



COMPARATIVE ANALYSIS OF THE SENSORY QUALITIES OF KUNUN GYADA AND OATMEAL PORRIDGE FOR BREAKFAST IN NIGERIA RESTAURANT

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Abstract

Kunun gyada is a popular Northern Nigerian beverage that can compare with oat meal porridge in terms of eye appeal, taste and flavour.. Though popularly prepared from rice, kunun gyada can also be prepared from other cereals such as millet, sorghum, barley and maize but with varying levels of nutritional qualities Oat

Keywords

Comparison, Analysis, Sensory qualities, Kunun gyada, Oatmeal

porridge is prepared from oat grits stirred in hot water thickened with milk. It was anticipated that people from different background might prefer kunun gyada to oatmeal or equally like

INTRODUCTION

Traditional cereals and grains play important roles in the diet of many people in Africa as major sources of proteins, carbohydrates, vitamins, and minerals. The major local staples which form the basis for these traditional weaning foods, especially in the Northern Nigeria include rice, maize, millet, sorghum groundnuts, and beans. Kunun gyada is one of the most important home-prepared weaning foods prepared from these food commodities. It is eaten as a breakfast beverage by older children and adults. It can be supplemented with grain legumes as a way of improving its protein quality. Though popularly prepared from rice, kunun gyada can also be prepared from other cereals such

both. Therefore, this study was carried out to establish whether there is any significant difference between oat porridge and kunun gyada in terms of organoleptic characteristics. The two porridges were produced and served to a taste panel comprising 30 persons who are from different geographical regions. The panelists were asked to evaluate the products on the bases of colour, flavour and taste on 7-point Likert scale to determine the relationship between kunun gyada and oat porridge through 2 - Sample test. It was found out that kunun gyada was rated higher in most attributes than oatmeal. It was recommended that kunun gyada should be offered alongside with oatmeal on breakfast menu as it could attract more returns in view of its low cost of production.

as millet, sorghum, barley and maize but with varying levels of nutritional qualities (Oluremi 2015)

Kunun gyada has comparable sensory qualities with Quaker oats which many seem to prefer at breakfast in most restaurants. The methods of preparation and eye-appeal are similar. Many see Kunun Gyada as the breakfast of northern Nigerians but it can as well be accepted by other citizens, especially if enriched. This expectation forms the basis and motivation for this comparative study between Quaker Oats and Kunun Gyada

Many patrons are used to Quaker oat as breakfast porridge because it has been on menu for a very long time. It is prepared from oat grits stirred in hot water thickened with milk. However, kunun gyada is prepared almost the same way with the oatmeal which is a delicacy in most parts of the Northern Nigeria. It is anticipated that if taken, Kunun Gyada can compete favourably with oat in terms of flavor, taste and other sensory qualities. Kunun Gyada is prepared from groundnut milk and rice grits through the same cooking method as in oat porridge

Therefore, this study probes to establish whether there is any significant difference between oat porridge and kunun gyada in terms of organoleptic characteristics. Is kunun gyada acceptable in terms of sensory attributes? Is there any significant difference in preference for oat porridge and kunun gyada? What relative economic advantage exists between oat and kunu?

Objectives of the Study

The aim of this study was to perform comparative analysis of the sensory qualities of Oatmeal porridge and Kunun Gyada [groundnut porridge] made with rice to determine their preference levels. Specially, the objectives are to

- i. To produce oatmeal and Kunun Gyada in an organized production kitchen using same method

- ii. To determine if there is any significant difference in eye appeal between oatmeal porridge and Kunun Gyada through sensory evaluation
- iii. To determine if there is any significant difference in preference in taste between oatmeal porridge and Kunun Gyada
- iv. To ascertain if there is any significant difference in flavour between oatmeal porridge and kunun gyada.

Hypotheses

The hypothesis propounded and tested in this study is

H₀; There is no significant difference in sensory qualities between oatmeal porridge and kunun gyada.

Theoretical Framework

Kunun gyada is one of the most important home-prepared weaning foods popularly found in Northern Nigeria. Made from raw groundnut and a cereal, kunun gyada is eaten as a breakfast beverage by older children and adults, and it is considerably embraced during the Muslim fasting period of Ramadan. In some cases, people take it more as a delicacy compared to other beverages. Kunu gyada breakfast is an important source of calcium both through the product itself and the addition of milk to the cereal (Rhodes & Fletcher 2002). As a cereal, the whole – grain is a base of a healthy diet which provides about 40% of daily food. The benefits of eating nutritious cereal for breakfast are not only deriving full satisfaction and avoiding obesity but also extend to encouraging good gastrointestinal health and decreasing the risks of high blood pressure, high cholesterol and colon cancer, especially if it involves fiber-rich cereals, such as oatmeal and bran (Inatimi 2007)).

The principal ingredient in kunun gyada is groundnut. It is usually served in a bowl and more often drunk alone when prepared thin or eaten like porridge when prepared thick. It may also be sweetened with honey or honey to make a savoury dish. For their nutritional values, cereals such as rice, barley, millet, sorghum, wheat or corn are usually added to the kunu (Essien, Monago & Edor 2011). Groundnut as the principal constituent is a source of magnesium; foliate, vitamin E, copper, and arginine and is believed to lessen the risk of cardiovascular diseases, fights depression, promotes fertility, boost memory and regulates blood sugar level (Wright, 2012). Apart from rice, other cereals that can be added to kunun gyada include corn, millet, sorghum or oat. Generally, cereals are desired for their nutritional qualities which among others include their ability to decrease the risks of high blood pressure, high cholesterol and colon cancer, especially if it involves fiber-rich cereals, such as oatmeal and bran (National Health Service, 2014)).

Three main theories support this study. These are the Attitude Behavior Context Theory, Value – Belief - Norm Theory and Norm- Activation Theory. These

theories emphasize attitudes, beliefs and norms as they relate to eating behavior (Nie and Zepeda 2011). .

Materials and Method

This study adopted sensory evaluation. The food commodities were purchased from the local market and subjected to practical production session in the kitchen, using basic recipe and method. The kunun gyada was produced following the traditional production processes. The production of oatmeal followed the usual process as contained in common production practical literature. Thirty persons purposively selected participated in the sensory evaluation of the oatmeal and kunun gyada produced. The panelists were asked to assess the products on such characteristics as taste, aroma, texture, mouth feel, and appearance considered to be desired qualities of good porridge, based on 7-point Likert scale, ranging from 1 (Don't like) to 7 (Like extremely)

A 2 Sample Test was performed to determine if there is any significant difference between oatmeal porridge and kunun gyada.

Findings

For eye appeal, oatmeal was rated **Like Much ($x = 5.4$)**, while kunun gyada was rated **Like Very Much ($x = 6.1$)**, showing significant result at $a = 0.05, p = 0.046 < 0.05$. This means there is significant difference in eye appeal between oatmeal porridge and knun gyada

For aroma (flavour), Kunun Gyada was rated **Like Very Much** for a mean score of **5.8667, SD = 1.22** as against that of Oatmeal porridge which was rated **Like Much** for a mean of **5.2000 and SD = 1.35**, showing no significant difference at $a = 0.05, P, 0.054 > 0.05$. For taste, both oatmeal and kunun gyada were rated Like Very Much for mean scores of 5.6667 and 6.1333 respectively, with no significant difference between oatmeal porridge and kunun gyada: **P= .178 > 0.05**. For consistency, the oatmeal was ranked **5.4000** (Like Much) while kunun gyada was rated **5.7333 (Like Very Much)**, showing no significant difference between oatmeal porridge and kunun gyada at **P= .433> 0.05**. On general assessment of acceptability, there is no significant difference between Oatmeal porridge (Samp A) and Kunun Gyada (Samp B) as the analysis shows P-Value of **0.075**, DF = 58 as against critical value of **0.05**. The implication is that the two porridges can compete favourably

Discussions

The comparative analysis between oatmeal porridge and kunun gyada reveals a lot of interesting experiences. Many persons seem to like kunun gyada more than oat porridge. This is because kunun gyada offers attractive colour, aroma, taste and consistency (Adepoju, 2012)

In most parts of the Northern Nigeria where kunun gyada is widely consumed during breakfast and festivities, the porridge is highly cherished. Made of choice

cereal, kunun gyada can make for a convenient and healthy breakfast, especially if it is made with whole grains, low in sugar and is served with fresh fruit and low-fat milk ((Arendt &. Zannini, 2013).

The major cereals used in preparing kunun gyada are rice, millet, maize, sorghum, and groundnuts. The choice of cereal depends on cost and availability in a particular area. However, rice was used in this study because of its availability and affordability. The beverage made of rice is more popular everywhere because of its aesthetic quality (Hernandez., Rodriguez-Alegría., Gonzalez & Lopez-Munguia, 2000)

Kunun gyada, being made of groundnut with other cereals, is very rich in minerals and vitamins (Wright, 2012) which are the nutrients mostly required by adults and the aged. It is on record that the nutritional quality of groundnut gruel adds to men's stamina and female fertility (CABI Crop Protection Compendium. (2010)). Therefore, if kunun gyada is served in popular local restaurants, it will greatly move market. A high patronage will normally translate into profits, all other things being equal.

It is estimated that a serve of kunun gyada is far cheaper than that of oatmeal porridge. On a la carte menu, Quaker oat can be quoted for N500 while N250 may be enough to offer similar quantity of Kunun Gyada. Hence, it is more economical to offer kunun gyada and more affordable to buy it.

Conclusion

A comparative analysis of colour, aroma, taste and consistency of oat porridge with kunun gyada carried out among thirty (30) panelists, comprising males and females, northerners and non-northerners showed that there was no significant difference between the two porridges in their sensory attributes. This implies that both oatmeal and kunun gyada can compete perfectly in any popular Nigerian restaurant, especially in the northern part of the country. Moreso, there is tendency that offering kunun gyada in commercial quantity can yield optimum returns.

Recommendation

Based on findings of this study, it is recommended that

- (i) Kunun gyada should be offered alongside oat porridge as breakfast menu item in restaurants, especially in Northern Nigeria.
- (ii) There should be competitive pricing for both oatmeal and kunun gyada and be offered on a la carte breakfast menu
- (iii) Like the oat porridge, there should be no pre-addition of sugar to kunun but the customers should be allowed to add to their taste

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