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Consumer's Preference and Perception of Different Types of Meat among Respondents in Wukari, Taraba, Nigeria

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ABSTRACT: The most important factor in the purchase and subsequent consumption of meat and meat products is the perception of quality, percentage of meat, freshness, price and origin. This study evaluates the consumer preference and perception of different types of met amongst residents in Wukari, Taraba State, Nigeria Data obtained from this study revealed Chicken was the most preferred with 34.00%, followed by chevon 22.29%, beef 19.43%, among others. In addition to being the most preferred, chicken was also the most palatable (40.9%), easiest to cook (45.1%), and believe to be the most nutritious (42.0%). Beef was rated most affordable with 52.9% and most purchased 42.57%, which makes it the most consumed meat in federal university wukari; According to this study meat is preferred to fish. A high percent of respondent in the university preferred meat from old animal and market is their most place of purchase. Most respondents eat and buy meat weekly. Income (40%) and Health (47.71%) is the factor that most limits the choice of meat and factor influencing consumption of meat.

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Meat refers to all the edible parts of animal – skeletal muscles, connective tissues and fat naturally associated with the muscles (Gambo *et al*, 2010). Meat sources in Nigeria include cattle, sheep, goats, camels, donkeys, pigs, geese, chickens, rabbits, e.t.c. As important as meat is, the estimated average consumption per person in Nigeria in 2010 was 9.6 kilogrammes, which was less than the average of 24.9 kilogrammes consumed per person in the Middle East and other parts of Africa *(*Anzaku, *et al.*, 2011). Meat is the most valuable livestock product and for many people, serves as their first choice source of animal protein (Tsegay, 2012). Meat is any flesh of animal that is used for food. It is nutritious and highly attractive in appearance (Akinwumi et al., 2011).There are different kinds of meat depending on the source from which they are obtained, for example, mutton from sheep, chevon from goat, beef from cattle, pork from pig and chicken from birds (Soniran and Okubanjo, 2002).Preferential consumption exists in spite of the importance of meat as a source of protein with high biological value. Earlier reports (Ojewola and Onwuka 2001) classified factors that affect the consumption of meat asreligion, age, sex, socio-economic factors, individual variation and income as major factors in Nigeria. Increasing meat consumption in Nigeria depends on consumer's food selection habits. The selection of foodstuffs depends on many factors, including familiarity, taste, palatability, conformity, prestige, security, love, deprivation, religion, income, price, and availability, as well as the availability of substitutes and complements (Olufokunbi, 1984). Therefore, increase in meat consumption and growth of meat market will depend on consumer preference for the meat types. Consumer preference may be defined as ranking between one commodity and the other from the perspective of relative intensity of desire for commodity over others,

irrespective of the prevailing market price and consumer income (Aromolaran, 1999). Meat preference plays very important role to producers, policy makers and researchers among others.Studies on consumers' preference are better appreciated by the food industry since they can explain consumers' decisions (Verbeke and Vackier, 2004) and should be considered when commercial policies are designed (Diez et al., 2006). Tsegay (2012) reported that chicken, beef and chevon were the most preferred livestock meat in Ethiopia, Studies on the consumers perception and preference for the different types of meat in Nigeria have not been adequately documented. Ogunwole et al. (2009) earlier reported that broiler meats was most preferred among chicken meats by employees of University of Ibadan, Ibadan while Akinwunmi et al. (2011) indicated that beef was the most preferred meat in Ogbomoso, Nigeria., The objective of this study was to evaluate the consumer preferenceand perception of different types of meat amongst residents in Wukari, Taraba State, Nigeria using appropriate standard techniques.

MATERIALS AND METHODS

A well-structured questionnaire was prepared for the study and administered to 350 randomly sampled respondents staff and students (ILCA, 1990). Data that will be collected include socio-economic characteristics of the respondents, meat consumption level and pattern of consumers, consumers' preference for the different meat types (e.g. beef, pork, chevon, chicken, mutton), relative importance of meat to the respondents, limitation of meat consumption trends of consumers, factors influencing consumers' choice of meat, respondents' perception and expectations of the different meat types. Data collected was analyzed using descriptive statistic tools (SPSS, 2006) to generate tables, means and frequencies while excel software package will be used to also generate graphs. Chi-square analysis will also be employ to reveal the relationship in the respondents' consumption pattern and preferences for the different meat types.

RESULT AND DISCUSSION

The personal profile of the respondents is shown in Table 1. It was observed that 39 of the respondents (11.1%) were Yoruba, 36 (10.3%) were Igbo and 38 (10.9%) were Hausa. SSCE: Senior School Certificate Examination, OND: Ordinary National Diploma, HND: Higher National Diploma, B. Degree: Bachelor's Degree, B.Sc in view: Bachelor of Science Degree in view, Ph.D: Doctorate, NASU: Non Academic Staff Union, SSANU: Senior Staff Association of Nigerian Universities, ASUU: Academic Staff Union of Universities, NAAT: National Association of Academic Technologists.

Table 1: Socio-Economic Characteristic of the Respondents

SN	Characteristics	Frequency	Percentage
1.	**Tribe**		
i.	Yoruba	39	11.1
ii.	Hausa	36	10.3
iii.	Ibo	38	10.9
iv.	Others	237	67.7
2.	**Sex**		
i.	Male	232	66.3
ii.	Female	118	33.7
3.	**Marital Status**		
i.	Single	271	77.4
ii.	Married	79	22.6
4.	**Age(years)**		
i.	16-30	257	74.0
ii.	31-45	75	21.4
iii.	46-60	15	4.3
iv.	Above 60	1	0.3
5.	**Religion**		
i.	Christian	309	88.3
ii.	Muslim	36	10.3
iii.	Others	5	1.4
6.	**Educational level**		
i.	SSCE	22	6.3
ii.	OND	16	4.6
iii.	HND	42	12.0
iv.	PHD	15	4.3
v.	BSc. In view	249	71.1
vi.	Others	6	1.7
7.	**Category**		
i.	NASU	34	9.7
ii.	SSANU	11	3.1
iii.	ASUU	33	9.1
iv.	NAAT	10	2.9
v	Undergraduates	262	74.9
8.	**Average Income**		
i.	Less than 10000	130	37.1
ii.	10000-20000	121	34.6
iii.	20000 - 50000	1	0.3

These are ethnic nations in Nigeria, while the remaining 67.7% represented other minority groups in the country (i.e. Idoma, Jukun, Tiv, kuteb etc.). This is a reflection of the university federal character nature as indicated by the diverse tribe's resident in the university. More male 232 (66.3%) participants responding to the questionnaire as against 118 (33.7%) for female this result was not in line with the observation of Diez *et al.* (2006) that reported more female participants in their study for identifying market segments in beef. This goes in line with the report by other authors (Eyo, 2007; Ogunwole *et al.*, 2009; Akinwumi *et al.*, 2011 and Tsegay, 2012) that there were more male participants in Niger-Delta, Ibadan, Ogbomoso and Ethiopia respectively. Most of the respondents i.e. 271 (77.4%) were singles, 79 (22.6%) were married; 309 (88.3%) of the respondents were Christians, 10.3% were muslims and 1.4% indicated that they were neither Christians nor Muslims. Report based on the category in which the respondents belonged also revealed that 34 (9.7%)

were members of Non Academic staff union (NASU), 11 (3.1%) were Senior Staff Association of Nigerian University (SSANU), 33 (9.1%) were Academic staff Union of University, 10 (2.9%) were National Association of Academic Technologists (NAAT), 262 (79.4%) were undergraduates; 130 (37.1%) of the respondents had an average monthly income of less than N1,000, while 121 (34.6%), 1 (0.3%), and 98 (28%) have an average monthly income of N10,000-20,000, N20,000-50,000,and N50,000 and above respectively. The Importance of meat to the respondents is presented in Table 2.

Table 2: Importance of Meat To Respondent

	YES	NO
Eat meat	350	0
Prefer meat to fish	178	172
Buy meat	343	7

It shows that all respondents from this study consumed meat one way or the other as 178 of them preferred meat to fish. This was in line with Eyo (2007) that meat was clearly preferred to fish because consumers perceived it as being richer in protein, nutritious and more appetizing. Figure 1; shows the number of respondents that purchase meat. 343 (98%) buy meat while (2%) do not buy meat. The respondents who indicated they do not buy meat were those that probably do not eat in cafeterias, eateries but at home.

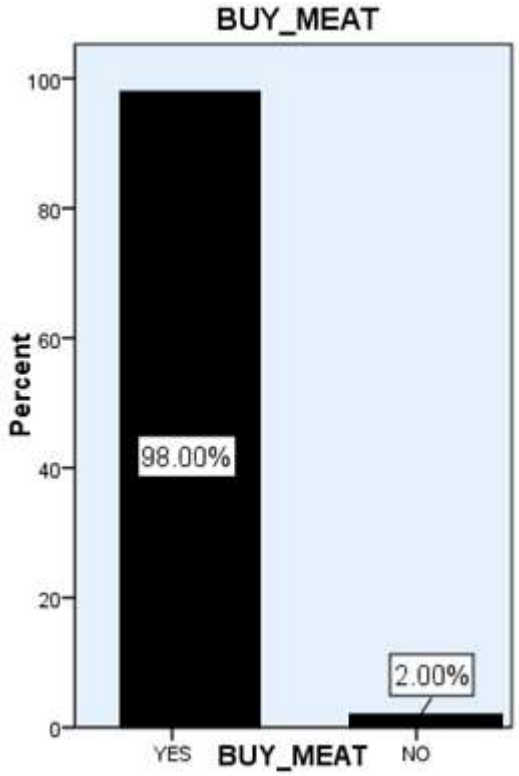

Fig 1: Importance of Meat to Respondent

Figure 2: shows the consumption of the different types of meat by respondents. Chicken ranked first with 119 respondents (34.4%) indicating they consumed more of chicken than any other meat types, followed by chevon (22.29%), beef (19.43%) while mutton, pork and dog meat were 4.29%, 12.29% and 7.71% respectively. This result disagreed with earlier reports (Ikpi, 1990; FAO, 2006; Akinwumi et al. 2011; Emakoro and Adamasun, 2012) that beef was the most consumed meat in Nigeria.

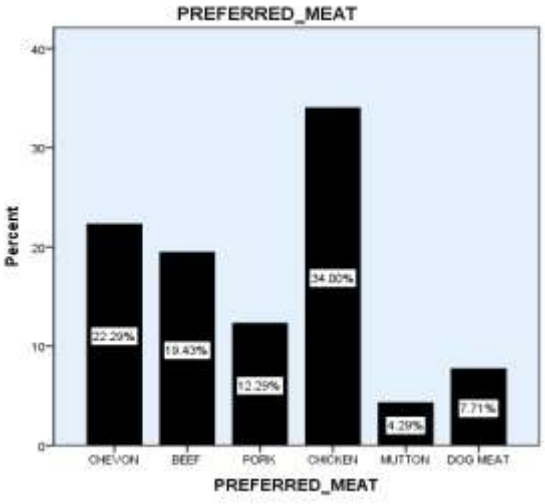

Fig 2: preference for meat

Table 3: Averagely buy meat

		Frequency	Percentage
1	Daily	56	16.0
2	Weekly	207	59.1
3	Monthly	80	22.9
4	Yearly	7	2.0

Table 3 shows that a larger percent of respondent buy meat weekly 207 (59.1%), followed by monthly purchasers of meat 80 (22.9%) may be that most respondent in this category are monthly income eaners;56 (16%),7 (2.0%) are daily and yearly purchasers respectively. The daily consumption of meat for an individual is based on various factors which could be income, price, preference, availability, and religion Tsegay (2012).

As shown (Figure 3) beef is the most purchased meat as 149 respondents (42.57%) declared it as the most bought, which corroborated the report of Eyo, (2007). Chicken followed with 23.71%, chevon (13.71%), pork (7.43%), dog meat (6.86%) and mutton (5.7%), beef is one of the most available and abundant meat and the price is preferable to other animal product, and that could be the reason of purchased, this is in line with Akinwumi et al. (2011) declared cost, availability and income as the most limiting factors of meat preferences which was consistent with the report of this study. Despite chicken is the most consume meat

in this study, the price and availability of this product makes it difficult for most respondents to have access to in terms of consumption. Probably most of the respondents that consume chicken eat beef also.

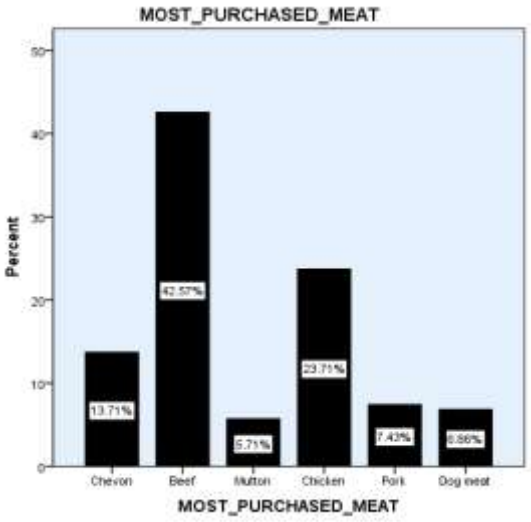

Fig 3: Most Purchased Meat

Table 4: Perception Of The Meat Source

A	Tastiest	Frequency	Percentage (%)
i.	Chevon	64	18.3
ii.	Beef	47	13.4
iii.	Mutton	26	7.4
iv.	Chicken	143	40.9
v.	Pork	37	10.6
vi.	Dog meat	32	9.1
B	**Most Affordable**		
i.	Chevon	29	8.3
ii.	Beef	185	52.9
iii.	Mutton	18	5.1
iv.	Chicken	67	19.2
v.	Pork	35	10.4
vi.	Dog meat	16	4.6
C	**Easiest to cook**		
i.	Chevon	60	17.2
ii.	Beef	65	18.6
iii.	Mutton	20	5.7
iv.	Chicken	158	45.1
v.	Pork	28	8.0
vi.	Dog meat	19	5.4
D	**Palatability**		
i.	Chevon	64	18.3
ii.	Beef	58	16.6
iii.	Mutton	24	6.9
iv.	Chicken	143	40.9
v.	Pork	38	10.9
vi.	Dog meat	23	6.6
E	**Most Nutritious**		
i.	Chevon	53	15.2
ii.	Beef	32	9.1
iii.	Mutton	33	9.4
iv.	Chicken	149	42
v.	Pork	56	16
vi.	Dog meat	27	7.7

As shown in Table 4, chicken, chevon, beef, pork, dog meat and mutton were the tastiest as perceived by 40.9%, 18.3%, 13.4%, 10.6%, 9.1 and 7.4% of the respondents respectively. Beef (52.9%) said to be the most affordable, followed by (19.2%) chicken, (10%) pork, (8.3%) chevon, (5.1%) mutton and (4.6%) dog; chicken (45.1%) beef (18.6%) chevon (17.2%) pork (8.0%) mutton (5.7%) and dog meat (5.4%) were the easiest to cook respectively; chicken (40.9%) is perceived to be the most palatable, followed by chevon (18.3),beef (16.6%),pork (10.9%), mutton (6.9%) and dog (6.6%); chicken is ranked the most nutritious with (42%) followed by pork (16%), chevon (15%), mutton (9.4%), beef (9.1%) and dog meat (7.7), which is not in line with Eyo (2007) that reported chevon was considered more nutritious, more tasty, cooks faster even though less available but costlier. Akinwumi *et al.* (2011) reported that beef was the most convenient to access, most affordable, tastiest and easiest to cook. Among the various categories examined chicken remained the most palatable, easiest to cook, most nutritious, but not affordable as beef, this could be as a result of the high cost tag to chicken as perceived by the respondents. It could be concluded therefore that chicken was clearly preferred to other meat types in terms of all the attributes considered in this study except in terms of purchased which go against with earlier reports (Eyo, 2007; Akinwumi *et al*., 2011). Meat consumption trend of the respondents were skewed towards some livestock species. However, other potential meat producing animals were hardly utilized. This may lead to over utilization of the already existing livestock and underutilization, neglect of other meat animals. Table 5 shows the various factors limiting consumers' choice of their most preferred and most consumed.

Table 5: Limiting Choice Of Meat

		Frequency	Percentage
1	Religion	61	17.4
2	Social Cultural	17	4.9
3	Taste	44	12.6
4	Income	140	40.0
5	Price	59	16.9
6	Availability	29	8.3

Most of the respondents claimed income (40.0%), Religion (17.4%), price (16.9%), taste (12.6%), availability (8.3%) and social cultural (4.9%) were the factors limiting their choice of meat types. Adetunji and Rauf (2012) in their study found that respondents' preference for meat was limited by their taste and level of income. With respect to income in this study however as shown in Figure 7; 40% respondents admitted they would consume more meat if income increased, also 61 respondents declared they would consume more meat if Religion permit them, which strongly affirmed the study of Adetunji and Rauf (2012) that a percentage increase in price of meat will

reduce its demand. Top among the factors as provided by the respondents (Table 5) that determined their choice of their most consumed meat were income (40.0%), religion (17.4%), price (16.9%) taste (12.6%) availability (8.3%) and social cultural (4.9%). This was consistent with the report of Tsegay (2012) that the high degree of variation in meat consumption could be due to availability, cost, sensory value, income level, religion and socio cultural factors. Pork, though not consumed in Harar province of Ethiopia (Tsegay, 2012) also the least consumed meat in Ogbomoso, Nigeria (Akinwumi *et al.*, 2011) has a little more preference than mutton and dog meat in this study as shown in figure 2. Odoh *et al*. (2004) reported that Religion and socio-cultural reasons were one of the attribute to meat low patronage, which is in line with this study. As shown in Figure 4, 298 (85.14%) of the respondents preferred to purchase their meat fresh, 33(9.43%) preferred it processed while 19(5.43%) preferred it frozen form. The high ranked of respondents who responded that they like to purchase their meat fresh could be that their environment is not worth trusted in terms of hygiene and probably they do not purchased meat in large quantity but for home consumption only.

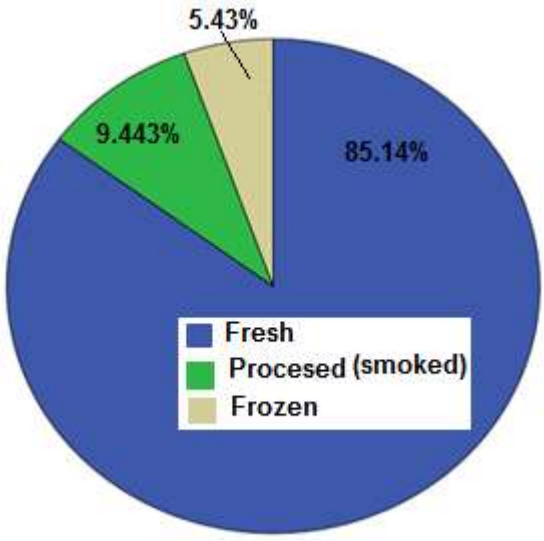

Fig 4: Preference Based On Form Of Purchase

Table 6: Preference Base On Consumption

Parameters	Frequency	Percentage
Boiled	137	39.14
Roasted	75	21.43
Barbecued	38	10.86
Fried	100	28.57

Also a high number 137(39.14%) of the respondents preferred consuming their meat boiled, 100(28.57%) fried, 75(21.43%) roasted and 38(10.86%) barbecued. The high number of respondents that preferred consuming boiled meat could be that most of the respondent do not like oily food or probably do not eat much meat outside their homes. Respondents that show that they preferred fried meat in terms of consumption are those who probably eat at the cafeterias, eateries and restaurants; A little percentage of the respondents preferred barbecued this could be as a result of inability to understand what barbecued is or could be as a result of environment where barbecued meat is not available. As shown in Figure 5; 28% of the respondents prefer meat from young animals, 40.86% preferred meat from old while 31.14% consume meat irrespective of the age of the animal from which it was obtained. The high number of people associated with the consumption of meats from older animals probably could be as a result of preference for tough meat which characterizes older animals.

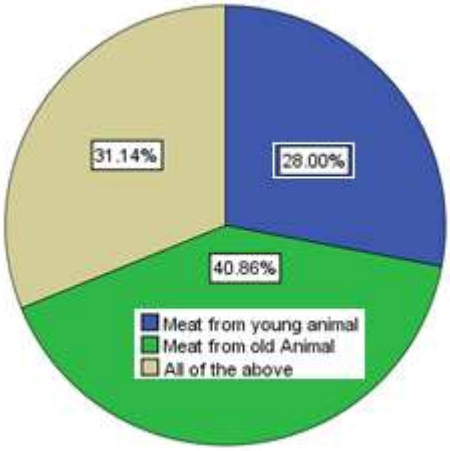

Fig 5: Preference Based On Age Of Livestock

Table 7: Preference Based On Color

	Parameter	Frequency	Percentage
1	White meat	97	27.71
2	Red meat	107	30.57
3	Both	146	41.71

The characteristic colour of meat is a function of its pigment content and light scattering properties (MacDougall, 1982, Ledward, 1992). In figure 6 the meat colour preference of respondents revealed 146 (41.71%) of the respondents preferred both coloured meat, 107 (30.57%) preferred red colour meat while 97 (27.71%) prefer white meat The high number of respondents who preferred both coloured meat could be that most respondent who eat chicken virtually consume beef in this study, the fact that red meat is densely nutritious (Williamson et al., 2005), and the colour is more appealing especially when fresh. The protein myoglobin present in tissues combines with oxygen to yield oxymyoglobin which gives a bright red colour of fresh meat (Priolo et al., 2001); the white

coloured meat are preferred because of it less health effect (Valentina M. Merlino et al., 2017)

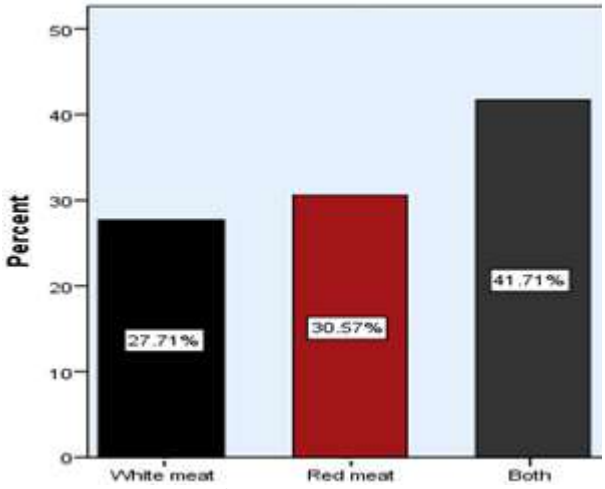

Fig 6: Preference Based On Colours

Conclusion: This study revealed that chicken was the most consumed, followed by beef, chevon among others. Chicken was also the most nutritious, easiest to cook, and most palatable. Beef was rated most affordable and most purchased. Income is the most limiting factor of meat consumption in the university. Fresh meat is more preferred in terms of purchased while boiled meat is preferred in terms of consumption. According to this study meat is preferred to fish.

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