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Preference and purchasing behaviour of fruits and vegetables among households in Ibadan metropolis, Oyo State, Nigeria

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ABSTRACT

This study analyzed consumer preferences, purchasing behaviour for fruits and vegetables and their socioeconomic determinants among households in Ibadan metropolis, Oyo State, Nigeria. A multistage sampling technique was employed to obtain data from 120 respondents from three LGAs in Ibadan metropolis. The data were collected via well-structured questionnaire and analyzed using descriptive statistics and Poisson regression model. The results revealed that majority of respondents were male, married, with an average age of 46 years. Weekly fruit and vegetable expenditures averaged ₦4,000 and ₦3,700. Most learned about health benefits from professionals, with apple and leafy vegetables being most preferred. The significant factors affecting fruit expenditure were frequency of purchase, marital status, and spouse's income. For vegetable expenditure, they were frequency of purchase, household head's occupation, spouse's income, food expenditure, and vegetable prices. Additionally, the frequency of fruit and vegetable purchases was influenced by household head's age, occupation, marital status, spouse's income, and food and non-food expenditures. The study concludes that marital status, income, and purchase frequency significantly affect fruit and vegetable expenditures. To promote healthier eating habits, it is essential to raise awareness about the numerous health benefits of consuming fruits and vegetables. Additionally, efforts should be made to increase access to these nutritious foods by reducing their cost, making them more affordable for everyone, particularly low-income households.

Keywords: Poisson regression; fruits; vegetables; consumer preference

INTRODUCTION

In Nigeria, fresh fruits and vegetables are common owing to their high patronage, and they are available in large amounts in various cities, towns, and villages (Odewale *et al.*, 2023). However, owing to their high water content and tender texture, fresh fruits and vegetables are accessible only seasonally and are difficult to preserve, and their exposure can make them vulnerable as carriers of food-borne diseases (Giancaterino *et al*., 2024; Odewale *et al.*, 2023). Hence, their consumption and marketing have become difficult owing to the

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current technological state of the country and the instability of electricity, which could be overcome through increasing investment in storage facilities and the provision of stable electricity. However, owing to the socioeconomic diversity of consumers in Nigeria, these interventions may not facilitate the purchase of fruits and vegetables. To reduce the prevalence of chronic food-related noncommunicable diseases, there is a need to promote sustainable and healthy dietary patterns.

According to the World Health Organization (WHO), the global prevalence of chronic lifestyle diseases (such as obesity, cardiovascular disease, cancer, and type 2 diabetes) will increase from 49% in 2005 to 56% in 2030, and the most significant increase is forecasted for Africa and East Mediterranean regions. This increase is due to unhealthy ways of living, such as unhealthy eating habits, smoking, and a lack of exercise. Changes in nutrition and lifestyle are significant causes of the early onset of chronic lifestyle diseases in the adult population at a younger age in developing countries (McKenzie *et al*., 2020). Among the various changes in dietary patterns, inadequate intake of fruits and vegetables has been identified as a major threat to health and is the fundamental recommendation of a healthy diet (Harper, 2020). Therefore, the global public health policy needs to prioritize the promotion of vegetable consumption because the consumption of fewer fruits and vegetables facilitates greater rates of cancer and heart disease as well as a shorter lifespan (Hartwell *et al*., 2024; Williams *et al*., 2018).

The World Health Organization (WHO), Food and Agriculture Organization (FAO), and Centers for Disease Control and Prevention (CDC) strongly recommend the consumption of additional fresh fruits and vegetables (Mahmoud, 2019). According to available data, fruits and vegetables have the greatest impact on preventing cardiovascular diseases (CVDs), with a nonlinear threshold effect of 800 g daily (or approximately five servings per day) (Wallace *et al*., 2020). Fruits and vegetables can potentially reduce adverse effects on the environment through reduced water use, greenhouse gas emissions, and land use, as well as lessening the risk of diet-related noncommunicable diseases (NCDs) relative to animal-source diets, thereby contributing to sustainability. Sufficient intake of fruits and vegetables is basic to a healthy balanced diet; however, the current consumption of the recommended quantity is poor worldwide (Hartwell *et al*., 2024; Wallace *et al*., 2020), especially in Southeast Asia and Africa (Mensah *et al*., 2021; Stadlmayr *et al*., 2023).

In Nigeria, the consumption of fruits and vegetables is low; for example, only approximately 8% and 6%, respectively, consume them every day (Babangida *et al*., 2023). As a result of availability, accessibility, price and food choices, consuming adequate fruits and vegetables may be difficult for some populations (Kalmpourtzidou *et al*., 2020). However, some fruits and vegetables are readily available in Nigerian markets that low-income people seem to access easily. These include garlic, cashews, almonds, fruits (such as papaya, mango, avocado, and watermelon), vegetables, potatoes (rich in potassium, magnesium, and fiber), bananas (high in potassium), beans and cowpeas (nutritious and full of soluble fiber, magnesium, and potassium) and almonds (Babangida *et al*., 2023).

Fruit and vegetable consumption and demand have been the targets of many researchers over the years in developing countries such as Nigeria (Banwat *et al*., 2012; Layade & Adeoye, 2014; Ilesanmi *et al*., 2014; Adenegan *et al*., 2016; Oyedele *et al*., 2016; Obayelu *et al*., 2019; De Filippo *et al*., 2021). However, few studies have focused on the purchasing behaviour of fruits and vegetables in Nigeria (Adeoye *et al*., 2016; Stadlmayr *et al*., 2023). Therefore, the need to study the purchasing behaviour of fruits and vegetables in Nigeria becomes germane. To develop effective approaches to increase fruit and vegetable

consumption, it is essential to understand the factors influencing consumer behaviour. Since consumer preference and purchasing behaviour vary across socioeconomic features, so does their pattern of consumption. Therefore, analysis of preferences and purchasing behaviour will allow policymakers, producers and marketers of fruits and vegetables to identify the right and effective approaches to advocate for increasing the intake of fruits and vegetables and navigating markets to meet consumer needs.

METHODOLOGY

The Study Area

The study was conducted in Ibadan metropolis, Oyo state, Nigeria. Ibadan is the capital city of Oyo state in the southwest geopolitical zone of Nigeria, the largest city in Oyo state with approximately 3,649,000 people as of 2021, across a land mass of 28,454 Km^2, and the third largest metropolitan region by population after Lagos and Kano. It is located within latitude 7° 22' 39.22" N and longitude 3° 54' 21.28" E. Based on 2022 UN Human Settlements Research Program data, Ibadan is the second fastest expanding city in Africa. The major inhabitants of the city are Yoruba and other tribes, such as Hausa and Igbo. Ibadan is situated approximately 120 km east of Nigeria's international border with the Republic of Benin and 119 km northeast of Lagos; this proximity is essential to its economic activities. The Ibadan Metropolitan Area has 11 LGAs, of which five are urban and six are semiurban, located in the less populated areas of the city. There is a high level of education among the dwellers, which might be a result of the presence of several higher institutions, such as the University of Ibadan and Lead City University among several others. The city has an active and growing economy with a significant hub for trade in cassava, cocoa, cotton, rubber, and palm oil because of its advantageous location on the railway line that connects Lagos and Kano.

Source and Method of Data Collection

Primary data collected across various socioeconomic groups through a well-structured questionnaire were used for the study. This was accomplished with the aid of a kobotool box, which enabled us to have access to respondents both physically and virtually.

Sampling Technique and Sample Size

The multistage sampling technique was adopted to select respondents for the study. At the initial stage, three (3) local government areas (LGAs) out of the eleven (11) LGAs in the city were selected via a table of random numbers. These LGAs are Ido, Ibadan Southwest and Ibadan Northwest. This was followed by a proportional random selection of 12 wards from the 3 selected LGAs on the basis of the number of wards in each selected local government: 5 wards out of 12 in Ibadan Southwest, 4 out of 11 in Ibadan Northwest and 3 out of 6 in Ido. Finally, 10 households from each ward were selected via systematic random sampling, resulting in a total of 120 households. The selected households were from Apete, Siba, Akinwaare, Idikan, Oke-seni, Abebi, Idioro, Adagbada, Ogunpa, Oketedo, Adeoye, Ayorinde, Oja oba, Oke Ado, Adeoyo, Apata, and Molete. After data cleaning, 108 of these

questionnaires were used for the analysis, as some questionnaires lacked the information needed for this study. This resulted in a 90% response rate.

Methods of Data Analysis

Descriptive statistics was used to describe the socioeconomic characteristics of the respondents, level and sources of awareness, consumer purchasing behavior, preferential consumption and location of purchase of fruits and vegetables. The frequency of purchase per week was recorded for the selected fruits and vegetables.

The Poisson regression model was used to assess the socioeconomic determinants of the purchasing behaviour of fruits and vegetables (i.e., the frequency of purchase). The Poisson regression model was specified owing to its appropriateness in estimating count data, as it is a nonlinear regression model (Mensah-Bonsu *et al.*, 2017). In this model, a scalar dependent variable is linked to independent variables, following Chekol *et al.* (2022). This can be expressed as:

$$P(Y_i = y_i,\mu) = \frac{e^{-\mu_i}\mu^{y}}{y_i!}, \mu_i > 0, i = 1,2,3 \ldots \ldots \qquad Eq.1$$

Equation 1 can be specified as:

$$\mu = exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki}) \qquad Eq.2$$

Where y_i is the value of the count outcome occurring at a time with a mean parameter μ_i; μ is the mean and variance of the Poisson distribution, which is assumed to be a nonlinear function of the explanatory variables; βs are the intercept and the coefficients of the (estimated parameters as the maximum likelihood function) regressors; and K represents the number of regressors.

The dependent variable (y) is the frequency of purchase of fruits and vegetables per week. The analysis was performed separately for fruits and vegetables.

The explanatory variables used in the study are as follows:

X_1 = Age (Years),
X = Sex (Dummy: 1 if male; 0, otherwise)
X_3 = Marital status (Dummy: 1 if married; 0, otherwise)
X_4 = Household size (Number)
X_5 = Major occupation of the household head (Dummy: 1 if civil service; 0, otherwise)
X_6 = Monthly income of the household head (Naira)
X_7 = Monthly income of spouse (Naira)
X_8 = Monthly food expenditure (Naira)
X_9 = Monthly non-food expenditure (Naira)
X_{10} = Education (Years spent in school)
X_{11} = Awareness of health benefits (Dummy: 1 if yes; 0, otherwise)
X_{12} = Average fruit/vegetable price (Naira)

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Household Head

The study outlines socioeconomic characteristics in Tables 1 and 2. Most household heads (63%) are aged 31-50 years, with an average age of 46. This suggests that household heads are predominantly in their economically active years, thus supporting the findings of Aturamu and Owoeye (2022), who reported a mean age of 45 years.

Table 1: Socioeconomic characteristics of household heads

Variable	Frequency	Percent	Mean
Age of household head (years)			
≤ 30	7	6.5	46.31
31 – 50	68	63.0	
Above 50	33	30.6	
Sex of household head			
Female	33	30.6	
Male	75	69.4	
Marital status			
Married	92	85.2	
Single	7	6.5	
Widowed	9	8.3	
Religion			
Christianity	42	38.9	
Islam	66	61.1	
Household size			
≤ 4	29	26.9	5.71
5 – 8	67	62.0	
9 – 12	7	6.5	
Above 12	5	4.6	
Education			
BSc/HND	47	43.5	
Masters/PhD	38	35.2	
ND/NCE	19	17.6	
Secondary Education	3	2.8	
Others	1	0.9	
Major occupation of household head			
Civil Service	73	67.6	
Artisan	9	8.3	
Farming	4	3.7	
Trading	18	16.6	
Others	4	3.7	
Major occupation of spouse			
Civil Service	49	45.4	
Artisan	8	7.4	
Farming	6	5.6	
Trading	42	38.9	
Others	3	2.8	
Total	108	100	

Table 2: Distribution of household income and food expenditure

Variables	Frequency	Percent	Mean
Household head's monthly income			
≤ 100000	83	76.9	167611.11
100001 – 150000	12	11.1	
above 150000	13	12.1	
Spouse monthly income			
≤ 100000	76	70.4	111750
100001 – 150000	14	13.0	
above 150000	18	16.6	
Weekly fruit expenditure			
≤ 5000	75	69.5	4072.50
5001 – 10000	26	24.1	
above 10000	7	6.5	
Weekly vegetable expenditure			
≤ 5000	87	80.6	3735.65
5001 – 10000	16	14.8	
above 10000	5	4.6	
Weekly food expenditure			
≤ 50000	83	76.9	37763.89
50001 – 100000	20	18.5	
Above 100000	5	4.6	
Total weekly expenditure			
≤ 50000	49	45.4	76004.63
50001 – 100000	38	35.2	
100001 – 150000	8	7.4	
Above 150000	13	12.0	
Frequency of purchase of fruits			
once a week	9	8.3	
2 - 3 times per week	11	10.2	
4 - 6 times per week	23	21.3	
at least once-a-day	65	60.2	
Frequency of purchase of vegetable			
Daily	20	18.5	
at least twice a week	54	50.0	
more than twice a week	34	31.5	
Total	108	100	

Source: Field survey, 2023

The majority of household heads are male, accounting for 69.4%, and 85.2% are married. The average household size is 6 persons, indicating the predominance of large households, which are mainly civil servants (67.6%). The size of a household may translate to an increase in the quantity of fruit and vegetables consumed. This result corroborates the findings of Oppong-Kyeremeh and Bannor (2021). Education levels vary, with 43.5% holding a B.Sc. or HND degrees and 35.2% with M.Sc. and PhD. Civil servants constitute the majority (67.6%) of the household heads with varied spousal occupations, such as civil servants (45.4%) and traders (38.9%). This supports the position of Oyibo and Odebode

(2024) and Oyibo (2020) who in their studies reported a similar trend in household head and spousal occupations.

Distribution of Household Income and Food Expenditure

The majority (76.9%) of the households in Table 2 earn less than or exactly ₦100,000 monthly, with most spouses also earning in this range. This suggests a predominantly middle-income group. The average household head income was ₦167,611.11, differing from the findings of Aturamu and Owoeye (2022), with a mean value of ₦67,571.43 in Ekiti, State. Despite this, increased income from both heads and spouses is expected to increase the purchasing power for fruits and vegetables. Weekly expenditure on fruits (₦44072.50) exceeds that on vegetables (₦3735.65), reflecting a preference for affordable options. This finding supports the works of Soar *et al.* (2020) and Florkowski *et al*. (2014), with an identified increase in fruit consumption and expenditure relative to that of vegetables. The average weekly food expenditure was ₦37,763.89, with the majority (76.9%) spending below ₦50,000, indicating budget-conscious shopping. While a small (4.6%) affluent segment exists, most households prioritize economical food choices. Fruit and vegetable purchases occur frequently and are driven by perceived health benefits, with increased consumption linked to awareness of these benefits.

Weekly Fruit and Vegetable Expenditure and Frequency of Purchase

Table 3 illustrates significant findings regarding fruit and vegetable expenditures and their frequency of purchase.

Table 3: Weekly fruits and vegetables expenditure and frequency of purchase

Fruits	Expenditure	% of Expenditure	Frequency of Purchase
Pawpaw	255.09	6.26	0.87
Apple	794.26	19.50	2.00
Orange	483.33	11.87	1.69
Mango	110.65	2.72	0.75
Cashew	79.17	1.94	0.50
Watermelon	957.87	23.52	1.90
Cucumber	393.52	9.66	1.09
Pineapple	407.87	10.02	0.70
Banana	590.74	14.51	1.52
Mean	4072.50		
Vegetables			
Tomatoes	1558.80	41.73	3.19
Okra	354.17	9.48	1.59
Onions	984.26	26.35	2.98
Leafy vegetables	838.43	22.44	3.75
Mean	3735.65		

Source: Field Survey, 2023

Watermelons constitute the most prominent fruit expenditure, constituting 23.52% of the total fruit expenditure, likely because of their refreshing nature. Apples follow closely, representing 19.50% of fruit expenditure, possibly attributed to perceived health benefits. Various fruits, including oranges and bananas, showcase diverse palate preferences. While mangoes and cashews reflect budget-conscious choices, the pawpaw maintains moderate popularity as it was reported to gulp 6.26% of the total fruit expenditure. Tomatoes dominate vegetable expenditures (41.73%) and are versatile in culinary use, followed by onions (26.35%) and leafy vegetables (22.40%). Despite lower expenditures, leafy vegetables contribute significantly to the total. This suggests a steady demand for these items, albeit at a more economical scale. The mean fruit (₦4072.50) and vegetable (₦3735.65) expenditure underscore a balanced approach to diet, reflecting consistent demand for both food groups. This supports the position of Moore *et al.* (2016).

Fruit and Vegetable Preferences

Table 4 presents the respondents' preferences, with apple leading, likely due to its perceived health benefits and year-round availability. Watermelons are favored for their refreshing nature, especially in warm climates. This is in tandem with the work of Abdullahi *et al.* (2017) and Dube *et al.* (2021). Bananas rank third in terms of convenience and nutrition, reflecting their widespread appeal and ease of consumption. Oranges secure fourth place for their vitamin C content, indicating their popularity as a citrus fruit choice among respondents. This finding is consistent with the findings of Aturamu and Owoeye (2022), who reported that apple, watermelon, banana and citrus fruits were the most consumed fruits in their study.

Table 4: Distribution of respondents based on fruit and vegetable preferences

Fruits	Score	Rank
Apple	194	1st
Watermelon	196	2nd
Banana	215	3rd
Orange	260	4th
Cucumber	282	5th
Pawpaw	293	6th
Pineapple	303	7th
Mango	314	8th
Cashew	393	9th
Vegetables		
Leafy vegetables	187	1st
Tomatoes	189	2nd
Onions	218	3rd
Okra	277	4th

Source: Field Survey, 2023

Cucumber, which is often used in salads, ranks fifth, whereas the natural sweetness of pawpaw places it sixth. Pineapple and mangoes were subsequently evaluated for their unique flavors in both fresh and processed forms. Cashew ranks last, possibly because of its

association with nuts and its limited availability. Leafy vegetables are among the top vegetable preferences, with an emphasis on nutrition. Tomatoes and onions rank second and third, respectively, in terms of their culinary versatility. Okra takes fourth place, highlighting its popularity in local cuisine. These suggest that initiatives aimed at promoting nutrition and food security should prioritize the cultivation and distribution of leafy greens, tomatoes, onions, and okra. By supporting the production and availability of these in-demand vegetables, policymakers can help ensure that communities have access to nutritious food options that align with their culinary traditions. These findings corroborate the works of Randhawa *et al.* (2015), Waheed *et al.* (2020), and Ali *et al.* (2020).

Factors that Influence Preference for Fruits and Vegetables

Table 5 reveals the key factors influencing respondents' preferences for fruits and vegetables. Taste emerges as the top priority, emphasizing the importance of flavor and palatability. This aligns with the fundamental concept that sensory appeal significantly influences dietary preferences, thus supporting the findings of Drewnowski and Monsivais (2020) and Mahajan and Chavan (2019). Availability follows, highlighting the importance of consistent access to fresh produce, especially perishable items, which has been crucial in encouraging regular consumption. This finding corroborates the work of Leite *et al.* (2018), whose results revealed a positive relationship between food availability and consumption. Healthiness ranks third, indicating awareness of nutritional benefits associated with fruits and vegetables, whereas nutrient content, which ranks fourth, underscores the importance of the specific nutritional value of fruits and vegetables and indicates an informed consumer base that considers the nutritional composition of their food choices. This aligns with the findings of Morgan *et al.* (2016), whose results showed that their respondents understood the nutrient significance of fruit and vegetable intake. Price ranks fifth, indicating that while respondents value affordability, it is not the primary determinant of their fruit and vegetable preferences. This suggests that while cost is a consideration, it is not a major barrier for most respondents, allowing for a diverse range of fruits and vegetables to be accessible to the community. This contradicts the position of Mahajan and Chavan (2019), with price being a major determinant influencing fruit and vegetable consumption. Income plays a role but does not strongly affect preferences. This means that although income influences the spending power of households, other factors such as taste, availability, and healthiness, carry more weight in shaping preferences within the studied population. Peer influence has a minimal impact on respondents' fruit and vegetable choices and thus ranked seventh.

Table 5: Factors that influence preference for fruits and vegetables

Factors	Score	Rank
Taste	182	1st
Availability	199	2nd
Healthiness	202	3rd
Nutrient	207	4th
Price	277	5th
Income	312	6th
Peer influence	414	7th

Source: Field Survey, 2023

Distribution of Fruit Purchasing Points

The distribution of fruit purchases among respondents is outlined in Table 6, revealing notable trends in buying behavior. Supermarkets emerge as the least favored option. Consumers valuing supermarkets for their adherence to quality standards and the assurance of fresh produce as a norm, the finding goes against the norm. This disagrees with the position of Ositade *et al.* (2021) who opined that consumers who prefer to purchase fruits and vegetables at the supermarket tend to have access to nutritious ones as well as varieties at one stop. Roadside vendors also attract a significant customer base, offering locally sourced fruits at competitive prices and appealing to budget-conscious consumers. This preference underscores a desire for fresh, affordable options. This result is in tandem with that of Abdullahi *et al.* (2017), whose respondents also preferred purchasing on the road side.

Table 6: Distribution of fruit purchasing points

Location		Frequency	Percent
Pineapple			
Supermarket	Yes	32	29.6
Roadside vendor	Yes	66	61.1
Local market	Yes	66	61.1
Watermelon			
Supermarket	Yes	87	80.6
Roadside vendor	Yes	86	79.6
Local market	Yes	96	88.9
Mango			
Supermarket	Yes	23	21.3
Roadside vendor	Yes	73	67.6
Local market	Yes	84	77.8
Banana			
Supermarket	Yes	36	33.3
Roadside vendor	Yes	79	73.1
Local market	Yes	83	76.9
Apple			
Supermarket	Yes	63	58.3
Roadside vendor	Yes	82	75.9
Local market	Yes	77	71.3
Orange			
Supermarket	Yes	31	28.7
Roadside vendor	Yes	94	87.0
Local market	Yes	84	77.8
Pawpaw			
Supermarket	Yes	22	20.4
Roadside vendor	Yes	65	60.2
Local market	Yes	80	74.1
Total		108	100

Source: Field Survey, 2023

Local markets remain the most popular due to their communal atmosphere, direct interaction with farmers, and support for the local economy. These markets offer seasonal and regional produce, catering to specific community preferences and fostering a sense of community engagement. Overall, consumers prioritize convenience, affordability, and community support in their fruit-buying decisions.

Distribution of Points of Purchase of Vegetables

Majority of respondents prefer local market for purchasing their vegetables. This was followed by roadside vendors, offering fresh, locally sourced produce at competitive prices and finally the supermarket. Local markets attract consumers for a variety of vegetables, emphasize community engagement, support local farmers, and contribute to the neighborhood economy. They also preserve local agricultural traditions, promote seasonal produce, and foster social connections, offering lower prices than other sources do.

Table 7: Distribution of the purchasing points of vegetables

Location		Frequency	Percentage
Okra			
Supermarket	Yes	22	20.4
Roadside vendor	Yes	67	62.0
Local market	Yes	93	86.1
Onions			
Supermarket	Yes	29	26.9
Roadside vendor	Yes	84	77.8
Local market	Yes	101	93.5
Tomatoes			
Supermarket	Yes	53	49.1
Roadside vendor	Yes	85	78.7
Local market	Yes	99	91.7
Leafy vegetables			
Supermarket	Yes	23	21.3
Roadside vendor	Yes	23	21.3
Local market	Yes	98	90.7
Total		108	100

Determinants of the Purchasing Behaviour of Fruits and Vegetables

The study utilized Poisson regression to analyse the determinants of fruit and vegetable purchasing behaviour, and the results are presented in Table 8. The findings indicate a positive relationship between the age of household heads and the frequency of fruit and vegetable purchases, suggesting that older household heads buy these items more frequently. This supports the position of Ohen *et al.* (2014) and Stadlmayr *et al.* (2023), who reported that increasing age tends to increase the frequency of purchases but contradicts the findings of Keding *et al.* (2017), whose study revealed a negative relationship. Being married also positively influences the frequency of fruit and vegetable purchases, which is consistent

with the findings of Kabwama *et al.* (2019), whose results revealed that married or cohabiting individuals tend to consume more fruits and vegetables than their single counterparts do. Major occupation positively influences fruit purchase frequency. This is likely influenced by peer groups and occupational exposure. Conversely, spouse occupation inversely relates to fruit and vegetable buying behavior, possibly due to time constraints. Spousal incomes correlate with increased fruit and vegetable purchasing frequency, which is supported by the findings of Mustafa *et al.* (2021); Obayelu *et al.* (2022) and Odoh *et al.* (2021). Similarly, higher monthly food and non-food expenditures positively impact purchasing frequency. Additionally, higher fruit prices correlate with increased fruit purchasing frequency, possibly driven by a preference for quality products regardless of price. These findings shed light on the complex factors influencing fruit and vegetable purchasing behavior thereby providing valuable insights for policymakers and stakeholders to promote healthy eating habits.

Table 8: Determinants of the purchasing behaviour of fruit and vegetables

	Fruits		Vegetables	
Frequency of Purchase	Coef.	Std. Err.	Coef.	Std. Err.
Age of household head	0.0101***	0.0037	0.0080**	0.0035
Sex	-0.0855	0.0722	-0.0514	0.0708
Marital Status	0.3448***	0.1041	0.2350**	0.0937
Household size	0.0063	0.0135	0.0019	0.0131
Major occupation of household head	0.2683***	0.0702	0.0287	0.0674
Major occupation of spouse	-0.2587***	0.0895	-0.2089**	0.0847
Monthly income of household head	0.0000	0.0000	0.0000*	0.0000
Monthly income of spouse	0.0000**	0.0000	0.0000***	0.0000
Monthly food expenditure	0.0000***	0.0000	0.0000***	0.0000
Monthly nonfood expenditure	0.0000***	0.0000	0.0000**	0.0000
Education	0.1408	0.2090	0.0396	0.1815
Awareness	0.7150	0.4614	0.3320	0.3341
Average fruit price	0.0013***	0.0001	0.0003**	0.0001
Constant	0.4956	0.5390	1.5289***	0.4168
Number of observations	108.0000		108.0000	
LR chi2(13)	190.2700		190.2700	
Prob > chi2	0.0000		0.0000	
Pseudo R2	0.1799		0.1799	
Log likelihood	-433.6811		-433.6811	

Source: Field Survey, 2023

CONCLUSION

There is a disparity between preferences and actual purchasing habits despite notable consumer awareness of the nutritional benefits of fruits and vegetables. Although apples and leafy vegetables are the most preferred options, they do not top the list of most purchased items. The majority of purchases are made at local markets and roadside vendors. Factors such as monthly income, and prices significantly influence fruit and vegetable expenditures, whereas determinants of purchase frequency include age, marital status, expenditure, and prices. The study recommends supporting local farmers in cultivating diverse fruits and vegetables by providing access to resources and market information. Additionally, there is a

need for increased awareness campaigns highlighting the nutritional benefits of these items. Furthermore, policy interventions aimed at enhancing household income-generating capabilities should be explored to ensure that consumers have the necessary purchasing power to afford these goods, aligning preferences with actual consumption patterns.

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