

Promotion of Healthy Food Consumption among Rural Families in Ogba/Egbema/Ndoni Local Government Area, Rivers State, Nigeria

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Abstract

This study examines strategies for the promotion of healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State. Four objectives and research questions guided the study. The quantitative survey design was employed for the study. The population for the study consisted of all the 1,278 teachers in the 24 public secondary schools in the area Ogba/Egbema/Ndoni, while the purposive sampling technique was used to select 295 respondents. The instrument for data collection was a structured questionnaire. Mean and standard deviation were used to analyze the data. The findings revealed that the ways families should utilize their income on food are prioritization of family food in the budget; spending more on nutritious foods than junks; bulk purchases; giving attention to younger children's nutrition; while nutrition awareness improves food safety measures; improve families' understanding of the importance of a balanced diet; help parents improve their children's nutrition. Parental roles for healthy food consumption are ensuring the family eats together; discouraging eating out; having regular family meals; serve a variety of healthy foods; encourage healthy snacking; while nutrition hygiene promotes healthy food consumption through; safe drinking water to reduce undernutrition in children; prevention of diarrhoeal; and prevention of parasitic diseases. The study recommended that the local populations should be assisted with relevant nutrition education and awareness in order to improve their food consumption.

Keywords: Health, Food Consumption, Rural Families

Introduction

Rural areas are hubs of agricultural production but local residents often have difficulties accessing fresh produce at affordable prices due to limited choice available locally (Bhutta, 2013). People living in poverty in rural communities can struggle due to distance from services, transportation costs and access to information. Information on people facing food poverty in rural areas is limited and people can feel forced to hide poverty and poor access to food (Black, 2013). Uptake of free school meals and pension tax credits by eligible groups is often lower in rural areas (Adair, 2013). Hence gaining access to healthy food consumption becomes a mirage in these areas, in many parts of the world.

A healthy eating plan gives the body the nutrients it needs every day while staying within the daily calorie goal for weight loss. A healthy eating plan also will lower the risk for heart disease and other health conditions (Ibe, 2006). Eating nutritious food and maintaining a healthy diet are important parts of a person's overall health and well-being. Evidence shows that poor nutrition and an unhealthy diet are leading risk factors for various chronic health conditions, including heart disease, hypertension, diabetes, and other diet-related diseases. The lack of access to affordable and nutritious food is a major public health problem, particularly for the poor and other underserved populations who often live in a food deserts where the availability of fresh and healthy food is lacking or limited (Anton & Dobrzanska, 2009). Further, the lack of access underscores how the social determinants of health impact underserved populations, which then results in health disparities.

Food is a fundamental human need and influences health and quality of life. Access to affordable and nutritious food is a public health priority and requires broader, community-based interventions focused on addressing the social determinants of health and eliminating health disparities. Increasing evidence shows that the conditions in which people live, work, grow, and play referred to as the social determinants of health influence their health and well-being more significantly than genetics and individual behaviors (Broda, 2008). Therefore, the sensitivity of a person's health to their physical and social environment is primarily responsible for health disparities, which disproportionately affects low-income communities and racial and ethnic minorities (Coleman, 2016). For example, many low-income and underserved communities face many barriers to good health, including limited access to healthy food, lack of green and open spaces, dilapidated housing, underfunded schools and little economic opportunities (Chandrashekar, 2015). These community conditions are linked to higher rates of asthma, obesity, diabetes, heart disease and mortality, as compared to the general population.

Food security is a fundamental objective of development policy and also a measure of its success. Achieving food security is still a major problem for households in most rural areas of Nigeria; therefore, the associated symptoms of food crisis are found throughout the country, though with differences based on occupation, agroecological, socio-economic factors and rural versus urban location. The pattern of food consumption can be used as an indicator in looking at the level of community welfare and regional typology is an important determinant that helped determine the pattern of household food consumption, because the consumption patterns associated with behavior that cannot be separated from the socioeconomic cultural and environmental conditions. Earlier studies have focused on food challenges that confront rural communities. In societies such as those in rural areas of Nigeria's Niger Delta, there has been paucity of research with regards to interventions that target families as major role players. It was against this background that this study was initiated.

Statement of the Problem

Rural populations are usually confronted with certain degrees of challenges to their health and food. Ranging from household poverty, food insecurity to nutritional deficiencies, rural populations such as those in Ogba/Egbema/Ndoni Local Government Area Rivers State are also faced with poor access to information on the types and content of the foods they eat. Food is a major concern for people living in rural places such as Ogba/Egbema/Ndoni Local Government Area Rivers State. Constrained by factors such as cultural impediments, low-income levels and poor access to nutritional information and awareness, they are subjected to various health problems resulting from nutritional inadequacy. Poor diets characterize their food system, and food-borne diseases are on the high, especially among pregnant women and children. To best of knowledge of this researcher, no study research has been conducted on healthy food consumption practices as an intervention measure. The high rise in nutrition-related diseases among local or rural populations has called for an investigation on what determines healthy diet for the rural people in Ogba/Egbema/Ndoni Local Government Area Rivers State. This will be an effective intervention process for improving the health of the local people.

Aim of the Study

The main purpose of this study was to examine strategies for the promotion of healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State. To achieve this, the study evaluated four specific objectives which were to:

1. find out how effective utilization of family income promotes healthy food consumption among rural families;
2. examine how nutrition awareness promotes healthy food consumption among rural families;

3. examine how parental roles will promote healthy food consumption among rural families and,
4. examine how nutrition hygiene will promote healthy food consumption among rural families.

Research Questions

The following research questions guided the study:

1. How does effective utilization of family income promote healthy food consumption among rural families?
2. How does nutrition awareness promote healthy food consumption among rural families?
3. How does parental roles promote healthy food consumption among rural families?
4. How does nutrition hygiene promote healthy food consumption among rural families?

Healthy Diets: Healthy diets are diets free from disease or pain: enjoying health and vigor of body, mind, or spirit (like healthy children or tips for staying healthy) (WHO, 2009). Consuming a healthy diet throughout the life-course helps to prevent malnutrition in all its forms as well as a range of noncommunicable diseases (NCDs) and conditions (WHO, 2009; 2014). However, increased production of processed foods, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are now consuming more foods high in energy, fats, free sugars and salt/sodium, and many people do not eat enough fruit, vegetables and other dietary fibre such as whole grains (Igwe, 2011). The exact make-up of a diversified, balanced and healthy diet will vary depending on individual characteristics (e.g. age, gender, lifestyle and degree of physical activity), cultural context, locally available foods and dietary customs. However, the basic principles of what constitutes a healthy diet remain the same (Ibrahim, 2006).

Rural Populations and Nutritional Challenges: Lack of balanced diets, manifested as under- and over-nutrition, is a major concern in South Africa (Ibe, 2006) and other developing parts of the world. This has affected human health and well-being as observed by the increased risk of chronic lifestyle diseases such as obesity, hypertension, coronary heart disease and hyperlipidaemia (Igwe, 2011). There are several underlying causes of malnutrition in South Africa which are largely inter-linked, with poverty being the leading cause (Kabubo-Mariara et al., 2009).

Methodology

Design of the study

The study employed a quantitative survey design.

Population and sample for the Study

The population for the study consisted of all the 1,278 teachers in the 24 public secondary schools in the area Ogba/Egbema/Ndoni Local Government Area of Rivers State (Rivers State Secondary School Board, 2020). This population was chosen because the teachers are all major players in the community and homes. Hence, it was assumed they would provide reliable information on ways to improve food consumption in the rural areas. The purposive non-proportionate simple random sampling technique was used to select 295 respondents. The Krejcie and Morgan sampling frame was used to determine the sample size.

Instrument for data collection

The instrument used for data collection was a structured questionnaire form designed from the research questions after an extensive literature review. The questionnaire was titled ‘Strategies for Promoting Healthy Food Consumption Questionnaire (SPHFCQ)’. The questionnaire was designed on a four-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with scores 4, 3, 2 and 1 respectively. The suitability of the instrument was determined using Cronbach’s Alpha Coefficient to obtain a reliability coefficient of 0.992.

Data Analysis

Mean and standard deviation were used to analyze the data. Based on the 4-point rating scale, a 2.5 mean was set as the minimum acceptance level. Any item below this mean score was treated as disagreed, while any item with mean score of 2.5 and above was treated as agreed.

Results

The results were presented the tables below.

Research Question 1: How does effective utilization of family income promote healthy food consumption among rural families?

Ways families should utilize their income on food are:	N=144 (Males)			n=144 (Females)		
	\bar{X}	SD	RMK	\bar{X}	SD	RMK
1. prioritization of family food in the budget	3.33	.759	A	3.32	.872	A
2. spending more on nutritious foods than junks	3.32	.873	A	3.34	.794	A
3. bulk purchases	3.45	.869	A	3.32	.874	A
4. not buying perishable foods	3.22	.791	A	3.21	.767	A
5. not buying foods expired foods	3.23	.858	A	3.43	.862	A
6. spending more on fresh foods than processed foods	3.33	.892	A	2.99	.881	A
7. buying foods that everyone can eat	2.89	.771	A	2.87	.793	A
8. giving attention to younger children’s nutrition	3.81	.896	A	3.17	.874	A
9. giving attention to pregnant women’s foods	3.44	.983	A	3.41	.967	A
Grand Mean	3.33	.854	A	3.22	.853	A

Keys: \bar{X} = mean; A = Agree

Table 1 above showed the mean ratings and standard deviation on how effective utilization of family income promotes healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State. The data revealed that the respondents agreed with all items (1-9) because these items had mean scores of 2.50 and above which was the mid score or cut-off mark. The standard deviation ranged between .759 and .983 indicating that the respondents

were not far from their opinions. The table also showed that the highest mean score was 3.81 (item 8) while the lowest mean score was 2.87 (item 7).

Research Question 2: How does nutrition awareness promote healthy food consumption among rural families?

Table 2: Mean and standard deviation on how nutrition awareness will promote healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State

Nutrition awareness:	n=144(males)			n=144(females)		
	\bar{X}	SD	RMK	\bar{X}	SD	RMK
10. improves food safety measures	2.53	.759	A	3.12	.762	A
11. improves families' understanding of the importance of a balanced diet	3.42	.863	A	3.14	.974	A
12. helps parents improve their children's nutrition	3.15	.759	A	3.12	.764	A
13. helps parents promote nutrient intake for children/pregnant women	3.32	.861	A	3.21	.857	A
14. helps to maintain a healthy body weight	3.13	.868	A	3.33	.862	A
15. reduces the risk of chronic diseases	3.44	.826	A	3.29	.871	A
16. helps families regulate intake of junk foods	2.98	.789	A	3.01	.864	A
Total Mean	3.13	.817	A	3.17	.850	A

Keys: \bar{X} = mean; A = Agree

Table 2 above showed the mean ratings and standard deviation on how nutrition awareness promotes healthy food consumption among rural families. The data revealed that the respondents agreed with all items (10-16) because these items had mean scores of 2.50 and above which was the cut-off mark. The standard deviation ranged between .759 and .974 indicating that the respondents were not far from their opinions. The table also showed that the highest mean score was 3.44 (item 15) while the lowest mean score was 2.53 (item 10).

Research Question 3: How parental roles promote healthy food consumption among rural families?

Table 3: Mean and Standard Deviation on how parental roles promote healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State

	Parental roles for healthy food consumption are: n=144(males)			n=144(females)		
	\bar{X}	SD	Decision	\bar{X}	SD	Decision
17. ensuring the family eats together	2.77	.885	A	2.68	.779	A
18. discouraging eating out	2.55	.854	A	2.94	.827	A
19. having regular family meals	2.59	.863	A	2.67	.878	A
20. serve a variety of healthy foods	2.84	1.072	A	2.79	.833	A
21. encourage healthy snacking	2.73	.869	A	2.83	.822	A
22. being a role model by eating healthy yourself	3.29	.786	A	2.89	.864	A
23. avoid battles over food	3.12	.853	A	2.93	.786	A
24. involve kids in the process	3.93	.896	A	2.81	.781	A
Total Mean	2.97	.884	A	2.81	.821	A

\bar{X} =Mean; SD=Standard Deviation; A=Agree
 Agree = ≥ 2.50 while Disagree = < 2.50 .

Table 3 above reveals the mean and standard deviation on how parental roles promotes healthy food consumption among rural families. The table shows that the respondents agreed with all items (17-24) because they had mean scores which are above the \bar{X} 2.50 cut-off mark. The highest total mean score is \bar{X} 3.93 (item 24) while the total lowest mean score is \bar{X} 2.55 (item 18). The total standard deviation ranged between .786 and 1.072.

Research Question 4: How nutrition hygiene promotes healthy food consumption among rural families?

Table 4: Mean and Standard Deviation on how nutrition hygiene promotes healthy food consumption among rural families

Nutrition hygiene promotes healthy food consumption through:	Male n=144			Female n=144		
	\bar{X}	SD	Decision	\bar{X}	SD	Decision
25. safe drinking water can reduce undernutrition in children	2.87	.852	A	3.03	.811	A
26. prevention of diarrhoeal	2.93	.871	A	3.85	.838	A
27. prevention of parasitic diseases	2.81	.971	A	2.73	.828	A
28. prevention of damage to						

intestinal development	2.61	.974	A	2.73	.783	A
29. prevention of food contamination	2.75	.879	A	3.51	.743	A
30. prevention of food damage	2.91	.882	A	3.01	.951	A
Total Mean	2.81	.094	A	2.68	.825	A

\bar{X} =Mean; SD=Standard Deviation; A=Agree
Agree = ≥ 2.50 while Disagree = < 2.50 .

Table 4 above reveals the mean and standard deviation on how nutrition hygiene promotes healthy food consumption among rural families. The table shows that the respondents agreed with all items (25-30) because they had mean scores which are above the \bar{X} 2.50 cut-off mark. The highest mean score is \bar{X} 3.85 (item 26) while the lowest mean score is \bar{X} 2.61 (item 28). The standard deviation ranged between .743 and .974.

Discussion of Findings

The findings on how effective utilization of family income will promote healthy food consumption among rural families in Ogba/Egbema/Ndoni Local Government Area Rivers State, the data revealed that the respondents agreed with all items (1-9) because these items had mean scores of 2.50 and above which was the mid score or cut-off mark. According to the findings, the ways families should utilize their income on food are: prioritization of family food in the budget; spending more on nutritious foods than junks; bulk purchases; not buying perishable foods; not buying foods expired foods; spending more on fresh foods than processed foods; buying foods that everyone can eat; giving attention to younger children's nutrition; and, giving attention to pregnant women's foods.

These findings are in agreement with Broda (2008) who noted that income levels of families are a major determinant of eating patterns and choice of foods. Burchi (2012) also opined that the unavailability of financial resources to purchase foods, and improve nutrient intake for family members in need of nutrients is a cause of some nutrition-related ailments that afflict family members. Food security is also a major determinant of healthy living; when people do not have access to adequate and in the right quantity and quality, they are bound to adopt some unhealthy diets.

However, families can effectively manage their resources to achieve some food aims. Through food, families learn about cooking and nutrition, meal planning, money management, and smart shopping (Wardle et al., 2000). Food provides opportunities for families to learn about responsibility and chores and about working and sharing time together. Clearly food plays a greater role than simply nourishing our bodies. Prioritization of food will make food available for the family at all when necessary. Also, proper food or meal plan will which considers specific vulnerable groups will also prevent voidable food crisis. Bulk purchases can also help families avoid some food crisis, thereby making food available, while buying foods which are expired or perishable, will not only save resources for the family, but ensure save the family from the consumption of foods that may subject them to foodborne diseases.

The findings from the research question on how nutrition awareness will promote healthy food consumption among rural families in Ogba/Egbema/Ndoni, the data revealed that the respondents agreed with all items (10-16) because these items had mean scores of 2.50 and above which was the cut-off mark. The results are nutrition awareness improves food safety measures;

improve families' understanding of the importance of a balanced diet; help parents improve their children's nutrition; help parents promote nutrient intake for children/pregnant women; help to maintain a healthy body weight; reduce the risk of chronic diseases; help families regulate intake of junk foods.

These results are in agreement with Carbone and Zoellner (2008) and Campbell (2011) who noted that nutritional education is significant to healthy food decisions, food habits and diet choice. When people are not aware of the role nutrients play in the healthy development of the human body, they make several nutritional errors such as adopting poor eating habits, and being exposed to risky food behaviours.

A healthy diet throughout life promotes healthy pregnancy outcomes, supports normal growth, development and ageing, helps to maintain a healthy body weight, and reduces the risk of chronic disease leading to overall health and well-being. The goal of nutrition awareness is to reinforce specific nutrition-related practices or behaviours to change habits that contribute to poor health; this is done by creating a motivation for change among people, to establish desirable food and nutrition behaviour for promotion and protection of good health (Kothari & Abderrahim, 2010). Nutrients have one or more of three basic functions: they provide energy, contribute to body structure, and/or regulate chemical processes in the body. These basic functions allow us to detect and respond to environmental surroundings, move, excrete wastes, respire (breathe), grow, and reproduce.

Nutritional awareness is a self-perception of the importance assigned to eating balanced meals, and classified as high, moderate, or of little importance. Nutritional awareness has a direct effect on diet quality, with a minor component of variance explained by improved income. Adequate and proper nutrition is an important aspect of a healthy lifestyle. Therefore, it is essential to promote an awareness of the nutrients contained in foods in relation to their roles in body maintenance, growth, reproduction, health, and disease prevention in humans.

Families need to be aware that there is no shortcut to good health. Nutrition affects the overall development of not only an individual, but also an entire family. This is because a diet deficit in nutritive value can have long-term impact on health, leading to diet-related disorders. This usually results in less productivity as physical output and capacity decrease, leading to economic loss on a macro level, directly affecting the development of an entire nation. To lead an active and healthy lifestyle, a well-balanced diet combined with regular physical exercise is crucial. Good nutrition boosts immunity, cuts the risk of mental and physical disorders and helps in fighting diseases. Vitamins are essential to any diet as they help in the normal growth of a human being. A recent survey shows that most Indians suffer from a Vitamin D, Vitamin B12 and Vitamin B9 deficiency. To add to this, we also suffer from Vitamin A deficiency and are deficit in essential minerals such as zinc and iron. Micronutrients, comprising vitamins and minerals, form the backbone of a good and well-balanced nutritive diet. Nutrition cannot be just a means to get something done; it is the pathway to success in daily life, to play any sport and an important aspect to keep one active.

Furthermore, from the research question on how parental roles promotes healthy food consumption among rural families in Ogba/Egbema/Ndoni, the results are that parental roles for healthy food consumption are: ensuring the family eats together; discouraging eating out; having regular family meals; serve a variety of healthy foods; encourage healthy snacking; being a role model by eating healthy yourself; avoid battles over food, and involve kids in the process. These findings are supported by Ala'a (2015), Bronte-Tinkew et al. (2007) and Igwe (2011) who noted that parents play significant roles in affecting family consumption patterns.

Parents can positively influence their young children's diets by doing some or all of the following: Be a positive role model by eating a wide variety of fruits and vegetables. Provide a variety of nutrient-dense foods such as fruits and vegetables to the children starting when solid foods

are introduced. Parenting practices and parent-child interaction during feeding vary in the degree to which children are allowed some degree of autonomy in eating. These interactions can have a powerful influence on children's developing food preferences, intake patterns, diet quality, growth, and weight status (Morrow & Mayall, 2009).

New research suggests that the food preferences of young children could be related to their risk of having obesity later in life (Prosperi et al., 2014). Parents and caregivers can influence young children's food preferences, and here we discuss strategies that may be helpful and those which may be counterproductive. Sometimes parents restrict highly palatable (and often energy dense) foods from their children's diets hoping children choose healthful alternatives, but this often has the opposite effect. Restricting a tasty food from children usually increases their desire for it.

Rewarding children for healthy eating is another common practice among well-intentioned parents. However, rewarding with a highly palatable food can defeat the purpose of rewarding. When a tasty food is offered as a reward, children's desire for the 'reward' food increases over the food the parents are trying to encourage them to eat. In addition, rewarding does not allow children to develop intrinsic motivation for healthy eating. Parents may see better results from offering a variety of foods starting at a young age and repeating exposure to foods even if the child does not like them at first. Lastly, from the research question on how nutrition hygiene promotes healthy food consumption among rural families, the findings indicate that nutrition hygiene promotes healthy food consumption through: safe drinking water to reduce undernutrition in children; prevention of diarrhoeal; prevention of parasitic diseases; prevention of damage to intestinal development; prevention of food contamination; and prevention of food damage.

These findings are supported by Adair (2013) who noted that food safety and hygiene is of utmost importance for families, as it helps to protect the health of consumers from foodborne illnesses and food poisoning (Brown et al., 2013). Food poisoning occurs when food becomes contaminated by bacteria, viruses and other germs, making those who consume the contaminated food very ill. Nutrition hygiene, otherwise known as food safety can be defined as handling, preparing and storing food or drink in a way that best reduces the risk of consumers becoming sick from the food-borne disease. The principles of food safety aim to prevent food from becoming contaminated and causing food poisoning.

Good food hygiene means knowing how to avoid the spread of bacteria when cooking, preparing, and storing food. Foods that aren't cooked, stored and handled correctly can cause food poisoning and other conditions. All over the world people are seriously affected every day by diseases that are caused by consuming unhygienic and unsafe food. We have to give due emphasis to good hygienic practices to prevent and control foodborne diseases (Adetutu, 2014). Foodborne diseases result from eating foods that contain infectious or toxic substances. The food we eat should be free from contaminants such as microorganisms and chemicals.

Practicing good hygiene is pivotal when it comes to food preparation. It ensures that the food being eaten is safe for consumption. Poor hygiene when handling, or eating food can lead to the harmful spread of germs, which can cause food-borne diseases. Giving young children the best start to life, with positive long-term health outcomes is essential. The key is in providing them optimal nutrition, along with implementation of safe food handling. This is done with a balanced diet and good hygiene practices. Prevention is always better than cure.

Conclusion

Rural families face tremendous obstacles to the actualization of healthy food consumption. However, this study has been able to reveal the strategies that can be adopted to improve food family food consumption among rural families in Ogba/Egbema/Ndoni area of Rivers State. The study has identified effective income management, nutrition awareness, cultural practices, parental roles and

nutrition hygiene as important strategies that will promote healthy food consumption among rural families.

Recommendations

Based on the findings of the study, it is recommended that:

1. The local populations should be assisted with relevant nutrition education and awareness in order to improve their food consumption. This can be done by community-based organizations, and public health professionals through symposiums on food, and other informal food education process.
2. Families should be assisted to attain food security status.
3. Family members should be enlightened on the importance of nutrition hygiene and methods of apply nutrition hygiene.
4. Families and their members should be sensitized on the importance and methods of family budgeting.
5. Communities should be enlightened on how to manipulate culture to support healthy food consumption rather than being an hinderance to it.

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