

PRODUCTION AND SENSORY EVALUATION OF CAKE BLENDS MADE FROM AVOCADO PULP AS A SUBSTITUTE FOR BUTTER IN JOS, PLATEAU STATE, NIGERIA.

¹Barnabas Esther Singayina, ²Julia Ngozi Mobuogwu-Osaji & ³Mohammed Lawal Umoru
¹Department of Science and Technology Education, Faculty of Education, University of Jos, Nigeria, ²Department of Home Economics, Faculty of Agriculture, Taraba State University, Jalingo, Nigeria, ³Home Economics Unit, Department of Vocational Education, Modibbo Adama University, Yola, Adamawa State, Nigeria

Email: estherbbigman@gmail.com, dumnjulia@gail.com, & umorulawal@mau.edu.ng

ABSTRACT

This study aimed at investigating the production and sensory evaluation of cake blends using avocado pulp as a substitution of butter in Jos North, Plateau State, Nigeria. An experimental research design was specifically adopted to make ground breaking discoveries for this study. The population of the study was made up of 20 respondents in the study area. There was no sampling technique employed as the entire respondents were used due to their manageable size. To achieve the aim of the study, four questions were asked. The instrument used for data collection was a structured questionnaire made up of 40 item statements. The data obtained from the respondents were analysed using frequency and percentage and were presented using clustered bar charts. The findings of the study revealed that majority of the respondents have knowledge on ingredients used in making cake from avocado pulp as 80% of them are knowledgeable about flour, butter, and eggs; 75% are knowledgeable about sugar and salt; and 65% knowledgeable about baking powder as ingredients used in making cake from avocado pulp. The sensory evaluation of the avocado pulp cake revealed that that dark color is preferred, the aroma of the cake was liked slightly, the texture of the cake rated 'good', the taste rated 'fair', and the general acceptability was liked very much. It was also found that the respondents are only aware of health benefit of avocado pulp cake for being rich in healthy fats as majority of them are not aware at all that cake made from avocado has numerous health benefits which include promoting heart health, supporting weight management, boosting nutrients absorption among others. Therefore, the study recommended that as the study revealed that majority of the respondents are not aware at all that cake made from avocado has several health benefits, there is need for public enlightenment through media platforms with respect to the health benefits of cake made from avocado pulp.

Key Words: Production, Sensory Evaluation, Avocado Pulp, Butter.

INTRODUCTION

Avocado also known as avocado pear or alligator pear is a fruit of the avocado tree and a member of the flowering plant family Lauraceae and scientifically known as (*persea Americana*). Botanically, avocado fruit is a berry with a single large seed (Aya, Mona, & Ranic, 2023). Avocados are excellent healthy food, loaded with important nutrients. It is a source of nutrients containing protein, moisture, fiber, fat and carbohydrate and high energy value. Avocados are often referred to as "superfood" which means foods that are beneficial to human health due to their high levels of nutrients and/or bioactive phytochemicals such as antioxidants (Charles, Ene, Chinenye, Ani, Obianuju & Eneasato, 2023).

Avocado is one of a tropical fruit, it is the most productive plants cultivated area since it is an edible fruit from Central America which is easily adaptable in tropical regions including Nigeria, cultivated in the subtropical and tropical areas such as East and West Africa respectively. Fruits which have a yellow-green to purple skin are described as a berry with a thick, fleshy mesocarp surrounding a single large seed. It weighs about 50 to 1 kilogram with the mesocarp (edible flesh) contributing 50-80% and the seed 10 to 25% of its total weight. Avocado is an oil-rich fruit that is valued globally for its nutritional value and bioactive compounds. Intake of avocado in turn leads to immune system enhancements, and protection of oxidative damage mediated in the organism

through cellular metabolic activities. Avocado (*Persea americana*) is a fruit that contains high content of monounsaturated fatty acids which do not induce LDL level raise (Greg, Eteng, Olaitan, Iombor & Igbua & 2020).. The significant challenge to raise the consumption of avocado is maintaining its high dietetic value through its processing/supply chains. Avocado is grown on a large scale in Northern Nigeria. However, it is widely consumed in all parts of Nigeria. Indeed, the consumption of avocado in Nigeria has increased tremendously in recent years because of the awareness of its benefits. Consumption of avocado has benefits like bactericidal, anti-obesity, anti-hyperlipidemic, hypolipidemic, anti-diabetic, anti-inflammatory and anti-viral properties (Johnson, Smith, & Brown, 2022). Studies has shown the benefits of avocado to be associated to a balanced diet, especially in reducing cholesterol and preventing cardiovascular diseases. The processed avocado pulp is an alternative to utilize fruits, which can be used in various value-added food products. The fluid extract of the avocado leaves is widely used in pharmaceutical products, mainly due to the diuretic characteristic of the present compounds in plant leaves (Martinez, White, Johnson & 2021).

Avocado is one of the most world's healthiest fruits, because of its nutrient contents such as vitamin k, dietary fiber, potassium, folic acid, vitaminB6, vitamin C, copper and calories. Avocado is one of the recommended fruits for body building and medicine for cholesterol-related diseases. It is rich in monounsaturated fatty acid (MUFA) and contains high level of antioxidants such as polyphenols, phytosterols, tocopherols and carotenoids that may help reduce heart diseases. Avocados are low in sugar and they contain fiber which helps you feel full longer. High consumption of fruits and vegetables is correlated with lower incidence of some types of cancer and cardiovascular diseases. Thus, incorporating avocado in baked products can greatly enhance the nutritional value of the baked products. Avocado can serve as a healthy replacement source of fat and nutrients can add natural color, flavor, and dietary fiber to processed food products in this case, cake. Healthy eating and avocado go hand in hand, whether its calories, fiber, saturated fat or cholesterol, avocados have more of what you want and less of what you don't want. Avocado is high in in (good) fat and has a creamy, velvety texture. In baking, avocado can replace butter, shortening and sometimes even eggs, it makes desserts incredibly moist and rich while contributing to their overall health benefits. (Charles, et al, 2023)

A major risk factor chronic disease is unhealthy feeding, which is associated with health problems such as overweight, diabetes and cardiovascular diseases. To improve health and quality of life, the World Health Organization (WHO) published the global strategy for promotion of healthy eating, physical activity and health. WHO recommends that governments develop national guidelines to improve diet nutritional quality. On that note, the identification of food or ingredients that are high in fat for human consumption must be highlighted, as research has shown that populations that consume diets with high saturated or trans fatty acid content tend to take more energy from food, they also tend to present overweight; to show high levels of serum cholesterol; to present a higher level of coronary and heart disease and increase the risk of death. Among these products were bakery, confectionary and pastry products, especially cakes were classified as unhealthy fat content (Jaspin, Stephen, Mahrendran, & Radhakrishnan, 2022). Humans have consumed bakery products for hundreds of years and in recent years, baked products are on top of the world demand for food and an increase in snacks such as cakes in Nigeria, especially school children are on the increase. Bakery products such as cakes are widely consumed all over the world; so their enrichment with nutrients in an effective way to prompt people's health (Elizabeth, Senya, Sarpong, Eunice, & Anaka 2023).

Utilization of local and readily available raw materials in the food manufacturing industries is key to Africa's transformation. Cake is a sweet flour mix usually made from wheat flour, sugar, shortening and other ingredients and is usually baked. Cakes in their oldest forms were modifications of bread but cakes now cover a wide range of preparations that can be simple or complex. Consumption of various bakery and confectionary products is the demand of time due to change in food habit of the people (Elizabeth, et al., 2023). Although, some other fats have been successfully used for this purpose, there is an increasing interest in fruits rich in dietary fiber which has been associated with health-promoting abilities. Fat is a relevant food ingredient that impact positively on

nutritional and sensory qualities of food such as flavor, mouth feel and odor. Fats as a macronutrient is needed for humans in relatively large amounts as a source of energy and fatty acids, a transport vehicle for absorption fat-soluble vitamins A, D, E and K, which serve as a way of insulating the body and as a shock absorber (Rejman et al., 2019). Consumption of foods with high dietary fibers has been reported in prevention and management of chronic diseases, diabetes and colon cancer. The nutrient contents of wheat-margarine used in the preparation of cakes in Nigeria is low with high fat leading to several nutritional and health challenges such as overweight, obesity and cardiovascular diseases.

Cake is a form of sweet dessert and soft bakery products produced by baking a batter that is typically a baked product from the mixture of flour, sugar, beaten eggs, butter or oil, a liquid, and leavening agents such as baking soda and/or baking powder. Common additional ingredients and flavorings include dried, candied or fresh fruit, nuts, cocoa and extracts such as vanilla with numerous substitutions for primary ingredients. Cakes can also be filled with fruits preserves or dessert sauces (like pastry cream), iced with buttercream or other icings and decorated with marzipan, piped borders or candied fruit (Smith, Williams, & Garcia 2019). Cakes are convenient food products. Cakes can be eaten as a snack in small portion or major snack in the fast food industry. Cakes have enjoyed a relatively constant in our diet for a long time and its continuous popularity has encouraged the development of newer and more attractive products that are available in the market today. It is often a dessert of choice for meals at ceremonial occasions, particularly weddings, birthdays and anniversaries. They are highly cherished by women and kids. It is a complete food, rich in nutrients. There are many types of cake recipes and can be classified based on their accompaniment such as coffee cakes, occasion cakes or based primarily on ingredients and cooking techniques. Cake maybe small and intended for individual consumption such as queen cake while longer cakes are cut, sliced and served as part of a meal or social functions. The main concern involving baked cake consumption is their increased fat content since fat usually accounts for 40-60% of cakes' total mass. Therefore, given its popularity and availability, reducing the fat volume in cakes might be a successful strategy to reduce overall fat intake.(Smith, et al 2019).

Butter is a dairy product created from proteins and fats found in milk and cream. Most butter is cow milk-based, but butter also comes from many other sources such as milk from sheep, goats, buffalo and yaks. Butter represents a water-in-oil emulsion, being one of the oldest milk products; its origin is unknown, but it probably dates back to the prehistoric stages of animal husbandry.in total, about one-third of the world's milk production is destined for butter production (Martinez, White, & Johnson, 2021). Manufactures and home chefs creates butter by churning milk or cream to separate fat globules from the buttermilk. The color of butter is caused by carotene and other fat soluble pigments in the fat, vegetable color can be sometimes added to commercial butter in order to improve yellowness (Greg, Eteng, Olaitan, & Igbula, 2023). They sometimes add salt.

The butter flavor is given by the diacetyl, other substances such as butyric, propionic and formic acid, acetaldehyde acetoin having smaller contribution. In addition to its high-life content, butter has substantial amounts of vitamin A, vitamin E, cholesterol, and minor amounts of calcium, phosphorus, vitamin K, vitamin D and also a low protein content (Anderson, & Evans, 2021). Regarding the color differences of butter from different species, Asya, (2021) found that butter produced from goat's milk is lighter than butter produced from cow's milk. Rendering butter (removing the water and milk solids) produces butter-fat clarified butter. Non-dairy "butters" like peanut butter, apple butter and cocoa butter are not butter in literal sense but do resemble butter in consistency. In moderation, butter can be a healthy part of your diet.

STATEMENT OF THE PROBLEM

The researcher noticed the health problems associated with the "bad" fat in butter, the outrageous cost of the ingredients involved in the production of cake and the limited information on the substitution of butter with avocado in the production of cake, hence, the need to for the researcher to embark on this research to highlight and study the need to substitute avocado with butter in the baking of cake. There is also wastage of avocado in the area of study as its one of the major fruits

in the area. There is also need to raise awareness of the recipe and health benefits and to also make it a close substitute, cheaper/cost effective and at the same time having equal value in quantity and quality as butter.

AIM AND OBJECTIVES

This aim of the research is to determine the possibility of baking cake using avocado pulp in the substitution of butter.

In achieving this aim, the following specific objectives were laid out as follows;

- i To determine the level of acceptability and sensory characteristics cake produced using avocado pulp.
- ii. To determine respondents' knowledge on the ingredients used in making cake from avocado pulp
- iii. To determine awareness level of respondents on the health benefits of the cake using avocado pulp as a substitute to butter.
- iv. To produce cake using avocado pulp as a substitution for butter.

RESEARCH QUESTIONS

The study came up with research questions so as to be able to ascertain the above stated objectives. The specific research questions for the study are stated below as follows;

- i. What is the level of the acceptability and sensory characteristics of cake using avocado pulp?
- ii. What is the knowledge of respondents on the ingredients used in making the cake from avocado pulp?
- iii. What is the level of awareness of respondents on the health benefits of the cake produced using avocado pulp as a substitute to butter?
- iv. How can cake be produced using avocado pulp as a substitution for butter?

METHODOLOGY

This research employed experimental design which is a traditional approach to conducting a quantitative and qualitative research and so it was adopted to determine and obtain accurate results in the acceptability of cake made from substituting of butter with avocado.

MATERIALS

Main materials used in this research for the preparation of the cake were bought from Farin Gada local market in Jos, Plateau state. These materials include fresh avocado fruits, wheat flour, sugar, butter, eggs, salt and baking powder.

CAKE RECIPE

Flour- 8 cups (1kg) Butter- 1 ¾ cups Avocado paste- 1 ¾ cups Eggs- 16 eggs (at room temperature)
Baking powder- 2 tablespoons Salt- 1/8 teaspoon Sugar- 2 cups (450g)

SAMPLE FORMULATIONS

The cake blends of butter and avocado were prepared in 100% butter (control), 100% avocado, 50% avocado-50% butter and 75% avocado-25% butter.

PRODUCTION OF AVOCADO PASTE

The avocado fruits were thoroughly sorted, washed, drained and peeled. The creamy mesocarp (flesh) was scooped and pureed in a washed and cleaned wooden mortar and pestle.

PRODUCTION OF CAKE

- **For the 100% butter**

The specified ratio of butter was creamed with sugar in washed and clean mixing bowls with a wooden stick for 30 minutes until it becomes soft and fluffy. The eggs were beaten in separate bowl and added to the creamed butter and mixed together, then the flour, baking powder and salt was

sieved and added to the mixture using creaming method until all the ingredients were well incorporated. The batter was then transferred into a greased pan and baked in a pre-heated oven at 190°C for 60 minutes.

- **For the 100% avocado**

The method was adopted from the keto kitchen (2023), an online food blog. The specified ratio of avocado was mashed in a mortar and transferred to a bowl. The eggs were added one after the other into the avocado paste and mixed together shortly after sugar was added and mixed thoroughly. The dry ingredients (flour, salt and baking powder) were sieved and then added into the paste mixture and mixed using creaming method. The batter was then transferred into a greased pan and baked in a pre-heated oven at 190°C for 60 minutes.

- **For the avocado and butter mixture**

The method was adopted from food better (2020), a food blog. The specified ratio of butter was creamed with sugar until it was soft and fluffy. Then the pureed avocado was then added to the mixture, thereafter the eggs were added one after another and mixed, then the dry ingredients (flour, baking powder and salt) were sieved and added and mixed till ingredients were fully incorporated using creaming method. The batter was then transferred into a greased pan and baked in a pre-heated oven at 190°C for 60 minutes.

SENSORY EVALUATION

The samples of the cakes were evaluated using hedonic method for sensory characteristics and the overall acceptability by the panelists of 20 judges of students of the University of Jos, Plateau state using a 5-point hedonic scale preference (table 1.).

- **Texture**

Texture refers to those qualities of a food that can be felt with the fingers, tongue, palate or teeth. Texture also is an index of quality. Evaluation of texture involves measuring the response of a food when it subjected to forces such as cutting, shearing, chewing, compressing or stretching.

- **Aroma**

The aroma of cake usually comes from the mixing of vanilla extract or nutmeg in the cake batter. Besides, the aroma of cake also comes from the ingredients itself. The choices of butter also can be good aroma for cake.

- **Color**

Color is the perception in the brain that result from the detection of light after it has interacted with the object.

- **Appearance**

The appearance of food includes its size, shape, color, structure, transparency, dullness or gloss and degree of wholeness or damage. When selecting a food and judging its quality, a consumer takes these factors into account, as they are indeed an index of quality.

- **Taste**

The experience or perception of the flavor by the mouth, tongue, palate and throat on contact with a substance and in this case food.

METHOD OF DATA COLLECTION

The data was collected using a 5-point hedonic scale questionnaire (table 1.) and a regular 5-point questionnaire (table 2 & 3) by the panelists of 20 judges of students of the University of Jos, Plateau state.

RESULTS AND DISCUSSION OF FINDINGS

The presentation, interpretations, and discussion of the results of the data analysed in accordance with the research questions were provided in this chapter.

PRESENTATION OF RESULTS

Research Question One:

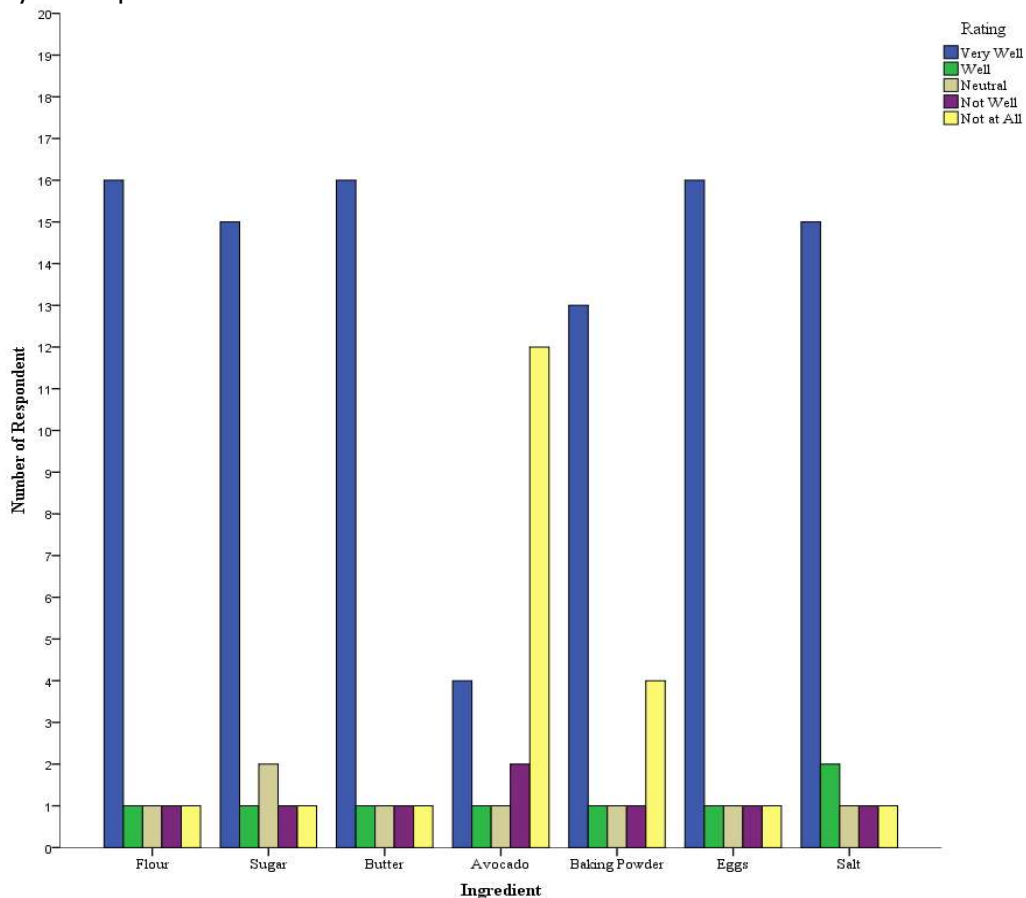
What is the respondents' knowledge on the ingredients used in making cake from avocado pulp?

Table 2: Statistics of Respondents' Knowledge on Ingredients Used in Making Cake from Avocado Pulp

| Item | Ingredient | N | Very well | Well | Neutral | Not well | Not at all |
|------|---------------|----|-----------|---------|---------|----------|------------|
| 1. | Flour | 20 | 16 (80%) | 1 (5%) | 1 (5%) | 1 (5%) | 1 (5%) |
| 2. | Sugar | 20 | 15 (75%) | 1 (5%) | 2 (10%) | 1 (5%) | 1 (5%) |
| 3. | Butter | 20 | 16 (80%) | 1 (5%) | 1 (5%) | 1 (5%) | 1 (5%) |
| 4. | Avocado | 20 | 4 (20%) | 1 (5%) | 1 (5%) | 1 (5%) | 13 (65%) |
| 5. | Baking powder | 20 | 13 (65%) | 1 (5%) | 1 (5%) | 1 (5%) | 4 (20%) |
| 6. | Eggs | 20 | 16 (80%) | 1 (5%) | 1 (5%) | 1 (5%) | 1 (5%) |
| 7. | Salt | 20 | 15 (75%) | 2 (10%) | 1 (5%) | 1 (5%) | 1 (5%) |

Source: Field Study, 2023

Key: N=Population



As presented in Table 2 with the corresponding clustered chart, the percentage of respondents who are knowledgeable about flour, sugar, butter, baking powder, eggs, and salts as ingredients used in making avocado cake from pulp are 80%, 75%, 80%, 65%, 80%, and 75%, respectively. On the contrary, 65% of the respondents had no knowledge that avocado is one of the ingredients used in making cake. It can be deduced from the analysis that majority of the respondents have knowledge on most of the ingredients used in making cake from avocado pulp.

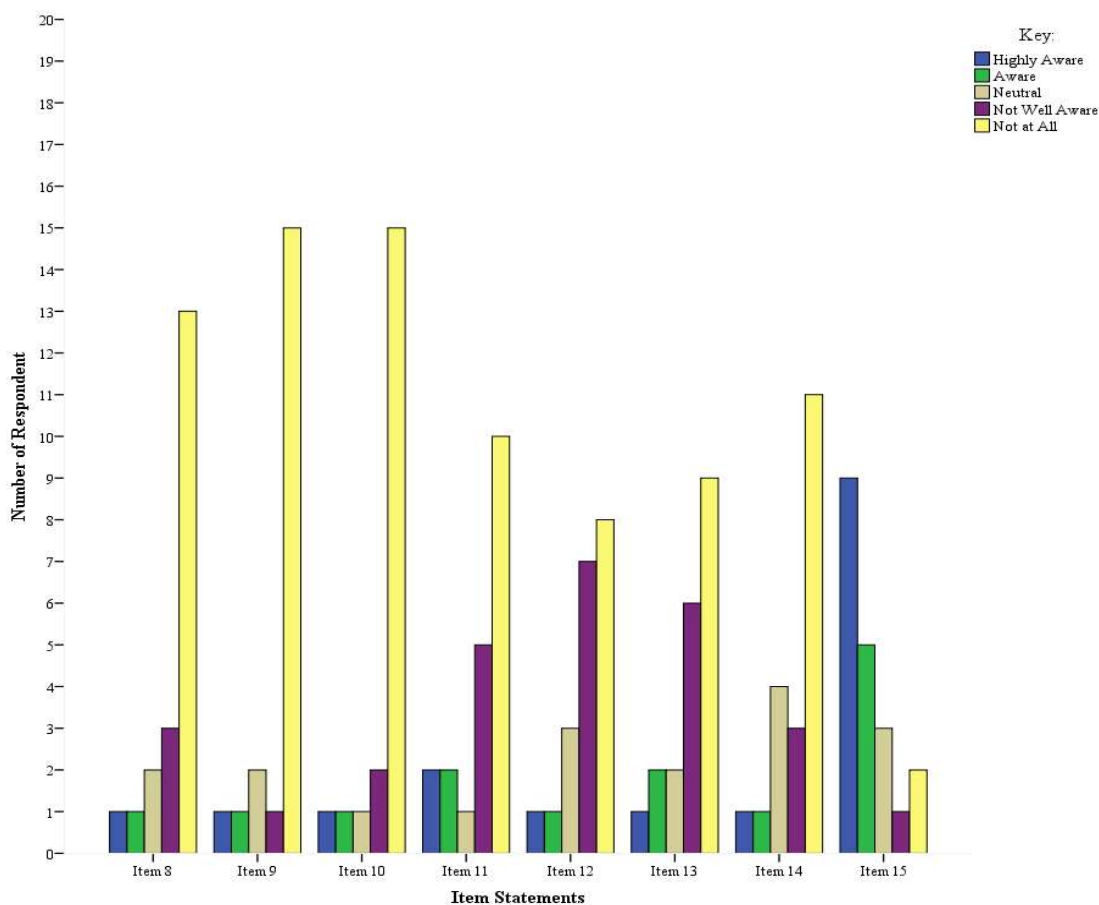
Research Question Two:

What is the awareness level of respondents on the health benefits of cake made from avocado pulp?

Table 3: Statistics of Respondents on their Level of Awareness on the Health Benefits of Cake Made from Avocado Pulp

| Item | Statement | N | Highly Aware | Aware | Neutral | Not Well Aware | Not at all Aware |
|------|-----------------------------|----|--------------|--------|---------|----------------|------------------|
| 8. | High in fiber | 20 | 1 (5%) | 1 (5%) | 2 (10%) | 3 (15%) | 13 (65%) |
| 9. | Promotes heart health | 20 | 1 (5%) | 1 (5%) | 2 (10%) | 1 (5%) | 15 (75%) |
| 10. | Supports weight management | 20 | 1 (5%) | 1 (5%) | 1 (5%) | 2 (10%) | 15 (75%) |
| 11. | Boosts nutrients absorption | 20 | 2 (10%) | 2(10%) | 1 (5%) | 5 (25%) | 10 (50%) |
| 12. | Enhances eye health | 20 | 1 (5%) | 1 (5%) | 3 (15%) | 7 (35%) | 8 (40%) |
| 13. | Regulates blood sugar level | 20 | 1 (5%) | 2(10%) | 2 (10%) | 6 (30%) | 9 (45%) |
| 14. | Enriched with Vitamins E, K | 20 | 1 (5%) | 1 (5%) | 4 (20%) | 3 (15%) | 11 (55%) |
| 15. | Rich in healthy fats | 20 | 9 (45%) | 5(25%) | 3 (15%) | 1 (5%) | 2 (10%) |

Source: Field Study, 2023



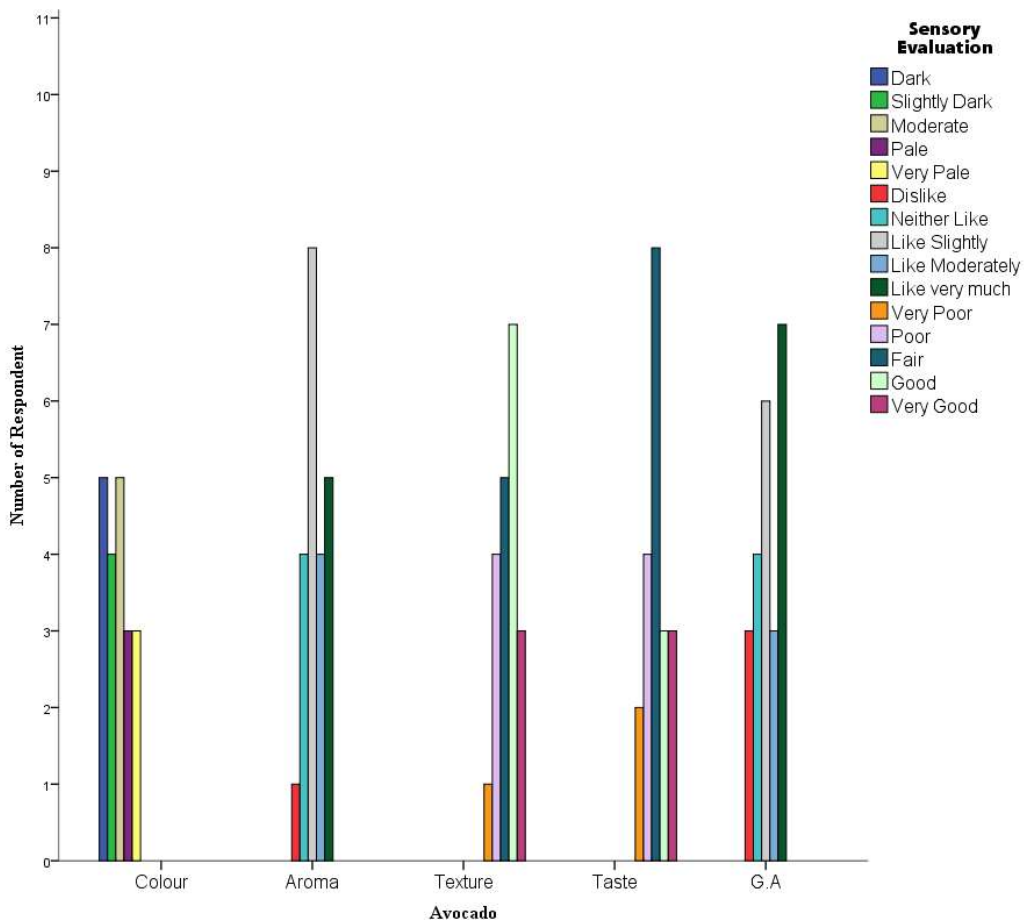
The analysis shown in Table 3 with its corresponding clustered chart revealed that the percentages of the statistics of respondents that are not aware at all of the health benefits of cake made from avocado pulp as shown in items 8, 9, 10, 11, 12, 13, and 14 are 65%, 75%, 50%, 40%, 45%, and 55%, respectively. The table and the clustered chart further revealed that most of respondents (45%) were only aware of the health benefit in item 15. It can be established from the information above that the respondents are not aware at all with almost the entire health benefits (as spelt out on each item) of cake made from avocado pulp.

Research Question Three:

What is the sensory evaluation of cake made from avocado pulp with respect to colour, aroma, texture, taste, and general acceptability?

Table 4: Sensory Evaluation of Cake made from Avocado Pulp

| Item | Colour | No. of Respondent | Percentage |
|------------------------------|-----------------|--------------------------|-------------------|
| 1. | Dark | 5 | 25% |
| 2. | Slightly dark | 4 | 20% |
| 3. | Moderate | 5 | 25% |
| 16. | Pale | 3 | 15% |
| 17. | Very pale | 3 | 15% |
| Aroma | | | |
| 18. | Dislike | 1 | 5% |
| 19. | Neither like | 4 | 20% |
| 20. | Like slightly | 8 | 40% |
| 21. | Like moderately | 4 | 20% |
| 22. | Like very much | 5 | 25% |
| Texture | | | |
| 23. | Very poor | 1 | 5% |
| 24. | Poor | 4 | 20% |
| 25. | Fair | 5 | 25% |
| 26. | Good | 7 | 35% |
| 27. | Very good | 3 | 15% |
| Taste | | | |
| 28. | Very poor | 2 | 10% |
| 29. | Poor | 4 | 20% |
| 30. | Fair | 8 | 40% |
| 31. | Good | 3 | 15% |
| 32. | Very good | 3 | 15% |
| General Acceptability | | | |
| 33. | Dislike | 3 | 15% |
| 34. | Neither like | 4 | 20% |
| 35. | Like slightly | 6 | 30% |
| 36. | Like moderately | 3 | 15% |
| 37. | Like very much | 7 | 35% |



Data in Table 4 with the corresponding chart revealed that, with respect to the colour of the cake made from avocado pulp, majority of the respondents (25%) preferred dark colour. As regards the aroma of the cake made from avocado pulp, majority of the respondents (40%) slightly liked it. It was also revealed that majority of the respondents (35%) rated the texture of cake made good while the taste was rated fair by 40% of the respondents. As further revealed in the table and the clustered charts, majority of the respondents (35%) "liked very much" with respect to the general acceptability of the cake made from avocado pulp.

DISCUSSION

This part of the study discusses the findings that emerged from the analyses and relates the findings with what other researchers had found prior to this study.

Finding according to research question one, which was geared toward providing an answer to respondents' knowledge on the ingredients used in making cake from avocado pulp revealed that 80% of the respondents are knowledgeable about flour, butter, and eggs; 75% are knowledgeable about sugar and salt; and 65% knowledgeable about baking powder as ingredients used in making cake from avocado pulp. This agrees with the submission made by Asya, (2021) that today, cakes are enjoyed in numerous forms, ranging from traditional layer cakes with frosting to cheesecakes, cupcakes, and cake pops as they remain a popular dessert choice for celebrations and special occasions, with countless flavors, designs, and decorations to suit every taste. One of the reasons the respondents are knowledgeable about most of the ingredients of cake made from avocado pulp may not be far away from the existing fact about long existence of bakery products. As Charles, etal (2023).. puts it, humans have consumed bakery products for hundreds of years and in recent years, baked products are on top of the world demand for food and an increase in snacks such as cakes in

Nigeria, especially school children are on the increase. He further added that Worldwide, the consumption of cakes is about 4.5 tons/per year.

Also, finding based on research question two as regards awareness level of respondents on the heal revealed that most of the respondents are only aware of health benefit of avocado pulp cake for being rich in healthy fats as majority of them are not aware at all that cake made from avocado has health benefits as high in fiber, promotes heart health, supports weight management, boosts nutrients absorption among others. Each of these health benefits are facts hence the need for individuals to be aware of. As avocado pulp cake is high in fiber, it has same health benefits as Greg et al (2021) established that consumption of foods with high dietary fibers has been reported in prevention and management of chronic diseases, diabetes and colon cancer. To further buttressed this, Asya (2021).opined that avocado is an oil-rich fruit that is valued globally for its nutritional value and bioactive compounds. Intake of avocado in turn leads to immune system enhancements, and protection of oxidative damage mediated in the organism through cellular metabolic activities.

Similarly, finding in relation to research question three on the sensory evaluation of cake made from avocado pulp with respect to colour, aroma, texture, taste, and general acceptability revealed that dark colour of the cake made from avocado pulp is preferred by majority of the respondents. However, majority of the respondents slightly liked the aroma of the cake, rated the texture of cake 'good', rated the taste 'fair', and 'liked very much' the general acceptability of the cake made from avocado pulp.

CONCLUSION

Based on the findings of this study with respect to possibility of baking cake using avocado pulp in the substitution of butter, it was concluded that avocado, also known as *persea Americana*, and referred to as butter pear, is an oval shaped fruit with a tougher outer skin, fleshy edible interior and a large seed at its center. It can be used in making cake with ingredients such as flour, sugar, eggs, salt, and baking powder, and it as high in fiber, promotes heart health, supports weight management, boosts nutrients absorption among others. As it is revealed in this study, dark colour of the cake made from avocado pulp is preferred, the aroma of the cake was liked slightly, the texture of the cake rated 'good', the taste rated 'fair', and the general acceptability was liked very much.

RECOMMENDATIONS

The following recommendations were made from the findings of the study:

1. As the study revealed that majority of the respondents are not aware at all that cake made from avocado has several health benefits, there is need for public enlightenment through media platforms with respect to the health benefits of cake made from avocado pulp.
2. Efforts should be made by Plateau State government to collaborate with Home Economics teachers and students to train (teach) the individuals in the larger society that are interested in learning cake making using avocado pulp which will go a long way not for their health benefits but in job creation.

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