



## Promoting Healthy Nutrition among Children in Ogoniland

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### Abstract

*The future of any nation is known to lie in the vibrancy of their young population. Unfortunately, far too many of our children and young people are not getting the diets they need, which is undermining their capacity to grow, develop and learn to their full potential. This is a global calamity but more devastating in middle and low income countries including Nigeria where statistics on the three strands of malnutrition: stunting, wasting and obesity are so unfavorable. The paper examined nutritional issues among children in Ogoniland and proffered way forward. Some basic concepts such as nutrition, malnutrition, diet and childhood were elucidated. Nutritional problems within the context of Ogoniland were highlighted; some food fallacies, land and water degradation and insecurities that have led to food insecurity, poverty and malnutrition in the land with far reaching health implications for the young growing children were highlighted and discussed. The paper proffered some possible solutions to eliminate these identified nutritional problems and factors leading to them. Suggestions for promoting healthy nutrition among children in Ogoniland included: interventions bordering on health education; improved and innovative agricultural practices; school interventions; and interventions from governmental and non-governmental organizations.*

**Key words:** Nutrition, malnutrition, childhood, Ogoniland, food fad.

### Introduction

Food is a basic necessity of life and especially of particular importance for children who are growing. Food can be defined as that which is eaten to supply necessary nutritive elements. It is anything eaten or drunk, which meets the needs for energy, building, regulations and protection of the body (Sumatti & Rajagopal, 2014). Therefore, any substance which nourishes the body after consumption, digestion and absorption can be referred to as food. When it is taken into the body, it causes no harm. It produces energy, promotes growth, repairs worn-out tissues and regulates all body processes like respiration, excretion, growth and even reproduction. When foods are processed in the human body, then nutrients are made available.

Nutritional status is an important index for measuring quality of life in children. The nutritional status of children has impact on their health, cognition and subsequently their educational achievements (Karaka, Maiti, Das & Karmakav, 2017). Children are among the vulnerable population suggested as requiring special provisions in the nutrition policy by the Food and Agricultural Organisation (FAO). Studies have proven that Obesity has a negative impact on children's education such that overweight/obese children are said to have lower reading skills and mathematics scores, poorer classroom performance, less connection to school mate, greater desire to quit school and find it difficult to further their education in life with the same level of success as normal weight children (Judge & Johns, 2007; Hamilton - Ekeke & Thomas 2007). According to the World Health Organisation – WHO (2021), 149 million children under 5 years are too short for their age (stunted) and 33.1% of them live in West and Central Africa (UNICEF, 2019). Almost 50 million children globally are wasted, and 9% of them live in West and Central Africa (UNICEF, 2019).

An estimated two million children in Nigeria suffer from severe acute malnutrition (SAM), (UNICEF 2018). In the south-south region of Nigeria where Ogoni land is located, the situation is not different. This has been attributed to the high rate of poverty which has deprived many of access to better food stuffs. Other reasons include that the primary health centres are not better equipped to eradicate these problems, such as providing nutritional supplements to children. In addition, there are some child feeding practices in Ogoni land which are not always favorable to health. These food fads which are still swaying in the area affect mostly the health of children.

It is worrisome that nutritional problems persist in Ogoniland despite agriculture being their major occupation of 66% of the indigenes (Otaiku, 2019). Among other reasons, poor agricultural yield experienced by the communities and occasioned by degradation of farmlands by oil spillage and other oil exploration activities in Ogoniland has been fingered. Otaiku (2019) reports that oil spill destroys farmlands and pollutes fishing creeks. He further reported that residents of Ogoniland suffer untold hardship in obtaining freshwater. Hence, apart from not being able to harvest bountiful agricultural produce for consumption, the people are impoverished because their means of livelihood has been jeopardized by activities of the oil industry further exposing them to the risk of malnutrition.

The paper paid attention to the nutrition recommended for children, some common nutritional diseases attached to malnutrition, food availability and nutritional pattern in Ogoniland and some of the possible ways to promote healthy nutrition among the children in Ogoniland.

### **Concept of Nutrition and Malnutrition**

Nutrition is how food affects the health of the body. Edris (2004) defined nutrition as the sum total of the process by which living things receive and utilize the necessary materials for survival, growth and maintenance of worn out tissues. Nutrition is about eating a balanced diet. A balance diet is that which contains all the necessary nutrients in the right proportion. Food is essential to life. It provides vital nutrients for survival, and helps the body function and stay healthy. Food is comprised of macronutrients including protein, carbohydrate and fat that not only offer calories to fuel the body and give it energy but play specific roles in maintaining health. Food also supplies micronutrients (vitamins and minerals) and phytochemicals that don't provide calories but serve a variety of critical functions to ensure the body operates optimally (Annigan & Media, 2016).

When a diet does not provide the necessary nutrients in the right amounts for growth and maintenance of body processes it is regarded as improper and referred to as malnutrition. Malnutrition is a state of nutrition in which a deficiency or excess (or imbalance) of energy, protein and other nutrients causes measurable adverse effects on tissue/body form (body shape, size, composition), body function and clinical outcome. Edris (2004) defined malnutrition as the condition that results from an imbalance between dietary intake and requirements. Malnutrition is a broad term and can include not only protein-energy malnutrition (both over- and undernutrition) but malnutrition of other nutrients, such as micronutrients (Teigen, Kuchnia, Nagel, Price, Hurt, & Earthman, 2018).

### **Concepts of Childhood**

Childhood is the time for children to be in school and at play, to grow strong and confident with the love and encouragement of their family and an extended community of caring adults. It is a precious time in which children should live free from fear, safe from violence and protected from abuse and exploitation. As such, childhood means much more than just the space between birth and the attainment of adulthood. It refers to the state and condition of a child's life, to the quality of those years (UNICEF, 2005).

Childhood is defined as the stage of a human organism between birth and adolescence. The first year of life is called infancy and is covered in the concept infancy. The remaining years until adolescence are loosely divided into early childhood (one to five years), middle childhood (six to ten years), and pre-adolescence (11-12 years) (UNICEF, 2009).

At infancy, children require exclusive and continued breast feeding in the first six months, and the provision of diverse and nutritious first foods. Nutritional problems at this stage of life usually include lack of exclusive and continued breastfeeding and feeding with artificial milk (UNICEF, 2019). Early childhood follows infancy, which ends at the first birthday. The first part of early childhood is toddlerhood when a child begins speaking and taking steps independently. Nutritional problems encountered usually include lack of dietary diversity, low feeding frequency, eating processed foods, and drinking sugar-sweetened beverages. Toddlerhood ends around age three when the child becomes less dependent on caregivers for basic needs. Early childhood continues with the preschool stage, which ends at about age five. Poor diets drive malnutrition in early childhood. Report from UNICEF (2019) indicates that only 1 in 5 children aged 6 to 23 months from the poorest households and rural areas is fed the minimum recommended diverse diet for healthy growth and brain development. This stage is characterized by nutritional problems such as diets containing excess sugar, salt and fat, lacking minerals and vitamins, marketing and consumption of unhealthy ultra-processed foods and lack of physical activity (UNICEF, 2019).

Early enrollment in schools promotes the consumption of snacks and sweets which are what most parents usually pack as lunch for their children. Sedentary living is also encouraged among children of this age by early enrollment in school because, they have limited time for physical activities in school, and even so, lack of spacious playing field which is a common feature of most private schools in Nigeria also limits their engagement in physical activities.

Middle childhood is the life stage between early childhood and pre-adolescence. It covers the ages six to ten years when most children are in elementary school. Children within this age bracket are more independent and physically active than they were in the early school years, but few have experienced any of the physical changes of puberty. Children in this range are more involved with friends and are learning to think in more complex ways than during their preschool years. Pre-adolescence is also a time of significant cognitive and psychosocial development. This is typically when young people finally develop the ability to think abstractly. They can think

beyond their personal experiences, and they can view the world less in terms of absolutes, such as right or wrong, black or white. Pre-adolescents also develop the ability to identify the cause and effect sequences, although they still may not be able to infer motives or to reason hypothetically. Relative to earlier ages in middle childhood, preteens tend to have a more realistic and less fantasy based view of life, think and act more reasonably and less emotional, start developing a sense of identity, care more about their appearance and what they wear, start to have romantic feelings towards a peer, and may experience puppy love. Nutritionally, children at this age are prone to snacking, skipping or missing meals, and peer influence on food choice (UNICEF, 2019).

### Nutritional Requirements of Children

Every parent has heard that children should be eating a "balanced diet" but may not know what a balanced diet is. Here are the nine nutrients that every child should be getting on a daily basis (Bilich, 2005).

1. **Protein:** Protein helps a child's body build cells, break down food into energy, fight infection, and carry oxygen. Foods that contain high levels of protein include Meat, Poultry, Fish, Eggs, Nuts, Beans and Dairy products. According to UNICEF (2019), 44 per cent of children aged 6 to 23 months are not fed fruits or vegetables and 59 per cent are not fed eggs, dairy, fish or meat.
2. **Carbohydrates:** While the latest diet trend is to "cut the carbs," carbohydrates are actually the body's most important source of energy. They help a child's body to use fat and protein for building and repairing tissue. Carbohydrates come in several different forms (sugars, starches, and fiber), but kids should be eating more of the starches and fibers and less of the sugar. Foods that contain high levels of carbohydrates include Breads, Cereals, Rice, Crackers, Pasta and Potatoes.
3. **Fats:** Fats are a great source of energy for kids and are easily stored in a child's body. They are also important in helping the body to properly use some of the other nutrients it needs. Foods that contain high levels of fats include Whole-milk dairy products, Cooking oils, Meat, Fish and Nuts.
4. **Calcium:** Calcium is essential in helping to build a child's healthy bones and teeth. It's also important for blood clotting and for nerve, muscle, and heart function. Foods that contain high levels of calcium include Milk, Cheeses, Yogurt, Ice cream, and Egg yolks, Broccoli, Spinach and Tofu.
5. **Iron:** Iron is necessary for a child to build healthy blood that carries oxygen to cells all over the body. Foods that contain high levels of iron include Red meats, Liver, Poultry, Shellfish, Whole grains, Beans, Nuts, and Iron-fortified cereals.
6. **Folate:** Folate, necessary for soon-to-be moms, is also very important for kids. One of the B vitamins, folate is necessary for healthy growth and development of a child's cells. Lack of this vitamin can cause anemia. Foods that contain high levels of folate include Whole-grain cereals, Lentils, Chickpeas, Asparagus, Spinach, Black or kidney beans and Brussels sprouts.
7. **Fiber:** Fiber helps produce bowel regularity in a child. It can also play a role in reducing the chances of heart disease and cancer later in life. Foods that contain high levels of fiber include Whole-grain cereals, Chickpeas, Lentils, Kidney beans, Seeds and Nuts.
8. **Vitamin A:** Vitamin A serves a variety of purposes in kids and adults. It helps growth, assists the eyes in adjusting to dim and bright lights, keeps skin healthy, and works to prevent infection. Foods that contain high levels of Vitamin A includes Carrots, Sweet potatoes, Squash, Apricots, Spinach, Broccoli, Cabbage, Fish oils and Egg yolks.
9. **Vitamin C:** Vitamin C does more than just fighting off the common cold. It also holds the body's cells together, strengthens the walls of blood vessels, helps the body heal wounds, and is important for building strong bones and teeth. Foods that contain high levels of Vitamin C includes Citrus fruits (such as oranges), Strawberries, Tomatoes, Potatoes, Melons, Cabbage, Broccoli, Cauliflower, Spinach, Papayas and Mangoes.

### Malnutrition in Children and Common Nutritional Diseases

Globalization, urbanization, inequities, humanitarian crises and climate shocks are driving unprecedented negative changes in the nutrition situation of children around the world. At all ages, children are not eating diets with enough nutrients or diversity, and they are eating too much sugar, salt and fat. The risks at each age can lead to one or more forms of malnutrition which can affect school performance and lifelong economic opportunities, and present health risks into adulthood.

Malnutrition in children occurs in three aspects. The first aspect is undernutrition. Undernutrition continues to affect tens of millions of children. UNICEF (2019) noted that its presence is visible in the stunted bodies of children deprived of adequate nutrition in the crucial first 1,000 days – from conception to the child's second birthday – and often beyond. These children may carry the burden of early stunting for the rest of their

lives and may never meet their full physical and intellectual potential. According to UNICEF (2019), undernutrition is also evident in the wasted bodies of children at any stage of life when circumstances such as food shortages, poor feeding practices and infection, often compounded by poverty, humanitarian crises and conflict, deprive them of adequate nutrition and, in far too many cases result in death.

The second aspect of malnutrition is hidden hunger. Deficiencies of essential vitamins and minerals – often referred to as micronutrients – rob children of their vitality at every stage of life and undermine the health and well-being of children. This heavy toll is made all the more treacherous by the fact that hidden hunger is rarely noticed until it is too late to do anything. The numbers of children affected by hidden hunger are striking. Based on the most recent data available, UNICEF (2019) estimated that at least 340 million children under 5 suffer from micronutrient deficiencies.

The third aspect is overweight and, in its more severe form, obesity. Overweight, commonly thought of as a condition of the wealthy, is now increasingly a condition of the poor, a reflection of the greater availability of ‘cheap calories’ from fatty and sugary foods in almost every country in the world. It brings with it a heightened risk of non-communicable diseases, such as type 2 diabetes and coronary heart disease. Analysis carried out as part of the Global Burden of Disease study suggests that diets lacking adequate nutrition are now the leading cause of death worldwide UNICEF (2019). An estimated 2 million children in Nigeria suffer from Severe Acute Malnutrition (UNICEF, 2018).

Some other diseases resulting from poor nutrition include:

1. **Kwashiorkor:** This is a malnutrition condition of the body especially in small children as a result of low content of both protein and calories. It is very common in children who grew up in Ogoniland because they don't take enough food that has protein contents. It is characterized by a big stomach and head with small hands and legs, poor hair development and sometimes poor vision.
2. **Marasmus:** This is also a malnutrition condition too which affects children due to sheer starvation. It is a common malnutrition disease too that is prominent in the Ogoniland because the mothers gives more attention to their farm work more than their children, they began to starve their self and they develop marasmus.
3. **Beriberi:** This is a disease of the nervous system which has been known since antiquity. The name Beriberi is a Singhalese word meaning "I can't I can't ", which describe the disease as the person is always too ill to do anything. It is a deficiency of Thiamine which is when adequate food containing thiamine like liver, raw milled rice, fresh peas, whole wheat flour and milk are not taken in the right proportion. It is very common in the Ogoniland and it decreases their mental abilities and also some of them too lazy to carry out their normal house chores.
4. **Rickets:** This is a disease that children can get when their food does not contain enough vitamin D and Calcium. It makes their bone soft and causes their liver and spleen to be too large. It is shown by the presence of a bowed leg, bended ribs, enlarged joints and skull deformation.
5. **Dental Caries:** This is a condition where by the teeth began to decay due to nutritional and physiological complications such as exposing the teeth constantly to sugar. The main content of garri is sugar and the only food which is predominant in the region is garri, so from researches carried out, over 20% of children who grew up in the manner have issue with dental caries.
6. **Scurvy:** Scurvy is the name for a vitamin C deficiency. It can lead to anemia, debility, exhaustion, spontaneous bleeding, pain in the limbs, and especially the legs, swelling in some parts of the body, and sometimes ulceration of the gums and loss of teeth.

### Food Availability and Nutritional Pattern in Ogoniland

Ogoniland is an ethnic nationality located in Rivers State, South-south of Nigeria regarded as the Niger Delta Region. It is an oil producing area and oil exploration exploitation activities go on in many of the communities. Environmental degradation resulting from the activities of the oil industries has led to a serious decline in local food production which has led to scarcity and increase in the prices of food, making it increasingly difficult for the vast majority of the local people to access quality food. Local farmers claim that staple foods, especially cassava and yam no longer yield bountiful harvest as before. Babatunde (2017) reported that local chiefs in Goi, Gokana LGA, Rivers State which is part of Ogoniland claimed that cassava has been contaminated by oil spills to the extent that crude oil has seeped out of the fermented cassava as it is processed by local women. These contaminated cassava tubers are not safe for human consumption. They also complained that other staple crops consumed in the local communities—such as yam tubers, plantains, and cocoyams—are no longer plentiful due to poor harvests.

Furthermore, the local communities, which used to have rich varieties of fresh and saltwater fish, can now hardly catch nor afford to buy enough fish to meet their dietary needs. Many species of fish, such as catfish, are no longer seen, while the tilapia and mudfish populations have been seriously depleted. Oil pollution has affected artisanal fishermen more significantly than fish farmers (aquaculturists), because oil companies do not pay compensation for their pollution of rivers and damage caused to fishing nets and traps (Babatunde, 2017). Local farmers further lamented that some food crops have also disappeared from the region because of the adverse effects of gas flaring and thermal pollution on nutrients in the soil citing the disappearance of *mama coco* (known as *amasi* in the local dialect), a specie of cocoyam that used to be cultivated in the community and had been a local delicacy eaten with palm oil and smoked or dried catfish (Babatunde, 2017).

Finally, the activities of militants who have been blowing up oil pipelines in the region and allegedly raping women in farmlands has further aggravated the pollution of farmland and rivers in local communities and engendered a vicious cycle of environmental degradation, poverty, and violence in the Niger Delta region where Ogoniland is located. All these have implications for child feeding and nutrition in the area.

Aside the devastating effect of oil exploitation activities in Ogoniland on food availability and quality, the available foods are not well utilized to produce balance diet due to lack of knowledge, food fallacies and wrong believes may make a large number of children in the region not to have a proper diet. Some of the food that are produced in the region are Cassava products (Garri), Plantain, Yams, Cocoyam, Palm Oil, Fruits like mango, native apple, Papaya, oranges, grapes, coconuts and sea foods like periwinkle, smog fishes and vegetables. The Challenge of the Ogoni which is oil spillage has denatured the quality of fish and sea foods which are being consumed in the region and most of them are not in the right possession of nutrients again.

Other issues of concern are poor food hygiene as people have the mentality that dirty food cannot kill or cause harm, taking of meal at a very late hour and also lack of meal planning. Ignorance is equally a serious contributor to poor nutrition in the area. An Ogoni family may have all it takes to prepare a balanced diet but will prefer the consumption of mainly carbohydrates based foods three times in a day. The major concern is to fill the stomach with food which they feel is heavy enough to sustain their energy for work and recreation throughout the day. When the negative health implication of these wrong habits starts to manifest in stunting, wasting and other nutrition-based diseases; the available primary health care centers are constrained from handling the situation (Babatunde, 2017). The health care centres provide nutrition education and micronutrients supplements to pregnant and nursing mothers during antenatal and postnatal visits, but from all indications, more needs to be done in terms of reaching out to the larger community.

#### **Possible Ways to Promote Healthy Nutrition among Children in Ogoniland**

There are a number of strategies that can work to prevent malnutrition. They are as follows:

1. Proper enlightenment through counseling should be embarked on to sensitize the women in the locality on the prevailing nutritional problems among their children. They need to know that all is not well because some of them, because of illiteracy, may not be aware that poor nutrition is affecting their children's physical and mental development. They may not be aware that their children are stunted, wasted or obese, and are not performing optimally in their academics because they don't know a better standard.
2. For those that have the knowledge about malnutrition but are constrained by poverty, they can be helped by the appropriate local government agency especially agricultural extension workers to start subsistence farming and home gardening. They need to be trained on innovative ways of improving agricultural yield. This will improve their access to nutritious foods such as vegetables, legumes and fruits.
3. The mothers' skills in meal preparation need to be improved through seminars, workshops, other favourable modes of contact using appropriate methods such as demonstration, video and hands-on sessions. There, they learn how they can use the available food stuffs to provide balanced diet for the family while making them to understand how proper nutrition helps to improve the quality of life of their children.
4. Community mobilization and partnership should be used to build interest and encourage participation in nutrition programmes. By this strategy, food fads and fallacies in the communities can be identified and spotlighted so they can be encouraged them to discard them.
5. There should be capacity building of primary health care workers for a better antenatal and post natal instructions on child care especially regarding nutrition using appropriate information, education and communication (IEC) materials.
6. All the stakeholders in the upbringing of a child in Ogoniland need to be educated on the consequences of malnutrition in children. Hence, while governmental agencies are doing their best, non-governmental organizations (NGOs) operating in Ogoniland are encouraged to get involved in developing and implementing nutrition programmes.



7. School feeding programme should be made functional and periodic check of nutritional status of school age children in Ogoniland ensured by the state Ministry of Education and Health.
8. School administrators in Ogoniland should encourage parents through appropriate school policies to pack along with their children's lunch at least one fruit every day or at least three times a week in place of snacks and sweetened beverage drinks. And sale of unhealthy snacks and drinks in the school compound should be put in check.
9. The federal government should muster the political will to carry out the much talked about clean-up of Ogoniland and restore the fertility of the land so the inhabitants can once more have bountiful and quality harvest of agricultural produce for better livelihood.

### Conclusions

While malnutrition remains a global problem, its persistence in Ogoniland is attributable to poverty, lack of knowledge, insecurity and devastating effects of oil spillage on the land and waters of the communities. With concerted efforts from governmental and non-governmental agencies, a great improvement can be achieved if the recommendations of this paper are implemented.

### References

- Annigan J., Media D.(2016). *What Does Food Provide to the Human Body*. <https://healthyeating.sfgate.com/food-provide-human-body-6194html>
- Babatunde, A. O. (2017). *Challenges to Food Security in Nigeria's Oil Rich Niger Delta Region*. <https://kujengamani.ssrc.org/2017/02/03/challenges-to-food-security-in-nigerias-oil-rich-niger-delta-region/>
- Bilich, K A. (2005). *9 must-eat nutrients for your child*. <https://www.parents.com/kids/nutrition/healthy-eating/must-eat-nutrients/>
- Teigen, L. M., Kuchnia, A. J., Nagel, E. M., Price, K. L., Hurt, R. T., & Earthman, C. P. (2018). Diagnosing clinical malnutrition: perspectives from the past and implications for the future. *Clinical Nutrition ESPEN*, 26, 13 - 20. <https://doi.org/10.1016/j.clnesp.2018.05.006>
- Edris, M. (2004). *Nutrition for health extension workers*. Ethiopian Health Training Initiative: Ministry of Health.
- Hamilton - Ekeke, J -T. (2014). Misunderstanding nutritional related problems. *International Research Journals of Public and Environmental Health*, 1(9), 197-201. [doi.org/10.15739/irjpeh.008](https://doi.org/10.15739/irjpeh.008).
- Hamilton - Ekeke, J -T and Thomas, M. (2007). Children's choice of food and their knowledge of balance diet and healthy eating, *British Food Journal*, 109(6), 457-468.
- Judges, S. & Jahns, L. (2007). Association of overweight with academic performance health, *Journal of School Health*, 17(10), 6:72-78.
- Karak, P., Maiti, P., Das, P. & Karamakar, A. (2017) Assessment of nutritional status of school children in rural and urban areas of Bankuru, west Bengal. *International Journal of Pharmaceutical Sciences and Research*, 90, 20-25.
- Sumatti, R. & Rajagopal, V. (2014). *Fundamentals of food, nutrition and diet therapy*. <https://alraziuni.edu.ye/uploads/pdf/fundamentals-of-food-nutrition-and-diet-therapy.pdf>
- UNICEF (2005). Why are millions of children losing out on their childhood? *The State of the World Children*. <https://www.unicef.org>
- UNICEF (2018). *National Nutrition and Health Survey (NNHS): Report on the Nutrition and Health Situation of Nigeria*. <https://www.unicef.org/nigeria/reports/national-nutrition-and-health-survey-nnhs-2018>
- UNICEF (2019). Children, food and nutrition: growing well in a changing world. *The State of the World's Children*. UNICEF. <https://www.unicef.org>
- World Health Organisation (2021). *WHO guideline on school health services*. Geneva: WHO.