



MALNUTRITION: CAUSES AND PREVENTIONS– A CASE STUDY OF BAUCHI (A REVIEW)



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ABSTRACT

The intake of nutrients such as carbohydrate, protein, lipids, vitamins, minerals and water must be adequate in quality and quantity to ensure maintenance of good health in addition with personal hygiene, environmental health and good medical care. Deficiency of nutrients results in breakdown of normal good health giving rise to malnutrition. Malnutrition is a silent killer, more than half of all children's death worldwide is attributed to it. Malnutrition in most cases is not a simple matter of just eating to satisfy appetite. A child who eats enough to satisfy immediate hunger can still be malnourished. Nigeria has so many traditional foods that is rich in nutrients. There is nothing wrong with the traditional food but with the society and their attitude to traditional foodstuffs. Nutritional disorder identified in Bauchi State includes kwashiorkor (13.5%), and Marasmic-kwashiorkor (32.1%) Some of the factors that contribute to these disorders include :- cultural food habits, ignorance, family size, food distribution, poverty, disease, improper food handling, and preparation. The key to better nutrition lies in pursuing an effective nutrition education programme. The suggested community nutrition programme should include:- creating awareness on the part of extension services of the ward, local and state Agriculture Development authority, Family Support Programme(FSP), Maternity and Child Health Centres, Home Economics Units etc. Finally all the governmental and non-governmental agencies (NGO) be used to train the local women in processing and formulation of infants and young children diet. Preserving the locally available foods and as well in planning their menus. They should be trained to observe hygienic ways of preparing foods, eat enough foods if possible three (3) times a day. Make sure children are regularly immunized against the six killer diseases. Have a system to go and monitor each community on a regular basis.

Key words: Malnutrition, Diet-Adequacy, Public health.

INTRODUCTION

Man requires food to stay alive and to perform various functions. In a very broad sense, food is any substance which contains nutrients that promotes growth, maintain and repair tissues, generate energy and regulate body processes when ingested and absorbed(Okaka *et al.*, 1998, Ayo and Tehinse, 2006). The pride of any nation is the health of her citizen. A hungry nation is a sick nation. The health of her citizen in no little way affects the economy, politics, education and technological advancement of any nation.

The current world Food and Agricultural Review showed that hunger and malnutrition continues to be wide spread despite the global abundance of food supplies. Possibly 500million people suffer from severe under-nutrition and these are joined by millions more who are unable to acquire enough food to enjoy as active and productive life.

Good nutrition entails that the nutrients (proximate, minerals and vitamins) must be in diet in the proper quantity to ensure maintenance of good health. Malnutrition on the other hand can occur when the nutrients are not ingested and non-bioavailable in the human system. It is estimated that up to 30% of the world population have daily food intake below the minimum level necessary to sustain an accepted level of health (Okaka *et al.*, 1992). Since the developing countries, including Nigeria are poor and constitute more than half of the world population, it is not surprising that there are incidents of malnutrition. Nigeria, having a location that cut across the tropical forest and savannah, is blessed with great potential in producing her own foods. Nigeria as a nation produces more than 80% of her foods and process as same locally for consumption. Though, lying in the midst of abundance of foods and yet as a nation suffering from malnutrition. The Nutrition Society of Nigeria (NSN) stated that Nigerian remains one of the first 20 countries with the highest

burden of malnutrition (Ogbebo, 2016). The research is case-study of Bauchi State. Hence, the aim is to X-ray the prevalence of malnutrition as a public health issue as well as identifying the major factors influencing malnutrition and the interventions carried out.

BAUCHI STATE AND MALNUTRITION

Bauchi State is located in the North Eastern party of Nigeria in the Savannah/Desert region. It was created in 1976, then including present Gombe state. It has a population of 4.2 million and landmass of 66,000 sq Kilometer (Nwulia, 1986). Apart from the state capital-Bauchi, Gombe, Azare and Dass, other settlements are rural. Principal crops produced are cereals (maize, millet, sorghum, rice, acha etc) and legumes (beans and groundnut). Cattle rearing are also another dominating occupation in the wide arid lands.

The common picture of development of malnutrition in developing countries begins with Low-birth-weight with an excessively high rate of infant mortality. In 2010, 15% of newborn deaths in Africa can be attributed to infections related to the delivery process (USIAD, 2011). The continent had average infant mortality rate of 34 deaths per 1,000 live births in 2011. Nigeria is ranked the 14th highest in terms of mortality rate in the World. The mortality rate for the under-five and infant mortality rate (less than one year old) in 1996 were 191 and 114, respectively in Nigeria (UNICEF, 1998; Liyange and Hchirachchi, 2011).

Many infant are breast fed for a year or more but this diet eventually becomes inadequate without supplementation (Okaka., 1992). The problem is further worsened by exodus to the urban practices of weaning their infants at early age, but lack the knowledge of adequate food supplement or the means to provide them.

Three types of malnutrition have been generally identified – Deficiency malnutrition (minimum amount of nutrient not provided for) invisible malnutrition (not getting enough

nutrient even in the presence of plenty food) and that which result from the consumption of excess food (Okaka *et al.*, 1992). In Nigeria, particularly in Bauchi State, the prevalent form of malnutrition is nutrient deficiency malnutrition (FGA, 1994; UNICEF, 1992).

Protein-energy malnutrition (PEM) typified by varying degrees of kwashiorkor, marasmus-kwashiorkor, and marasmus are common in Bauchi State and a clear indication that protein intake and utilization is lower than the minimum necessary for good health. The neglect of some of the proteinous traditional foods such as fermented locust beans (daddawa) (Odunfa, 1988; Eka, 1986; Odunfa, 1985) and roset seeds in favour of the popular 'maggi' or 'ajinomoto' which are but flavor enhancers contribute to malnutrition. Also the shift in the consumption of the traditionally fermented milk (kirdimo) and fura-da-nono (millet slurry and fermented milk) for ice cream and akamu also contributed adversely to malnutrition (Olayide, 1992; UN/ACCSCN, 1992).

The marasmic-kwashiorkor is common among the pre-school children, particularly the male who for religion doctrine (almajiri) and poverty have been thrown out to fend for themselves. The nutritional status of women and children observed in Nigeria were three (3) out of five (5) boys (61.3%) that were affected by marasmic-kwashiorkor (FGN, 1994). It must be pointed out that pockets of other nutrient deficiency symptoms like anemia, osteoporosis, goiter and Vitamin A deficiency syndrome exist in Bauchi State. The micronutrient status assessment of the state reveal that 12%, and 13.9% of the children were deficient in Vitamin A and Iodine, respectively and that 31.3% are anaemic (FGN, 1994). The nutrient deficiency form of malnutrition is responsible for the high morbidity and mortality rate especially among children. The malnutrition and infections is synergistic – that is the presence of both reinforces the extent of other (WHO/FAO, 2011). Thirty one per cent (31%) of Nigerian children were stunted, 29 per cent underweight and 18 per cent wasted while micronutrient deficiencies were also high (Ogbebo, 2016).

FACTORS INFLUENCING MALNUTRITION IN BAUCHI STATE

There is nothing wrong with Bauchi state traditional foods. Solution to Bauchi State nutritional problems lies within the State. Researchers have shown that Bauchi State traditional foods are indeed nutritious and potential enough to prevent malnutrition (Agbafor, 1983; Kalu, 1988; Odeboji, 1994; Odunfa, 1985). The problem with traditional Bauchi foods lies with the way the society or community uses its food. Most studies on nutritional status in developing countries like Nigeria had shown that low intake of certain nutrients is responsible for the majority of malnutritional cases (Okaka *et al.*, 1992).

Several factors have been identified as contributors to malnutrition in Bauchi State. Among these factors are – cultural food habits, ignorance, family size, food distribution, poverty, diseases, improper food handling and preparation.

Cultural Food Habits:- Some of the communities in Bauchi State forbid the eating of some nutritious foods. The northern part of the state (Ningi, Azare, Misau) forbid the eating of pork, snails, frogs and snakes as these can be found in large quantity. Generally, the culture of the state gives priority to cereal-based foods particularly 'tuwo' and 'kunu'. Another similar factor to that of cultural food habit

is that of religion. Religion is crucial variable because of it restricts access to new information and health practice. For example, Islamic women who are in purdah find it difficult than non-muslim to attend public information centres (FGN, 1994).

Ignorance:- The lack of knowledge as to food composition and their importance has contributed to malnutrition in the state. The use of fermented locust bean (daddawa) and roset seeds (which are rich in protein) (Odunfa, 1988) for seasoning of food are gradually being replaced with additives such as maggi and ajinomoto. The popular use of baobab leaves (rich in protein and calcium) (Oguntona, 1988) for preparing 'myan-kuka' soup for 'towu' is now being accorded less attention. Majority of the community believed that the consumption of cereal is best because they are cheap and heavy in the stomach after consumption.

Family Size:- The inability to control family size despite all programs by both the planned parenthood Federation of Nigeria and the family Support Programme, to a large extent is responsible for nutritional problems in Bauchi State. Under the Islamic injunction, people can marry up to four wives and have as many as you want. It is therefore not uncommon that some families have up to forty or more children with only the father working. In this case, there are just too many mouths to feed. Food production is not keeping pace with the increase in population. The resulting effect is malnutrition typified by inadequate food intake.

Food Distribution:- Poor food distribution as affected by climate, transportation and storage has considerable influence on the ability of rural families, in Bauchi State to meet their nutritional needs. The main staple food produced in the state is cereal (maize, rice, sorghum, millet etc), which produce principally calorie. Communication – road network and food distribution system is very poor, hence do not ensure that foods are moved from where they are produced to the other areas for consumption.

Poverty:- Majority of people in Bauchi State lives in rural communities and fall into a low-income and poverty groups. A break down showed that about 80% of the population lived as peasant farmers and cattle rearers (Nwulia, 1986). The average purchasing power of Bauchi State citizen is low. The group resort is cheap, low quality food item that supply minimal nutrients. This has also limited the ability of several families to afford three meals a day. Farmers sell the best part of their harvest to generate income to offset other expenses. Cattle, sheep, goat among others, which are rich in protein are sold to purchase cereal food though cheaper but of low protein quality. The result is that these food producers do not eat well themselves.

Preparation and handling:- Malnutrition, especially in the rural communities in Bauchi State could be traced to poor food handling prior to cooking and poor preparation. Experience has shown that some of the traditional processing methods of food are not the best, at least from, a nutritional view point. Considerable nutrients losses occur at the various stages of traditional processing of local foods (Odunfa, 1985; Liyange and Hchirachchi, 2011). Excessive boiling of the milk to produce kindirimo and that of baobab leaves for miyan-kuka reduce the nutritional value of these foods. Also extended boiling especially in open pot and lack of adequate storage of cooked foods have been found to be disadvantageous to nutrient retention (Karmas and Harris, 1988).

COMMUNITY NUTRITION PROGRAM

Improved nutrition in Bauchi State can be achieved by reducing the family size, increase in the purchasing power of the rural population etc. In the face of dwindling food supply in Bauchi communities, efforts should be made to break these cultural habits that adversely affect the individuals' efforts to meet his nutritional needs. The community should be encouraged to eat these nutritious but forbidden foods (WHO/FAO, 2011). However, the key to better nutrition lies in pursuing an effective nutrition education programme. Such an approach will ensure better food selection, handling and preparation. If education is to be effective, people must be motivated to use it appropriately. When food and knowledge are made available to those who had neither, their food intake habits will certainly demonstrate vast improvement as they realize how their health and well being and that of their children benefit (Davidso *et al.*, 1979; Food Safety Network, 2011). In addition to emphasizing nutritional principles, education needs to provoke a general enlightenment. We can no longer afford to satisfy our appetites, which tend to exceed our needs. Major changes toward eating are required. People are exposed to nutrition education, both through example and instruction, beginning in the high chair (leaders) and continuing through family experience, cultural introduction and the framework of formal education (Joseph, 1990; Holick, 2010). If all Nigerians particularly Bauchi State are to be furnished with information about nutrition in a form they can use both of these avenues will need to be expanded and their effectiveness improved.

In developed countries the consumer gets nutrition from books, newspapers especially in women magazines, radio and televisions. The food and pharmaceutical industries, adult education teachers and federal agencies are all in business of teaching nutrition (Arlin, 1977; Juliano, 1993). However, in Bauchi State the level of education and some of the already mentioned factors will definitely hinder the effectiveness of these methods. Community nutrition programme will effectively help in Bauchi State to reduce malnutrition.

Community programme take many forms and are increasing as the need for this approach becomes more apparent. Good work can be done locally in community nutrition by harnessing and directing the interest of men and women of good will. Indeed, nutrition programmes, like all health programs, are successful only if they receive the support of enthusiastic leader of the local community. It is task of nutritionist and others to seek out and direct such leaders. In Bauchi State with a form of communal settlement, their leaders popularly known as *sarki* and *maianguwa* can be motivated and encouraged to accept the nutrition programme, dissemination of such information will not only be fast but effective.

The co-operative extension services of local and state agricultural development authorities, family support unit, market women association, religious groups and community development association etc, should be equipped and mandated to disseminate information relating to food and nutrient available to the consumers in their locality. The programme should be expanded to reach low-income group/peasant farmers through non-professional nutritional aids. Men and women can be recruited, trained

with practical information about selecting, purchasing and preparing for the community.

The maternity and child health (MCH) centres, which are widely spread all over the state, can serve as training and information centres for food and nutrition programme. A mother has dual responsibilities for feeding the young infants and for preparing food for the family. Education in the former is the task of the maternity and child health services. The latter falls within the scope of Home Economics which is now realized to be increasingly important in Bauchi State, hence, should be encouraged in the primary and secondary schools. More Home Economics centres can be built equipped and regular programme encouraged in the local dialect. At a visit to a clinic a few words of advice from doctor and nurse, who has treated the ailment, is more likely to be effective than most attempt at instruction through other education channels.

The role of the local women in the community nutrition in Bauchi State cannot be over emphasized. The moral economic, social and civic responsibilities of women are great. This includes management of home, the moral and practical aspect of family life including child care, catering and cooking. These depend to a great extent on the skill tact, knowledge and ability of the mother (Nwulia, 1986). These responsibilities above normally passed from mother to daughter by word of mouth, was for a long time sufficient in a slowly developing almost static community like Bauchi State. Today, this traditional knowledge has proved to be rudimentary and out of date. Experienced teachers, who can communicate in the local dialect – Hausa/Fulani should be co-opted into the Home Economic field projects.

The horizons of Home Economic can no longer be confined to needle work and cookery. Mistakes have been made in the past by teaching domestic kitchen technology suitable for New York in the African Bush (Karmas and Haris 1988; Biswas and Anderson, 1988). Food preparation traditions of peasant communities in Bauchi State need to be understood and adapted to modern condition but not replaced. In primitive rural community like Bauchi State, education facilities, if they exist are often limited to an elementary school. In these circumstances new methods have to be developed. The so noised Nomadic Education programme in the state is not effective, hence cannot be used to disseminate information on nutrition. Means have to be found to teach the farmers to improve yields of traditional crops and grow new ones. The long forgotten tradition of planting locust bean trees and some other important tree crops should be revived.

The role of the government in combating malnutrition through the community nutrition programme cannot be under enumerated. Since the time of the pharaohs of Egypt, most governments have accepted responsibility for providing and distributing food to the people in times of famines and other disaster. However, in normal times there has been no food strategy related to nutrition needs. The law of economic set the limit and the food strategy related to nutrition needs. The law of economic set the limit and the food supply of each family, hence the need for government help. The government both the local and the state should constantly organize public enlightenment programme – include talk and film show centered on food and its importance to the health of a community. This

programme can be scheduled for market days and Fridays when most people are available.

The government, both the federal and state should build a good network roads connecting all rural areas to the urban and other parts of the country. This will improve food distribution, hence the nutrient intake of the community. The government via the Ministry of Health of the state should regularly embark on nutritional survey of the communities. Recommendations from such survey should be properly implemented.

The enormous areas of landmass which are not used for food production or only for rough grazing or shifting cultivation could be made to produce food through the encouragement of the government (making available fertilizer, seedlings, tractors at affordable price). The Israelites have given the world a striking example of how to make the desert bloom. Bauchi State and Nigeria as a nation can be transformed and malnutrition minimized.

CONCLUSION

Nigeria, particularly Bauchi State can overcome their present malnutrition predicament if Nutrition Education Programme (NEP) on public health can be implemented. There is nothing wrong with the traditional foods in this region, but the problem is with the society and the use of our traditional foodstuffs. Proper dissemination of information on eating varieties of foods, as well as intake of adequate diet and their importance to the well being of the community, training of men and women to the practical aspect of selecting, processing and handling of foods, encouraging farmers, use of Maternity and Child Health Centres, Home Economics and proper involvement of the government may eradicate malnutrition in Bauchi State by the year 2020.

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