

Purchasing Pattern of Animal Protein Types: A Case Study of UishopweL in University of Ibadan Campus.

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Target audience: *Animal Scientists, Economists, Agripreneurs, Consumers of food*

Abstract

Animal protein is an essential component of a balanced diet in human nutrition and it can be obtained from myriad sources. However, the patronage of animal proteins is hinged on purchasing power, socioeconomic status and relative perception of the consumer's nutritional needs. The University of Ibadan is one such University community in Nigeria where the consumers of animal protein-sourced foods are conscious of the importance of a balanced diet for healthy living. Therefore, a study was carried out at the UishopweL of the University of Ibadan, to assess consumers' purchasing patterns of animal proteins. Data from the sales of animal proteins over 8 months (228 days) were collated and used to determine the trend of purchase of animal protein types based on quantity and frequency (days per week) of patronage using descriptive statistics. The results revealed that mean animal protein patronage during the week was highest on Wednesdays (613.24kg) and lowest on Saturdays (169.44kg). Every week, red meat was the most purchased animal protein type, while fresh fish was the least. The mean daily patronage of red meat was highest for beef (74.12 kg, 81 days) and lowest for chevon (7.14kg, 33 days). Iced fish, chicken and table eggs were purchased daily while dried fish was once a week. In conclusion, higher daily purchases of animal protein-sourced foods in UishopweL were on Wednesdays, and the weekly purchase of beef was more than other animal protein types.

Keywords: Animal protein, Customers, Daily purchase, Patronage pattern, Uishopwel

1. Description of problem

The burden of malnutrition orchestrated by the low level of animal protein consumption among humans of all age groups in Nigeria is a challenge. According to (1), the diet of an average Nigerian is about 20 per cent less animal protein than the recommended daily

requirements. Due to their high essential amino-acid profile, animal proteins are quality food components required for the healthy functioning of the body cells and metabolic systems of humans. Though they are from different sources, the demand for and acceptability of animal protein foods are

influenced by the consumer's perception of the sensory qualities, nutritional contents and prices (2, 3, 4). Similarly, the patronage and consumption of animal-sourced foods could be influenced by an individual's purchasing power, socioeconomic status, cultural background and relative perception of their nutritional needs. Highly recognized animal-protein foods from livestock are meat, which could be from cattle, sheep, goat, poultry, pig, rabbit, etc. Others are of aquatic origin, especially fish. The demand for meats rises as disposable income increases (5). However, preferential consumption holds for meats as a source of animal protein due to variations in nutritional contents, sensory qualities and price (6, 7, 8). There is a paradigm shift from red meat intake to fish because of the need to reduce animal fat consumption and saturated fat intake. This is not farfetched because the increasing global health awareness of cardiovascular diseases has been associated with the intake of red meat (9, 10, 11). As a result, there has been a significant increase in the purchasing and consumption patterns of fish as animal-sourced foods among the average Nigerians to combat food security and malnutrition (12, 13). Demand for fish in Nigeria is higher than the level of production (14, 15). As a follow-up, (16) reported that Nigerians spend more of their disposable income on fish than other animal-sourced food. Fish is a cheaper and more accessible animal-sourced food compared to meat when consumers' disposable income is dwindling. Chicken eggs have also been identified as a high-quality animal-sourced food (17), with rapidly digestible proteins and other essential nutrients that are required by human beings of all age groups. Despite the misconceptions and negative perceptions that the consumption of eggs leads to an increase in

plasma cholesterol levels or cardiovascular diseases (18), consumers' preferences for eggs continue to increase because they are cheaper compared with other sources of animal proteins. The University of Ibadan Community is one of the several Universities in Nigeria, where consumers are conscious of the hygienic environment where the animal-sourced food they consume is processed and packaged for sale. Such an awareness over the years has increased the number of consumers who patronize the UishopweL, University of Ibadan, to buy animal-sourced foods. The purchasing patterns of beef, consumers' preferences and perception of chicken meats and demand for white meats among the Staff and Students of the University of Ibadan, Nigeria have been documented (2, 19, 20). However, there is a paucity of information on purchasing patterns of different animal protein sources (fish, red meat chicken and eggs) sold at the UishopweL and Meat Shop, University of Ibadan. Therefore, this study aims to provide empirical information on purchasing patterns of animal protein types based on days and purchase frequency.

Material and Methods

Location of the study, data collection and statistical analysis

The study was conducted at the UishopweL of the University of Ibadan, Ibadan. The University is the oldest degree awarding Institution in Nigeria, has a student population of about 41,743,000, a total staff strength of 5,339 and is made up of 92 Academic Departments which are organized into 17 Faculties. The UishopweL provides for the essential needs (food) of the members of staff, students and the general populace. The retail outlets operate from 8 am to 6 pm

on Mondays to Saturdays. Data from the sales of different Animal protein types in UishopweL over 8 months (228 days) were collated and used to assess the trends of purchases based on quantity and days/frequency (weeks) by consumers. Data collected were analyzed and interpreted using descriptive statistics (Statistical Package for Social Science, SPSS- Version 25).

Results and Discussion

The mean daily purchase pattern of animal protein types at the UishopweL (Figure 1) is significantly different ($p < 0.05$). The pattern of purchases every day revealed that the patronage for animal proteins on Wednesday and Friday was similar, likewise for Monday, Tuesday and Thursday. However, the quantity of animal protein types purchased was highest on Wednesdays (613.24kg),

closely followed on Fridays (513.82kg) and lowest on Saturdays (169.44kg). The non-significant difference and higher daily purchase of animal protein on Wednesday and Friday than other days of the week was because they are the main slaughtering days of animals at UishopweL. The customers have pre-knowledge of these days via advertisements aired on the radio, as well as short messages (SMS) sent to mobile phones of those who have patronized UishopweL at one time. As a result, customers seize the opportunity to buy other goods of choice which other protein sources are included when they come in to pick the red meat they booked for. This agrees with (21) who opined that advertisements create awareness and needs in consumers which propel them to demand commodities and influence their purchasing patterns.

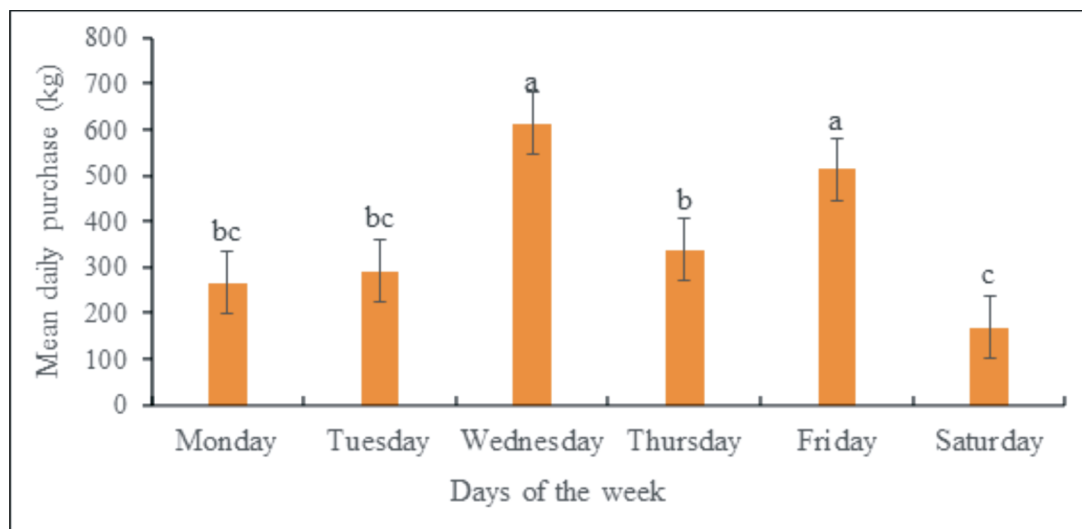


Figure 1: Daily purchase pattern of animal protein types at UishopweL by consumers

Regarding the quantity of animal protein types sold daily during the week at the UishopweL, meat was the most purchased while fresh fish was the least (Figure 2).

Higher quantities of iced fish, dried fish, fresh fish and meat were purchased on Wednesdays and Fridays than on other days of the week. This could also be due to

customers' awareness of the days of slaughtering and desire to collect their meat fresh because they are largely in the working class group who prefer to buy fresh foods to cook or preserve for later consumption. This

agrees with (22) who affirmed that how fresh a food product is, is a strong determinant of consumers' preferences before price, quality, variety, packaging and non-seasonality in availability.

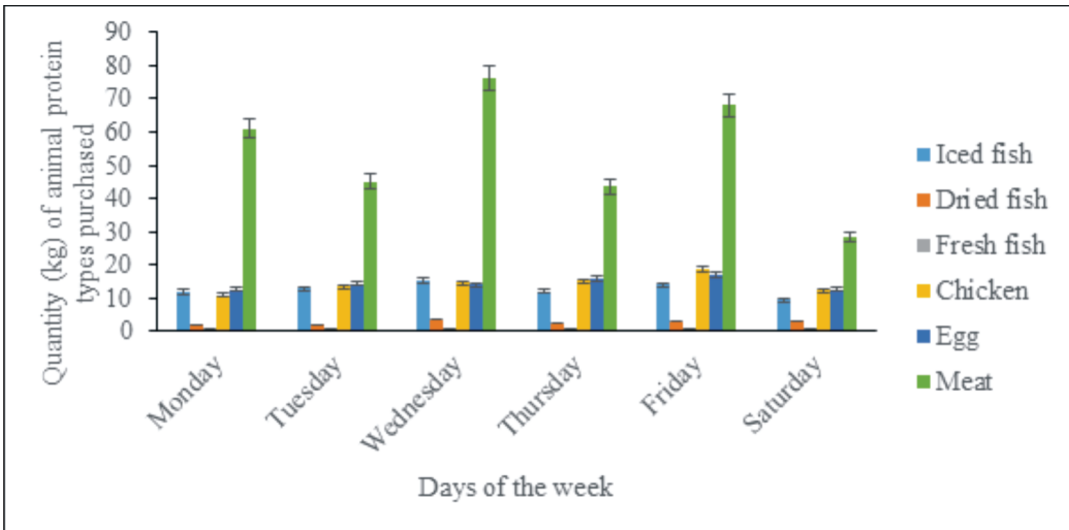


Figure 2: Animal protein types (kg) purchased daily at UishopweL

The mean daily and number of days in a week that customers purchased different animal protein types at UishopweL is presented in Table 1. The trend of daily purchases showed a pattern in which red meat was higher than other animal protein types. The purchase of chicken, egg and iced fish was virtually every day (6) of the week while red meat (59.76kg) which was the highest quantity of animal protein types purchased in 3 days per week accounted for over 41% of the animal proteins patronized at the UishopweL. The highest patronage for red meat among other animal protein types as revealed from this study could be attributed to consumer's higher preferences for red meat based on perceived assumptions that it is richer in protein, more nutritious and appetizing (in terms of taste and juiciness) than other

animal proteins (23, 6). Eggs and chicken were the next patronized after red meat probably because of the consumer's perception that chicken is palatable (2), lower in fat content than pork and rich in proteins with other essential vitamins (24, 25). In addition, chicken eggs are cheaper, and have a high biological value (17). The lower mean daily purchase of fresh fish compared to red meat, chicken and egg in this study is contrary to several reports that most households' expenditure in Nigeria was more on fish than other animal-sourced proteins (26,27, 16).

Table 2 shows the frequency of patronage (days) and mean daily purchase of red meat types by customers at UishopweL. There were significant differences in the types of

Table 1: Mean daily purchase (\pm sem) of animal protein types at UishopweL

Animal Protein type	Daily patronage	
	Mean daily purchase (kg/day)	Number of days per week
Iced fish	12.60 \pm 0.49 ^b	6
Dried fish	2.81 \pm 0.30 ^c	1
Fresh fish (captured fish in ponds/rivers)	0.78 \pm 0.06 ^c	4
Chicken (white meat)	14.16 \pm 0.60 ^b	6
Egg	14.51 \pm 0.65 ^b	6
Meat (red meat)	59.76 \pm 4.17 ^a	3

^{abc}= Means with different superscripts along the column differ significantly ($p < 0.05$)

red meat purchased daily by customers. Beef had the highest (74.12 Kg) mean daily purchase and frequency of occurrence of daily patronage (81 out of the 228 days) while chevon had the lowest (7.14 Kg) quantity of patronage in (6) who reported that beef was the most patronized red meat because it is the most affordable, preferred at ceremonies and convenient to cook. Higher patronage for beef in this study also aligns

with the findings of (19) who reported that larger quantities of beef were purchased by customers. Lower patronage days and a kilogram of chevon purchased might be due to the high price being leaner meat than other red meats, lesser edible tissue/ muscle compared to beef, and largely, the “goaty odour” or off flavour which limits its consumption by some individuals (28).

Table 2: Frequency of days (n= 228) and mean daily purchase (\pm sd) of red meat at UishopweL

Red meat type	Days	Patronage
		Daily purchase (kg)
Beef	81	74.12 \pm 35.27 ^a
Mutton	61	8.42 \pm 4.30 ^b
Chevon	33	7.14 \pm 5.37 ^b

^{ab}= Means with different superscripts along the column are significantly different ($p < 0.05$)

Conclusion and Applications

Of all the animal protein types (iced, dried and fresh fish, chicken, egg and red meat) available at the UishopweL for sale during the period of this study,

1. Daily purchases of animal protein types were higher on Wednesdays and Fridays than on other days.
2. Red meat, particularly beef, was the most patronized by customers.

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