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EVALUATION OF CONSUMERS' PREFERENCE FOR HONEY IN SOUTHERN KADUNA, NIGERIA

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ABSTRACT: The study examined the consumers' preference for honey in Southern Kaduna, Nigeria. Data were collected with the aid of a structured questionnaire using multi-stage sampling procedure. The data were analyzed using descriptive statistics. The mean age and household size of the respondents were 39 years and 5 persons respectively. Seventy percent of the respondents were aware of the health benefits of honey and consumed honey. Majority (88%) of the consumers preferred honey to other sweeteners with local honey being commonly consumed. Supermarkets (39 %) and local markets (32 %) were the common points of purchase. The preferred attributes considered in the purchase of honey were: quality of honey (92 %), packaging (62 %), labeling (46 %) and price (23 %). Household size (0.4415), health benefit awareness (1.9660) and quality (0.9740) significantly ($p < 0.05$) influenced consumers' preference for honey. The study recommends that local honey processors and distributors should be improve on the quality, packaging and labeling of honey in Nigeria.

Key words: Honey, preference, packaging, labeling and quality.

1. INTRODUCTION

Honey is a natural sweet viscous liquid product which is produced by bees from the nectar or secretion of flower plants. According to United States Development of Agriculture (2013), honey is a mixture of different compounds including sugars mainly fructose and glucose and other carbohydrates, water, trace amount of vitamins and minerals and other compounds. It is a source of vitamin B2, vitamin B6, iron and manganese (Abah *et al.*, 2022; Vicent *et al.*, 2019). Averagely, natural honey is composed of 17.1% water, 82.4 % carbohydrates (approximately 38.5% fructose, 31% glucose and 12.9 % other sugars) and 0.5% proteins, amino acids, vitamins, phenolic compounds, organic acids and multiple minerals, among other minority constituents (Nissang, 2021). Honey is known for its pleasant taste, sticky, yellowishbrown in colour. It is used in sweetening and flavoring foods as well as beverages. Honey provides substantial energy when taken and has antibacterial properties (Yemi, 2004).

According to African Development Community trade (ADC-Trade, 2022), developing countries are the

major honey producers while the developed countries are the largest consumers. Europe has the largest consumers of honey in the world while the consumption in Africa is low. In Nigeria, there is an increase in the demand and consumption of honey due to the nutritional and medicinal benefits. However, consumers are exposed to various commodities which tend to change their preferences. Consequently, food industries are confronted with the challenge of developing food products that will meet the needs of consumers. Hence, consumer preference evaluation provides important information on acceptability of a commodity by consumers. It is useful in identifying the reasons behind the various decisions made which is basic to meeting consumers' satisfaction in agribusiness (Nissang, 2021). Furthermore, information on consumers' preference plays a key role in food industries development. Analysis of consumer preferences is useful in the design or upgrading of products and services, thereby offering new opportunities in agribusiness.

It has been noted that consumers exhibit different behavior concerning the purchase of goods, which is

associated with their personal characteristics and the product attributes. Consumers' behavior in the market is influenced by both external and internal (psychological) factors. These include demographic, economic, geographic, sociological factors (Zira and Ghide, 2013). In the eastern part of Hungary, Vanden *et al.* (2011) found that the most important criteria in all groups of consumers when it comes to honey purchase were: quality, price, type of honey and quality of packaging. According to Mark *et al.* (2020), the important factors taken into consideration by Irish consumers in the purchase of honey were the price, texture of honey, packaging, scale of production and color. Irish consumers of honey were found to be price-conscious, deriving higher utility from lower priced versions of the product. The sensitivity was also reflected on consumers' preference for larger packaging and a thicker texture with dark golden color. However, information gaps remain with regard to consumer preference for honey and the influencing factors in Nigeria. Hence, this study examines consumers' preference for honey and its attributes in Southern Kaduna, Nigeria. Specifically, the study examined the consumption of honey in the study area; identified the common point of purchase, analyzed the consumers' preference for honey with the preferred attributes and factors influencing honey preference in the study area.

2. MATERIALS AND METHODS

The study was carried out in the southern part of Kaduna State. It covers a land area of about 37,872km² which lies between latitude 9° N and 10°15'N of the equator and between longitude 7°00' and 9°00'E of the Greenwich meridian. The study area shares boundaries with Nassarawa State, Niger State, Plateau State and Abuja (Kaduna State Statistics Book, 1996). The climate is characteristic of Southern Guinea savannah. It has two seasons; rain and dry seasons. The rain season is between May to October and dry season is between November to April. The mean annual rainfall ranges from 1300 mm to 1700 mm. The annual mean temperature is 25 °C and humidity 63%. (Kaduna Development plan, 2008) The population of the Southern part of Kaduna State according to the 2006 population census stand as 2,587,900, using 3.18% growth rate as allowed by the National Population commission, the projected population of Southern Kaduna stand at 3,163,967 (2013 projection), therefore by the year 2025 the Southern Kaduna population would stand at 3,575,443. Farming is the main economic activity in the study area. Over 70 % of the active populations are farmers. The increased demand for land has led to shortening of fallow periods and consequently severe degradation of the farm. (Kaduna Development plan, 2008). The major occupations of the people in the local government area are trading and civil service.

2.1. Data Collection and Sampling Procedure

Primary data were collected for the purpose of this study with the aid of a structured questionnaire. Data were collected on socioeconomic characteristics of the individuals (such as age, marital status, household size, educational level, sex, income), consumption and preference for honey, other sweeteners consumed and attributes considered in the purchase of honey. Multi-stage sampling procedure was employed in the selection of respondents. In the first stage, Southern Kaduna was purposively chosen because it ranked the second most populated Zone in the state. The second stage involved selection of five (5) Local Government Ares in the Zone while in the third stage, forty respondents were randomly selected from each LGA. Thus, a total of two hundred respondents were sampled for the study.

2.2. Analytical Techniques

Analytical techniques employed in the study include: descriptive statistics (such as mean, frequency, tables and percentage) and Probit regression model. Model Specification The probit model is a binary response model in which the response variable can take only the values 0 and 1.

The model is specified as follows:

$$Y = \beta_0 + \beta_i X_i + e_i. \text{ Where:}$$

Y = Consumers' preference for honey (1 = preferred, 0 = otherwise).

X₁ = Age (years),

X₂ = Marital status (Married = 1, otherwise = 0),

X₃ = Household size (Number),

X₄ = Educational status (Formal=1, otherwise =0),

X₅ = Sex (Male =1, Female =0),

X₆ = Income of the respondents (Naira),

X₇ = Religion (Christianity = 1, otherwise =0),

X₈ = Price of honey (Naira),

X₉ = Awareness of health benefits (Aware = 1, otherwise = 0),

X₁₀ = Quality of honey (High quality =1, otherwise =0).

ϵ = Error term.

3. RESULTS AND DISCUSSION

3.1. Socio-economic Characteristics of the Respondents

The socio-economic characteristics of the respondents are shown in Table 1. The Age distribution of respondents revealed that the majority of the respondents are in their economic active age with a mean age of 39 years. Thus, they can make independent decisions on food consumption. Male and female were represented with a slightly larger percentage of male with 52.5 %. Traditionally, most households are being headed by males and they are the breadwinners, thus, have higher influence on household food consumption decisions. Fifty-five

percent of the respondents are married while 38%, 2% and 5% of the respondents are single, divorced and widowed respectively. The results show that majority of the respondents were married and this will have an appreciable influence on their food consumption and honey purchasing decisions. Distribution according to the educational status revealed that majority (95%) of the respondents had formal education while 5% do not. Education is an important factor in defining consumer profile. It enhances awareness of the nutritional and health benefits of honey. The mean household size was 5 persons. Fifty-five percents of the respondents were civil servants, 12%, 15%, 4% and 2% were traders, medical practitioners, artisans and 14 students respectively. This showed that majority of the respondents were civil servants. The mean monthly income of the respondents was ₦240,890.00. This revealed a low level of income in the study area.

Table 1: Socio-economic Characteristics of Respondents

Variable	Frequency
Sex	
Female	95(47.5)
Male	105 (525)
Age	
<30	46 (23)
30-39	60 (30)
40-49	44 (22)
50-59	36 (18)
>60	14 (07)
Mean	39.00
Marital Status	
Single	76 (38)
Married	110(55)
Divorced	04 (02)
Widowed	10 (05)
Educational Level	
No formal	10 (05)
Primary	24 (12)
Secondary	44 (22)
Tertiary	122(61)
Household Size	
<4	96 (48)
5-8	98 (49)
>9	06 (03)
Mean	05
Primary Occupation	
Civil Service	110(55)
Trading	24 (12)
Medical Practitioner	30 (15)
Artistry	08 (04)
Student	28 (14)

Source: Field Survey,2022. values in Parentheses are percentage

3.2. Awareness of the Health Benefits of Honey

Seventy percent of the respondents were aware of the health benefits of honey while 30% lack awareness of the health benefits of honey. This revealed that awareness of the health benefits of honey was high in the study area. High awareness of health benefits is likely to influence the preference for honey in the study area.

Table 2: Awareness of the Health Benefits of Honey

Awareness	Frequency
Yes	140 (70)
No	60 (30)
Total	200 (100)

Source: Field Survey,2022. values in Parentheses are percentage

3.3. Consumption of Honey

Seventy percent of the respondents consumed honey while 30 % of the respondents do not consume honey. Among those consuming honey, 71.4% of the respondents consumed local honey while 28.6% consumed imported honey (Table 3). This shows that local honey is commonly consumed. This is in agreement with Paul and Bello (2018) that most consumers purchase honey with domestic origin. However, respondents that consumed imported honey attributed the reasons for the preference to: Hygiene, high level of processing, preservation, guaranteed quality (perceived to be unadulterated) and attractive packaging.

Table 3: Consumption of Honey

Awareness	Frequency
Consumption	
No	60 (30))
Yes	140(70)
Type Consumed	
Local	55 (71.4)
Imported	15 (28.6)

Source: Field Survey,2022. values in Parentheses are percentage

3.4. Honey Point of Purchase

Thirty-two percent of the respondents purchase their honey from the local market while 39%, 19% and 10% purchase their honey from supermarkets, hawkers and honey farms respectively (Table 4). This revealed that local markets and supermarkets served as the major points of purchase for honey consumers in the study area. The result is however not in line Zira and Ghide (2013) that honey consumers preferred to buy honey from a local producer in Michika.

Table 4: Honey Point of Purchase

Point of Purchase	Frequency
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Super Market	78 (39)
Local Market	64 (32)
Honey Farms	20 (10)
Hawkers	38 (19)
Total	200(100)

Source: Field Survey,2022. values in Parentheses are percentage

3.5. Consumers' Preference for Honey

Among the respondents consuming honey, 88 % preferred honey to other sweeteners while 12 % of the respondents preferred other sweeteners such as sugar and glucose.

Table 5 Consumers' Preference for Honey

Consumers' Preference	Frequency
Honey Preference	
Yes	176(88)
No	24(12)
Preferred attributes	
Quality	90(51.13)
Price	10 (0.06)
Packaging	40 (22.72)
Labelling	36(0.20)

Source: Field Survey,2022. values in Parentheses are percentage

The preferred attributes considered in the purchase of honey were: quality, price, packaging and labeling (Table 5). This concurs with Mark *et al.* (2020) that the important factors taken into consideration by Irish consumers in the purchase of honey were the price, texture of honey, packaging and colour.

3.6. Perception of Respondents on the Price of Honey

Considering the perception of respondents on the price of honey, 56.2% of the respondents had the opinion that honey is generally expensive, 42.4% claimed that the price of honey is generally acceptable while 1.4% of the respondents perceived honey to be cheap (Table 6). This revealed that majority of respondents had the opinion that honey is expensive in the study area. Perception of consumers on price affects their behaviour and consumption decisions. According to Yemi. (2014), price of honey affects purchases intentions of consumers in Malaysiaconsumers on price affects their behaviour and consumption decisions. According to Yemi. (2014), price of honey affects purchases intentions of consumers in Ibadan.

Table 6: Perception of Respondents on the Price of Honey

Perception	Frequency
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Expensive	82 (56.2)
Cheap	02 (01.4)
Acceptable	62 (43.8)
Total	146 (100)

Source: Field Survey,2022. values in Parentheses are percentage

3.7. Willingness to Consume Honey

Out of the twenty-seven (27) respondents that do not consume honey, 10 (37%) are willing to consume honey if there is reduction in price (50%), increase in awareness of health benefits (30%), improvement in quality (10%) and availability (10%) (Table7). This indicates that the high price of honey is the main constraint to its consumption. Hence, reduction in the price of honey will increase its consumption in the study area.

Table 7: Willingness of Respondents to consume Honey

Willingness to consume Honey	Frequency
Yes	20 (37)
No	34 (63)
<i>Motivators</i>	
Improved quality	02 (10)
Price reduction	10 (50)
Availability	02 (10)
Awareness	06 (30)

Source: Field Survey,2022. values in Parentheses are percentage

3.8. Factors Influencing Consumers' Preference for Honey

The results of the probit regression analysis (Table 8) revealed that household size (0.3304), product quality (0.9629) and awareness of the health benefits of honey (1.8550) significantly ($p < 0.05$) influenced consumers' preference for honey in the study area. Household size significantly but negatively influenced preference for honey. A unit decrease in household size will increase the likelihood of preference for honey by 33.04%. Product quality and health benefits awareness positively influenced preference for honey. This is in agreement with Yemi. (2013) that quality of product influenced purchase intentions of honey among the consumers in Ibadan. From the result, quality of honey will increase consumers' likelihood of preferring honey by 96.29% and awareness of health benefits of honey will increase likelihood of honey preference by 1.86.

Table 8: Factors Influencing Consumers' Preference for Honey

Variable	Coefficient	Standard Errors
Age	0.0457	0.0345 (1.5897)

Sex	0.3146	0.5230 (0.605)
Marital status	0.4693	0.5986 (0.8458)
Household Size	0.4415	0.2386**(2.7024)
Religion	0.2482	0.6618(0.3590)
Income	9.2089	2.7117(0.0448)
Quality	0.9740	0.5161**(2.4886)
Price	0.9415	0.6576(1.6305)
Awareness of Health Benefits	1.966	0.7070**(2.5620)
Constant	2.7674	1.3350(2.2815)
LRChi (χ^2)	39.54	
R ²	0.67	

Source: Field Survey, 2012. ** = Significant at P < 0.05; NS = Non significant; values in Parentheses are the t-values

4. CONCLUSION AND RECOMMENDATIONS

The study examined the Consumers' preference for Honey in Southern Kaduna, Nigeria. The following conclusion are made:

1. The awareness of health benefits and consumption of honey was high in the study area.
2. Local honey is commonly consumed. The major purchasing points were markets and supermarkets. More than half of the respondents had the opinion that honey is expensive.
3. Most consumers preferred honey to other sweeteners. The preferred honey attributes were quality, packaging, labeling and price.
4. Awareness of health benefits, honey quality and household size significantly influenced consumers' preference.
5. The study recommends that there should be more awareness on health benefits of honey. Local honey processors and distributors should improve on the quality, packaging and labeling of honey.

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