

DISCUSSION

The average age of the consumers in the study area was 38.2±12.9 years with few

(21%) of the consumers above 50 years of age. This result implies that few people above 50 years are consuming chicken meat while the majority of youthful age consume

more than older people. This report pointed to the fact that young men and women are more disposed to meat consumption than the old. This result shows a decline in chicken meat consumption as the age increases. Sex distribution of the consumers showed that females is more than males in the study area which could be attributed to the culture in the study area which placed the responsibility of food preparation on the shoulders of females than males. The findings of the study revealed an average household size of 4 ± 2 persons. This large household size may affect the chicken meat consumption rate positively. This agreed with Yakubu *et al.*, (2013) and Onyeneka and Nwaiwu, (2012) the larger the household size the more the consumption of meat.

The majority of the consumers are educated above the primary school level. This implies that the level of knowledge about chicken by their education may likely influence their level of consumption of chicken meat. This finding was in line with Amimo *et al.*, (2011), who reported that education empowers people, strengthens their abilities to meet their needs, and increases their productivity and potential to improve their quality of life. The average income of the consumers was $\text{N}49,150 \pm 23,887.04$ which might have a positive effect on demand for chicken meat in the study area. The result of the average monthly income agreed with Akinwumi *et al.*, (2011) result that an increase in family income would translate to an increase in the quantity of meat consumed.

Relative frequency of weekly consumption of chicken meat supports the assertion by Egyir *et al.*, (2012) that chicken meat consumption has become a major and regular source of protein in the diet of many people, especially the urban dweller. The relatively high response for local frozen

chicken and live birds by the consumers suggests some shift or preference for locally produced birds since no live chickens are imported into Nigeria. The finding of the study revealed that price is the crucial factor that was considered in their buying decision. This conclusion is in line with Kwardzo *et al* (2013) who showed that price is the most important attribute influencing consumer preference for Nigeria chicken. The summary of the taste analysis showed that the local frozen chicken was the most preferable one among others. This finding might be because the exotic frozen chicken might not be the favourite of most consumers due to the health implications of its preservation and storage from the country of destination. There is a significant difference in the consumption between the local frozen and imported frozen chicken in which the level of consumption of local frozen chicken meat is at a higher level than the imported frozen chicken. This might be a result of recent government policy in the placement of an embargo on the free flow of imported frozen chicken into Nigeria from foreign countries. There is no significant difference in the consumption between the local frozen and freshly slaughtered chicken which implies that consumers of chicken meat are indifferent in their choice between local frozen and freshly slaughtered chicken.

CONCLUSION AND RECOMMENDATION

It could be concluded based on this study that local chicken meat remained most consumed especially local frozen chicken is preferred among others. Also, price is the most important attribute influencing consumer preference for local frozen chicken. This study hereby recommends that the government should make available credit to empower livestock farmers for improved livestock production. The poultry farmers should be encouraged to divert more resources to the production of local chicken

so that they can meet consumer demand and be wary of moderate market prices of the products to increase their income.

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