



Cultural Beliefs and Practices and Their Relationship with Food Consumption in Nigeria



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Abstract

Food has multiple functions for the consumer: it is at one and the same time a source of pleasure, platform for socializing, tool for strengthening family life, and an avenue for personal growth. Having access to nutritious food will have a positive impact on people's nutritional status only when these nutritious foods are actually bought, transformed into meals, and eaten. People's dietary intake is the result of a complex range of decisions, and all these decisions have impact on dietary intake and consequently nutritional status. Hence the way people relate to food is complex, and purely nutritional considerations are not always at the forefront of their minds. This paper x-rayed one of the complex ranges of decision which is, relationship between cultural belief practices and food consumption using Nigeria diverse culture as a case study. Nigeria is a multicultural country with a diverse cultural food. Culture influence food consumption in various ways such as tradition, religion and family composition; socio-cultural factors bearing on food and nutrition range from material technologies to implicit ideologies and symbols, and interrelated in an original pattern. For most people food is cultural not nutritional, for example a plant or animal may be edible in one society and inedible in another. The cultural factors involved in food habits and consumption is that, there are many combination of food which will give same nutritional results. A review of the literature on Nigerian cultural diets which is mainly staple food identified gaps in knowledge with respect to the nutritional values of Nigerian ethnic diets. Different cultures differ not only in the way food is produced, prepared and consumed, but also in the attitudes toward the relationship between food, health and pleasure, and in the ways through which food is acquired, prepared, processed and consumed in everyday physical spaces.

Keywords: Nutritional status; Food; Cultural belief; Nigeria; Dietary intake; Food taboo.

1. Introduction

Nutritional status is considered a key indicator of national development because a well-nourished and healthy population is considered a moral obligation, it concurs with human rights and it is a precondition for sustainable social, economic and human development [1]. Poor health due to limited nutrition affects individual well-being and human dignity. In sub-Saharan Africa, food insecurity and malnutrition remain a major challenge [2] with women of reproductive age (particularly pregnant women) and children under the age of five being at high risk [3-6]. Many women in sub-Saharan Africa remain particularly exposed to what has become known as 'hidden hunger'. Hidden hunger is the lack of, or inadequate intake of micronutrients, resulting in different types of malnutrition, such as anemia and deficiencies of iron, vitamin A and zinc [7, 8], among others. This can occur even in the presence of adequate energy and protein intake.

The primary function of food is to provide nourishment. Nevertheless, in every society there are dietary customs which play socio-cultural and symbolic roles that go far beyond the mere nourishment of the body. Food habits are

one of the most complex aspects of human behavior, being determined by multiple motives and directed and controlled by multiple stimuli. Foremost people food is cultural, not nutritional. For instance, the Ibibio culture in Nigeria where brides are taken into a 'fattening room' for a few days before marriage. A plant or animal may be considered edible in one society and inedible in another. Probably one of the most important things to remember in connection with the cultural factors involved in food habits is that there are many combination of food which will give same nutritional results.

Culture consist of values, attitudes, habits, religion and customs, acquired by learning which starts with the earliest experiences of childhood, much of which is not deliberately taught by anyone and which so thoroughly internalized that it is unconscious but 'goes deep' [9].

We learn what, when, how and where to eat by participating in the eating practices of our family, our community, and other social groups to which we belong, from which we acquire cultural norms and which teach us how to cope with the changes of norms and values. Food habits are among the oldest and most deeply entrenched aspects of many cultures and cannot, therefore, be easily changed, or if forcibly changed, can produce a series of unexpected and unwelcome reactions. Food and food habits as a basic part of culture serve as a focus of emotional association, a channel of love, discrimination and disapproval and usually have symbolic references [9].

In many cultures, food has a social or ceremonial role. Certain foods are highly prized; others are reserved for special holidays or religious feasts; still others are a mark of social position.

Nutritional assessment may be complicated by cultural variation. The relationship between ethnicity and nutrition may be of evolutionary significance. Food beliefs may have beneficial or detrimental effects on health status. Appreciation of the interaction of culture and nutrition may be of benefit to physicians and nutritionists in clinical practice and to those concerned with the prevention of nutrition related chronic diseases. Cultural influences lead to the difference in the habitual consumption of certain foods and in traditions of preparation, and in certain cases can lead to restrictions such as exclusion of meat and milk from the diet. Cultural influences are however amenable to change: when moving to a new country individuals often adopt particular food habits of the local culture.

2. How Culture Affects Diet

When you grow up in a distinctive culture, it is bound to influence your lifestyle, your belief system and perhaps most enjoyably, your diet. One might have a soft spot for 'amala and ewedu' because one is the Western part of Nigeria, or 'roasted plantain and fish' because one is in the Sothern part of Nigeria, or still, 'fufu and bitterleaf soup' because one is in the Eastern part of Nigeria, or 'banga and starch' because one is in the Niger Delta region of Nigeria. Some food traditions are healthier than others, so one might want to modify some family favorites to fit them into a healthy lifestyle while retaining the taste of home. For example, substituting fufu with oatmeal and eating it with the same bitterleaf soup so as to reduce the calories taken in by eating fufu. Through trial and error, and over generations; traditional societies have developed culinary practices which enable them to prepare and eat safe food even in unhygienic environments. Some examples are: thorough boiling of milk, cooking meat in small pieces to facilitate heat penetration, using proper fermentation processes, and eating freshly cooked food [10].

3. Negative and Positive Impact of Culture on Food Consumption

Different cultures can produce people with varying health risks because of their diet and food consumption. For example, in Nigeria, there is a distinct difference of body size of the northern and southern Nigeria. Many Southerners are at greater risk for ailments such as heart disease and diabetes due to the high carbohydrate and fat diet consumed [11], unlike the northern people of Nigeria who have majorly cereals and proteins in most of their meals hence the absence of obesity [12]. Income levels, limited access to healthier foods and exercise habits might play a role as well. Mohamad and Ling [13], stressing lower-fat foods and lots of vegetables, such as those of many Asian cultures, can result in more healthful diets, even reducing the risks for diseases such as diabetes and cancer.

In some societies within sub-Saharan Africa, women and young children are prohibited from eating certain foods due to ethnic or cultural beliefs and taboos, and those may include micronutrient rich foods [14-16]. Food taboos are known from almost all human societies as a systematized set of rules about which foods or combinations of foods that one may not consume [17]. Food taboos often target pregnant women to prevent what is perceived as harmful effects of these foods on the new-born. For example, in Ethiopia [16], Ghana [17], Nigeria [14] and in Gabon and the Democratic Republic of Congo [18], pregnant women are usually forbidden from consuming the richest food-sources of iron, carbohydrates, animal proteins and micronutrients. This is mainly because of the fear that the child may develop bad habits after birth or may be born with diseases, the fear of delayed labour due to large babies and the beliefs that certain foods stimulate continuous menstruation, leading to infertility in women.

Food taboos have also been reported in low and middle-income countries in Asia [19]. These strong taboos may limit the quantities and quality of food a pregnant woman may choose to consume. For example, protein-rich foods in the form of meat, fish, eggs and legumes are often denied to pregnant women in various parts of Africa, and in many other populations [13, 20, 21].

4. Food Taboos in Nigeria

The word taboo in general terms is a belief that forbids association of a group of people with other people, places or practices [22]. Food taboos which is a type of the taboo, represents unwritten social rules mainly based on religious and/or historical reasons that regulate food consumption in a community. According to the UNICEF Food-Care Health conceptual framework, cultural norms, taboos and beliefs lie within the contextual factors included as

one of the basic causes of malnutrition [23]. Food taboos which is relatively common among poor communities especially in Sub-Saharan Africa is often more strictly practiced by pregnant and lactating women to prevent what they perceive as harmful effect of these foods on the newborn [24]. Traditional practices that undervalue women, with overbearing male spousal control, have been thought to predispose women and their infants to morbid prenatal conditions, especially when they deprive them of access to needed health-care services [25].

Most of the Nigerian food taboos seem to be aimed at children, women and pregnant women, and the foods mostly tabooed are food rich in protein. These groups of people, ironically, are the group that required more protein than the adult men who perpetuate the taboos. Food leftovers are usually eaten by women and children, most of the leftovers, especially in the rural areas usually suffer some level of deterioration because of how the foods are stored without the benefits of refrigeration. There is a saying that goes ‘One man’s food is another man’s poison’ - if this is to be taken literally, this implies that what appeals to a particular group of people as delicacies may actually be unappealing and in extreme cases forbidden to another group of people.

Below is a table of some commonly tabooed food items and the supposed reason(s) for avoiding them. This table is adapted from Onuorah and Ayo [26].

Table-1. Tabooed Food Items and the Supposed Reason(s) for Avoiding

Food Item	People Affected	Reason(s) for Avoidance
Egg	Children and pregnant women	It will make children steal. For pregnant women, egg will make the unborn infant too fat and the mother will not be able to deliver normally and the baby will be deformed.
Snail	Pregnant women and others	The offspring will salivate like the snail and it will make the child slow in speech. On religious grounds, snails are gods of the rain so one must avoid annoying the gods.
Head of cock, peacock and duck	Women and girls	They evolved from reptiles, male chauvinism
Gizzard of chicken	Women and children	Gizzards make men potent and make women infertile.
New harvested yam	Everyone (men, women and children)	Can only be eaten after ceremony and thanksgiving to the ancestors.
Milk	Everyone	Physiological i.e. lactose intolerance and milk is for suckling new infants, adults are too old for milk.
Mushroom	Everyone	Some believe it was planted by the gods and if eaten, will incur the anger of the gods.
Castor oil seed	Everyone	Believed that its ingestion causes waist pain
Locust bean	Everyone	They belong to some evil spirit, and their great grand parents did not consume it so why should they
Cassava and cassava products	Titled men and high-priest	It is food for the commoners; its consumption will reduce their influence and holiness
Sweet potato	Young girls	It will reduce their fertility
Eyes of animal	Women	Male chauvinism
The reproductive organs especially chicken and heart of chicken and goat	Young girls	Male chauvinism

Source: Adapted from Onuorah and Ayo [26]. Note: the above list is by no means exclusive as they are others.

5. Food Values and Beliefs

The food practices of humans are determined by values, attitudes, cultural beliefs, and some environmental circumstances; all of which are the products of traditional culture. According to Onuorah and Ayo [26], food values represent the standards or principles that the individuals or group holds about the desirability of food, which is not (in most cases) necessarily related to the nutritional values. Food beliefs represent the ideas about food and nutrition that the individual or group accepts as true. In some parts of Nigeria for instance, people rate salad (coleslaw) as premier food which is served at special occasions and thought to be very ‘proteinous’ than meat and people will struggle for it. Also some rural dwellers now tend to believe that anything packaged or in a can is better than the same product in a fresh form (Uchenwa cited in [26]).

Food habits and beliefs have a profound influence on the nutritional status of individuals who hold them, because these habits and beliefs affect the selection of their diet. Sometimes, malnutrition occurs where there is enough food but the food items which make up a balanced diet are forbidden outright or are not taken by some social group within the community. These food habits and beliefs persist among people because they are deeply rooted in their culture; for example, it will not be easy for a typical Yoruba man, Igbo man or Hausa man to abandon ‘amala’, ‘akpu’ and ‘tuwo’ respectively.

Culture or society defines what a meal is both with respect to time of consumption and content. For example, in Britain, tea is not seen as a meal but a drink which can be consumed several times in a day but in Nigeria, tea is a

breakfast meal. So also fruits, in some culture like Africa (Nigeria), fruit is eaten as a snack food picked from tree in passing or brought home from the market for immediate consumption as though it was chewing gum. Whilst in Europe (Britain), fruits are consumed as dessert (after meal). Each culture has a staple food around which the people’s beliefs, rituals, and traditions are built, and as the environmental conditions including economic changes, the beliefs and rituals are modified. For example, most Igbos regard yam as a king crop and many rituals are built around yam. In time past, new yam must be eaten with rituals and other ceremonies. In modern time, some still cling to some sort of ceremony before consumption of new yam. In general, the staple food varies from one locality to the other. Staple foods used in Nigeria by different ethnic groups in Nigeria include: maize, sorghum, rice, garri, etc. the staple food are carbohydrate dense, and a lack of adequate protein in the diet, depleted by food prejudices that forbid eating mostly proteineous foods that are available, can adversely affect the health status of a population, i.e. cause protein-calorie malnutrition.

6. Interaction of Culture of Food and Nutritional Status

The avoidance of specific types of food is a widespread phenomenon and applies more commonly to food of animal origin. Religious and other beliefs often call for this avoidance, but other cultural factors are involved as well; some foods are regarded as being of low prestige, for example. Most people avoid the meat of animals that have died of natural causes, especially if they were diseased. This natural trait is strengthened by injunctions of the major religions. However, beliefs can differ sharply. In some tribes, eating the brain of dead ancestors was thought to be a way of obtaining their wisdom, but scientists have seen it as a possible mode of transmission of “*kuru*”, an infection endemic in some parts of the highlands of eastern Papua New Guinea where the practice is common. The tribes themselves consider “*kuru*” to be the result of sorcery [3].

Childhood diseases like kwashiorkor (protein deficiency), usually develops between the ages of two and four years when the child is weaned from the mother’s breast milk by the advent of another child. With food taboo such children are also forbidden to eat eggs, fish and meat because of certain cultural beliefs; this may sometimes result in kwashiorkor as observed in some communities [12]. The existence of pockets of bone malfunction, particularly among the young ones cannot be totally divorced from a low intake of a source of calcium, phosphorus and iron.

Looking at Table 1, tabooed food items and the supposed reason(s) for avoiding them, there seems to be no scientific or nutritional facts to support most of the prohibitions if not all the prohibitions. All seems to have been based on cultural beliefs. When malnutrition is staring us in the face, it is unfortunate that some of these foods that are nutritious and sometimes cheap are being avoided. However, some of these taboos and beliefs are gradually being abandoned by the population in urban areas, but they still persist in rural areas where the bulk of the nation’s population lives. It is in these rural areas that infant mortality and malnutrition are on the increase.

7. Relationship between Ethnicity and Food Consumption

Ekwochi, *et al.* [14], studied the beliefs and practices of food taboos and myths by mothers in South Eastern Nigeria by interviewing respondents to ascertain whether or not they believe traditional taboos that certain food should not be eaten by pregnant women or children under two years of age. The respondents were also asked to state whether or not they practice such beliefs and to list the various food items that are associated with taboos in their locale (the listed food items are on Figures 1 and 2).

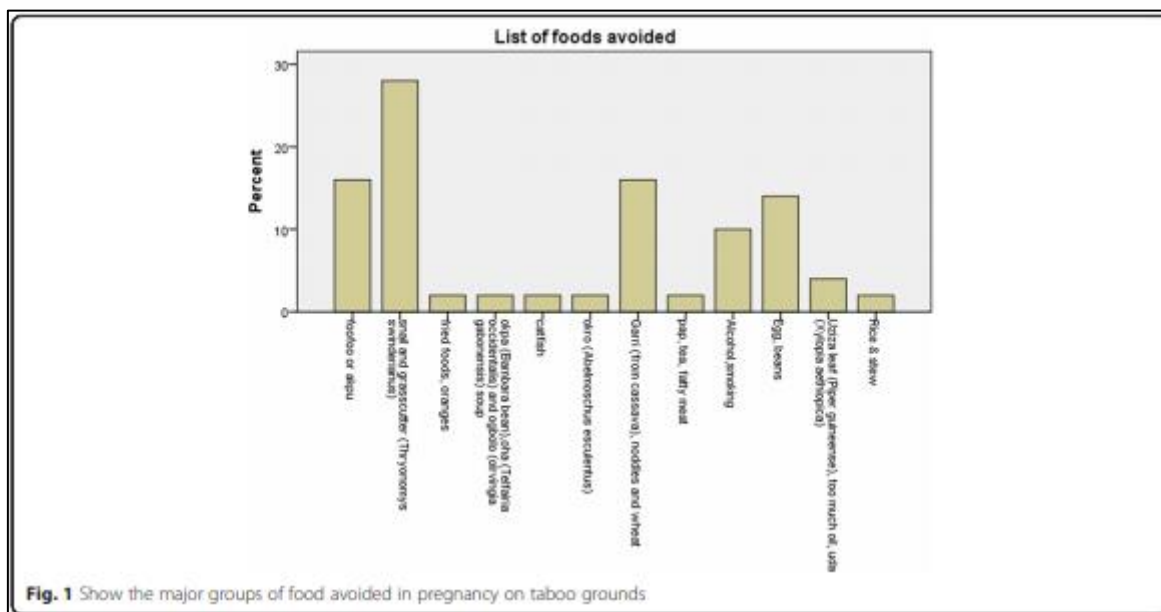


Fig. 1 Show the major groups of food avoided in pregnancy on taboo grounds

Fig-1. Show the major groups of food avoided in pregnancy on taboo grounds. Adopted from Ekwochi et al. (2016)

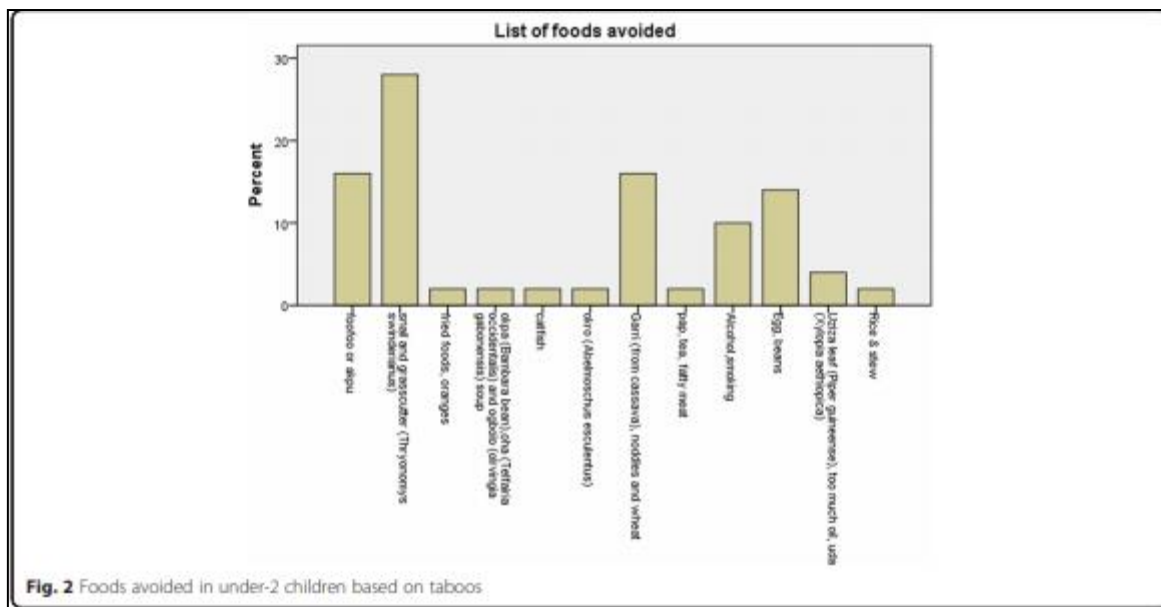


Fig. 2 Foods avoided in under-2 children based on taboos

Fig-2. Show the major groups of food avoided in under-2 years children on taboo grounds. Adopted from Ekwochi, et al. [14]

Also in Ekwochi, et al. [14] study, a few of the respondents who practice food taboos, were randomly selected for a more detailed interaction to ascertain the various reasons for avoiding the various food in pregnancy and in their younger children. The Ekwochi, et al. [14] article reported some of the excerpts from the interview:

A 32 year old woman (AJ) in the second trimester of her fourth pregnancy had this to say; “I cannot eat snail in pregnancy because it will make my baby to be sluggish in life and spit too much saliva.” A 28 year old woman in the last trimester of her second pregnancy stated that; “I will not eat bush meat like Grass-cutter when I am pregnant because it will cause my labour to be difficult and prolonged during delivery”. Another older woman who has had six babies narrated thus; “I avoid starchy food like ‘garri’ and noodles in pregnancy because they will make my baby to have excess weight which will be difficult to deliver except by operation”

Respondents in Ekwochi, et al. [14] study also gave various reasons for avoiding some food items for their children as young as two years. Below are some of the reasons: a 28 year old mother has this to say: ‘I don’t give young children egg because it will cause them to start stealing because it is very sweet’. Another mother said “I don’t allow my children to ‘drink garri’ because it causes eye problem’ and “I avoid ‘sweet’ in small children because it causes worm”

The above conversation shows that the foods most commonly avoided in pregnancy were snail and grass-cutter meat. Snails are avoided because it is believed that they make babies sluggish and salivate excessively like a snail. Prolonged labor was the major reason given for avoiding grass-cutter meat. There has not been any established link between snail consumption and sluggishness and grass cutter consumption with prolonged labour. On the contrary, the giant African snail (*Archachatina marginata*) has been shown to be a rich source of protein, trace elements and minerals which are needed for proper growth and development in human beings. In the same vein, the grass cutter or cane rat (*Thryonomys*) is also a known source of rich animal protein. These foods are cheap and can serve as commonly available sources of vital nutrients for a balanced diet in developing countries. Their consumption could therefore reduce maternal malnutrition if utilized fully. Also noteworthy is that the food most commonly denied children is egg which is a source of high biological value protein. The belief is that it leads children to theft. The relationship between eggs and theft has no basis in science.

Parity, educational level or occupation has no significant relationship with avoidance of foods due to associated taboos. Thus maternal experience or socioeconomic status may not necessarily guarantee nutrition knowledge or the application of this knowledge for practical purposes and this demonstrates the effect that traditional beliefs and cultural norm can have on human behaviour in general. Taboos appear to have been imposed on society mainly to serve the interests of the 'strongest' section, i.e., the reification of social supremacies of the society: in particular the men folk. In the mid-west state of Nigeria, meat and eggs are not usually given to children, because parents believe it will make the children steal. Gizzards and thighs of ducks are eaten by the elderly; children can only have the lower legs or sometimes the head. Frequently coconut milk and liver is taboo for children, because it is believed that ‘the milk renders them unintelligent, whereas the liver causes abscesses in their lungs’ [11].

In some parts of Ishan, Afemai, and Isoko Divisions pregnant women avoid snails, whereas pregnant women of the Asaba Division are neither allowed to eat eggs nor drink milk, ‘because it is feared the children may develop bad habits after birth’. Woentribals of the Ika Division are forbidden to consume porcupine as that is thought to cause a delay in labour. Interestingly, the opposite (an easy delivery) is expected from some pregnant Urhobo women, who have consumed food leftovers from a rat. Following delivery, young mothers in parts of Benin and Ishan Divisions must not consume oil or fresh meat and in parts of Ishan, palm-nut soup is forbidden for 30 days postpartum [26].

Men have fewer food taboos to observe, but nevertheless some also exist. Snail consumption may weaken a warrior's strength and to kill and eat some legendary animals that have helped a particular tribe in the past during intertribal warfare is forbidden. Thus, in some areas the partridge or bush fowl is not eaten; in others it is some water

reptile or the porcupine or even the sheep that are protected by the food taboo. Beans are one of the plant species that are not eaten, because they are believed to cause stomach disorders.

8. Religious Taboos

Since religion is a factor that greatly influences culture, let us consider some religious taboos observed in Nigeria. In Christianity for instance: Seventh Day Adventists have adopted many of the Jewish/Biblical dietary laws, but while to the Jew there is a place for wine, coffee, and tea (at least for those old enough to have been given complete religious responsibility), Seventh Day Adventists declare all intoxicating and addictive drinks prohibited. They follow a strict lacto-ovo vegetarian diet with no meat, fish, poultry, alcohol, tobacco or caffeine. Whole grains, fruits and vegetables are considered the base of their diet, and legumes, low-fat dairy products, and eggs are to be used sparingly. Gluttony and drunkenness are, of course, also forbidden.

The Church of the Latter Day Saints more commonly known as the Mormon Church is well known for prohibiting alcohol and tobacco consumption. Mormons also avoid caffeine and hot drinks like coffee and tea. Mormons may, however, eat meat, herbs, fruits and vegetables 'in the season thereof,' and wheat, which they believe has been ordained to man. Moderation is strongly encouraged.

In Islam, various dietary laws govern what Muslims may eat, which makes certain foods taboo. Pork is forbidden to Muslims as are foods containing pork products. Other meats, including beef and chicken, are also taboo if they are not slaughtered according to Islamic standards, making them Halal, or permissible for consumption. Foods containing blood, like black pudding, are also not allowed, along with birds of prey and animals that consume meat. The consumption of alcohol is strictly taboo in Islam and is considered a 'great sin' in the Quran. This ban is believed to be connected to the requirement for Muslims to pray, while sober, five times a day, and leaving little time to drink and recover from its effects before needing to worship again. It is also believed that alcohol is banned in Islam by a higher power due to its ability to have a negative impact on health.

9. Our Common Nutritional Heritage Extant

According to a traditional Cameroonian saying, the stomach is blind. The implication is that all that matters to the stomach is that it remains full. Of course, the eye and the palate are considerably more discriminating about what goes into the stomach. Nevertheless, choice in the matter is determined to a large extent by culture. From the universal need for every one of the earth's estimated 6399 surviving mammalian species to obtain nourishment, the focus for the individual is on the specific foods that are actually available and eaten. Apart from one exception, then, it is probably not an exaggeration to say that there is no single universal food. And what is this exception? Breast milk of course! Breast milk is the contemporary universal nutritional link par excellence for the entire human.

Historically, it is also a vital nutritional link in the human family's unending chain; it helps to define our place in the parade of generations, as much in terms of those who came before us as of those who will come after. No substitute, not even the most sophisticated and nutritionally balanced infant formula, can possibly compete with the multiple wonders of breast milk. But then, how could it? After 60 million or so years of mammalian evolution - or what many attribute to the perfect hand of the Creator - a synthetic product that is usually based on the milk of another species could hardly be expected to measure up. Nor can artificial feeding do more than approximate the act of breast-feeding, in physiological and emotional significance, for babies and mothers alike. And so, no matter how important it is to provide a nutritionally balanced substitute when babies are not breast-fed, giving them something else in place of breast milk will always be a deviation from the biological norm for the human species. Indeed, breast milk transcends culture and geography, uniting us all through our common nutritional heritage.

10. Conclusion

The pride of any nation is the health of its citizens. A hungry nation is a sick nation. The health of the citizens affects the economy, political, educational and technological advancement of any nation. Hunger and malnutrition continue to be widespread despite abundance of food supply in some parts of the globe due to ignorance and cultural beliefs around food consumption. Nigeria has an abundant food supply, but the nation still suffers from hunger and malnutrition. This fact as cannot be totally divorced from food misinformation brought by cultural beliefs and practices which is the modern version of primitive superstitions and taboos. They cannot be ignored because they are often decidedly more influential in directing behaviour than are nutritional facts learned through formal education.

A major trend in (un)healthy and (un)sustainable food consumption seems to be occurring at the global level, across different cultural contexts. The food production and consumption systems have serious and intertwined implications for public health worldwide. The cultural values and representations attached to food and health should be the target of community health interventions, aiming to improve people's healthy food choices and lifestyles, also through the provision of more restorative and walk-able urban settings, to promote physical activity for individuals and communities. Different cultures might differ not only in the way food is produced, prepared and consumed, but also in the attitudes toward the relationship between food, health and pleasure, and in the ways through which food is acquired, prepared, processed and consumed in everyday physical spaces.

Recommendations

Based on the foregoing discussions, the following recommendations are made:

- In the face of an increasing population, and dwindling food supplies in developing countries such as Nigeria, efforts should be made to break the cultural habits (food taboos) that adversely affect individual efforts to meet

their nutritional needs. The community should be enlightened and encouraged to make use of these nutritious but forbidden foods;

- The key to better nutrition lies in pursuing an effective nutrition education programme that will ensure better food selection, handling and preparation;
- The cooperative extension services of local and state agricultural development authority, family support units, market associations, religious groups and communal developments associations etc should be equipped and mandated to disseminate available information concerning food nutrients, particularly with respect to food taboos to the consumers in their locality.
- Policy makers and health care providers may have to formulate strategies that will be more culturally sensitive to the dietary needs of the people. As established in existing literature boosting cultural competence in this regard will help improve health outcomes and quality.
- Poor nutritional practices especially in pregnancy and early childhood can result in dire consequences in the growth and development of a child. However, discussions about food taboos during antenatal care visits and during community health education can help reduce the traditional belief about certain food in pregnancy and early childhood.

References

- [1] Chakona, G. and Shackleton, C., 2019. "Food taboos and cultural beliefs influence food choice and dietary preferences among pregnant women in the eastern cape, south Africa." *Nutrients*, vol. 11, pp. 2668-2685. Available: www.mdpi.com/journal/nutrients
- [2] FOA, 2018. *Food and agriculture organisation; international fund for agricultural development; united nations children's fund; world food programme; world health organisation. The state of food security and nutrition in the world 2018. Building climate resilience for food security and nutrition*. Rome: Food and Agriculture Organisation.
- [3] Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., et al., 2013. "Maternal and child under-nutrition and overweight in low-income and middle-income countries." *Lancet*, vol. 382, pp. 427-451.
- [4] Chakona, G. and Shackleton, C., 2017. "Minimum dietary diversity scores for women indicate micronutrient adequacy and food insecurity status in South African towns." *Nutrients*, vol. 9, pp. 812-820.
- [5] Chakona, G. and Shackleton, C., 2018. "Household food insecurity along an agro-ecological gradient influences children's nutritional status in south Africa. Front." *Nutrition*, vol. 4, pp. 72-80.
- [6] Global Nutrition Report, 2018. "Shining a light to spur action on nutrition. Development initiatives. Bristol. 2018. Available online: (accessed on 6 february 2021." Available: https://reliefweb.int/sites/reliefweb.int/files/resources/2018_Global_Nutrition_Report.pdf
- [7] Von Grebmer, K., Bernstein, J., Hossain, N., Brown, T., Prasai, N., Yohannes, Y., Patterson, F., Sonntag, A., Zimmerman, S. M., et al., 2017. *Global hunger index: The inequalities of hunger*. Washington, DC, USA: International Food Policy Research Institute.
- [8] Golden, C. D., Vaitla, B., Ravaoliny, L., Vonona, M. A., Anjaranirina, E. G., Randriamady, H. J., Glahn, R. P., Guth, S. E., Fernald, L. C., et al., 2019. "Seasonal trends of nutrient intake in rainforest communities of north-eastern Madagascar." *Public Health Nutrition*, vol. 22, pp. 2200-2209.
- [9] Ikechukwu, H. U., Ofonime, N. U., Kofoworola, O., and Asukwo, D. E., 2020. "Influence of cultural and traditional beliefs on maternal and child health practices in rural and urban communities in Cross River State, Nigeria." *Annals of Medical Research and Practice*, vol. 1, pp. 1-13.
- [10] Reddy, S. and Anitha, M., 2015. "Culture and its influence on nutrition and oral health." *Biomedical Pharmacology Journal*, vol. 8, Available: <http://biomedpharmjournal.org/?p=3340-3348>
- [11] Adegboye, O. R., Smith, C., Anang, D., and Musa, H., 2016. "Comparing and contrasting three cultural food customs from Nigeria and analysing the nutrient content of diets from these cultures with the aim of proffering nutritional intervention." *Critical Reviews in Food Science and Nutrition*, vol. 56, pp. 2483-2494.
- [12] Ugwa, E. A., 2016. "Nutritional practices and taboos among pregnant women attending antenatal care at general hospital in Kano, Northwest Nigeria." *Annual Medical Health Science Research*, vol. 6, pp. 109-114.
- [13] Mohamad, M. and Ling, C. Y., 2016. "Food taboos of Malay pregnant women attending antenatal check-up at the maternal health clinic in Kuala Lumpur." *International Journal of Food Nutrition Method*, vol. 3, pp. 262-267.
- [14] Ekwochi, U., Osuorah, C. D., Ndu, I. K., Ifediora, C., Asinobi, I. N., and Eke, C. B., 2016. "Food taboos and myths in south eastern Nigeria: The belief and practice of mothers in the region." *Journal of Ethnobiology and Ethnomedicine*, vol. 12, pp. 7-13.
- [15] Cherkos, T. M., Hailemichael, T., Sinamo, S., Loha, M., and Woldeyes, L., 2013. "Role of nutrition education to overcome food taboos and improve iron tablets demand during pregnancy in Ethiopia: Wonchi District." *Annals of Nutrition Metabolism*, vol. 63, pp. 1738-1742.
- [16] Vasilevski, V. and Carolan-Olah, M., 2016. "Food taboos and nutrition-related pregnancy concerns among Ethiopian women." *Journal of Clinical Nursing*, vol. 25, pp. 3069-3075.
- [17] Arzoaquoi, S. K., Essuman, E. E., Gbagbo, F. Y., Tenkorang, E. Y., Soyiri, I., and Laar, A. K., 2015. "Motivations for food prohibitions during pregnancy and their enforcement mechanisms in a rural Ghanaian district." *Journal of Ethnobiology and Ethnomedicine*, vol. 11, pp. 59 -66.

- [18] Van, V. N., Nasi, R., and Taber, A., 2011. *From the forest to the stomach: Bushmeat consumption from rural to urban settings in central Africa. In non-timber forest products in the global context.* Berlin/Heidelberg, Germany: Springer. pp. 129–145.
- [19] Pachón, H., Schroeder, D. G., Marsh, D. R., Dearden, K. A., Ha, T. T., and Lang, T. T., 2002. "Effect of an integrated child nutrition intervention on the complementary food intake of young children in rural north Viet Nam." *Food and Nutrition Bulletin*, vol. 23, pp. 59–66.
- [20] Marchant, T., Armstrong, S. J. R., Edgar, T., Ronsmans, C., Nathan, R., and Abdulla, S., 2002. "Anaemia during pregnancy in southern Tanzania." *Ann Trop Med Parasitol*, vol. 96, pp. 477-487.
- [21] Sharifah, Z. S. A., Nilan, P., and Germov, J., 2012. "Food restrictions during pregnancy among Indigenous Temiar women in peninsular Malaysia." *Malaysian Journal of Nutrition*, vol. 18, pp. 243–253.
- [22] Barfield, T., 1997. *The dictionary of anthropology.* Oxford: Blackwell.
- [23] Abubakar, A., Holding, P., Mwangome, M., and Maitland, K., 2011. "Maternal perceptions of factors contributing to severe nutrition among children in a rural African setting." *Rural Remote Health*, vol. 11, pp. 1423–33.
- [24] Santos-Torres, M. I. and Vasquez-Garibay, E., 2003. "Food taboos among nursing mothers from Mexico." *Journal of Health Population and Nutrition*, vol. 21, pp. 142–9.
- [25] World Health Organization, 2016. *Recommendations on antenatal care for positive pregnancy experience.* Geneva: World Health Organization.
- [26] Onuorah, C. E. and Ayo, J. A., 2003. "Food taboos and their nutritional implications on developing nations like Nigeria - a review." *Nutrition and Food Science*, vol. 33, pp. 235-240.