Securing the Future of Nigerian Adolescents through Nutrition: *A Position Paper of the Nutrition Society of Nigeria (NSN)*

ABSTRACT

Adolescence (the period from 10 – 19 years of age) is a critical second window of opportunity of intervention for the improvement of current, future, and intergenerational nutritional health. Though adolescents have increased nutritional requirement and constitute about 21% (>41m) of Nigerian population, they remain a largely neglected, difficult-to-measure and hard-to-reach population and have not been prioritized for nutrition intervention. Consequently, limited information is available on trends in adolescents nutrition in Nigeria, while anecdotal evidence shows that adolescent malnutrition are common. Available data has indicated the co-existence of both undenutrition and overnutrition among Nigerian adolescents. Greater investment in advancing adolescent nutrition is critical to promoting their health and development which has lifelong implications in order to secure them and their future families, communities and nation at large. In Nigeria, targeted adolescent nutrition programmes, led by either public or private sector are rare, though few private sector and government driven interventions have some adolescent nutrition components. The major challenges affecting adolescent nutrition persist, including policy gaps, poor coordination and delivery platforms, knowledge and research gaps, and high rates of adolescent pregnancy. These challenges have limited the prioritization of adolescent nutrition inclusion in national development agenda resulting in the observed poor nutritional situation of the adolescents. The Nutrition Society of Nigeria calls for urgent actions by government, development partners, private sectors and other stakeholders to bridge the identified policy and data gaps, enhance coordination and increase delivery platforms to reach adolescents with a minimum package of nutrition interventions giving special consideration for nutritional needs of pregnant adolescent mothers.

Keywords: *Adolescents, nutrition situation, programmes, policy, Nigeria*

INTRODUCTION

Adolescence is a transitional period between childhood and adulthood with specific physiological, psychological and social implications that have bearing on nutrition and health. World Health Organization (WHO) defines 'Adolescents' as individuals with in 10-19 years age group; while adolescence is a critical period in lifeand a window of opportunity for lifelong health and well-being.It is a formative periodduring which many life patterns are learned and established.Adolescence is the second most crucial period of life for cognitive development, physical growth and last opportunity to reverse growth faltering experienced during childhood (Canavan and Fawzi, 2019). This is also a period marked by rapid growth characterized by pubertal changes, associated increased nutrient requirements, specific health and developmental needs and rights. Pubertal changes occur during early adolescence (10–14 years) with implications on rise in sexual hormones and brain development, while pubertal maturationcharacterises late adolescence (15–19 years) with continuous brain development. This is the period knowledge, skills and relationship are developed and many adolescents learn how to manage emotions and relationships which are critical to assuming adult roles in future.

Inspite of the fact that there are about 1.2 billion adolescents globally (United Nations, 2019), and in Nigeria they constitute approximately 21% which is over 41 million of the population (UNFPA, 2017), they have hitherto not been considered a high priority life-cycle stage for nutrition needs and intervention. In Nigeria, focused interventions on adolescent nutrition are limited. Although the National Policyon Food and Nutrition (NPFN, 2016) already outlined adolescent nutrition in one of the strategic areas"Enhancing Caregiving Capacity", there is need for action plan with operational guidelines for the implementation of this component of the

policy. Adolescents remain a largely neglected, difficult-to-measure and hard-to-reach population (World Health Organization, 2000); they may no longer benefit from the attention and care that usually go to children, and also not get the protections associated with adulthood. Consequently, they face numerous serious nutritional challenges which affect their physical growth, cognitive development and health.In the case of girls, there is a direct inter-generational link to foetalgrowth and well-being, with later consequences for their infant and young child survival and health.

Unfortunately, most adolescents are pre-disposed to unhealthy eating habits due to their routine, over-exposure to unhealthy food marketing, misinformation and misconception on certain foods due to food fads and fallacies. This is further compounded by emotional and social vulnerability from social norms and peer pressure. Adolescent nutritional problems are common in Nigeria as in other countries. There is no doubt that nutrition is important to the health and wellbeing of adolescents now, their adult lives and next generation, not only biologically but also socially and culturally. Despite this, relatively limited information is available on trends in adolescent nutritional status, effective interventions and delivery platforms, or age group and gender-specific guidelines. Adolescents are a nutritionally vulnerable group in many ways, and unless there are explicit guidelines and priorities for adolescent nutrition, their peculiar issues may not be adequately addressed, and in particular, large groups of adolescents may be missed. Greater investment in advancing adolescent nutrition is critical to promoting their health and development which has lifelong implications in securing their future.

CONTEXT AND CONSIDERATIONS

Why Adolescent Nutrition?

The nutritional requirements of adolescents increase as they grow towards adulthood, yet, certain unhealthy dietary patterns put them at risk of malnutrition. Adolescents are influenced by several socio-environmental issues such as peer pressure, exposure to social networks, desire for independence, trending lifestyle, carving out an identity for themselves, and eating out. Other factors include poor nutrition knowledge, poverty, irrational beliefs, food fads and fallacies and intra-household food maldistribution. All these have bearings on their food choice and consumption. In most settings, adolescent boys enjoy more freedom and opportunities while adolescent girls suffer disadvantages following cultural restrictions, early marriages and food taboos which often increase the nutritional risk of adolescent girls compared to their male counterparts.

Adolescence is associated with increased nutrient requirements. There is greater energy and protein needs arising from increased physical activity, growth spurt and brain development. This increase is a vital pre-requisite to ensuring they gain about 50% of their adult weight and skeletal mass as well as 20% of their adult height (Brasel, 2016). Iron requirements increase in both male and female adolescentsas a result of the expansion of the total blood volume, increase in lean body mass and onset of menstruation in the girls (Beard, 2000). Chronic anaemia may develop as a result of deficiency or inadequate intake of iron among adolescent girls.

Adolescent Nutrition Situation in Nigeria

Malnutrition among adolescents is marked by undernutrition, overnutrition and micronutrient deficiencies. Undernutrition manifests as wasting, stunting and thinness/underweight, while overnutrition includes overweight and obesity while micronutrient deficiency may exist as increased disease susceptibility and disability associated with chronic anaemia .

Available nutrition studies showed that underweight/thinness ranged from 13.0-23.1% among adolescents in southern part of Nigeria (Olumakaiye *et al*., 2010; Ene-Obong *et al*., 2012; Onabanjo and Balogun, 2014). The dearth of nationally representative data for all adolescents presently make disaggregation by geopolitical or rural/urban divide impossible. Trends in body mass index of Nigerian female adolescents aged 15-19 years from 2003 to 2013 showed 18 percent and 13 percent increase in the prevalence of thinness or underweight and overweight/obesity, respectively (NPC and ORC Macro, 2004; NPC and ICF Macro, 2009;NPC and ICF International, 2014; Benedict *et al.,* 2018). Undernutrition among adolescents has implications on health and well-being, growth and development, cognitive skills and learning achievement (Acham *et al.,* 2008; Dissanayake *et al*., 2009; Crookston *et al*., 2014; Teni *et al*., 2017; Madjdian *et al*., 2018).

Prevalence of overweight/obesity among adolescents in southern Nigeria is 14.2% (Ene-Obong *et al*., 2012; Onabanjo and Balogun, 2014;). This could result from poor diet quality, high consumption of junk food, and sedentary

lifestyle occasioned by lack of recreational facilities, eroding school sport activities, and increasing screen time activities in this age group. Overweight and obesity predispose to diet-related non communicable diseases such as hypertension, heart disease, stroke, diabetes and some cancers (WHO, 2017). A study has reported that overweight/obesity is associated with elevated blood pressure and cardio-metabolic disease risk among adolescents in Southwestern part of Nigeria (Adeomi *et al*., 2019).

Iron deficiency anaemia affects more than sixty percent of Nigerian adolescent girls aged 15-19 years (NPC and ICF, 2019). Other available evidence shows that vitamin A, zinc and iodine deficiencies are public health problem among young people less than 19 years in Nigeria and three other African countries (Harika *et al*., 2017). The high incidence of micronutrient deficiency may be attributed to poor nutrition knowledge, low dietary diversityand inadequate consumption of animal foods (Ogunkunle and Oludele, 2013; Olumakaiye, 2013; Harika *et al.,* 2017; Otuneye *et al*., 2017; Olatona *et al.,* 2020; Charles Shapu *et al.,* 2020). De Vries-Ten Have *et al*. (2020) also reported inadequate protein intake among female adolescents in Nigeria.

Presently, adolescent pregnancy is a persisting health and social problem among Nigerian adolescents. The National Demographic and Health Survey 2018 indicated that 19.2% of Nigerian adolescents aged 15-19 years has begun child bearing (NPC and ICF, 2019). Malnutrition among such adolescent increases the risk of morbidity, mortality and poor pregnancy outcomes.

Addressing the nutrition needs of adolescents could be a window of opportunity for the improvement of their nutritional status and correcting their poor nutritional practices. This is an important step towards supporting their physical growth and preventing future health problems, breaking the vicious cycle of intergenerational malnutrition, chronic diseases and poverty.

Adolescent Nutrition Programmes: What is being done?

At the global level, actions for improving adolescent nutrition include promoting healthy diets, provision of micronutrients including fortification of staple foods and targeted supplementation, management of acute malnutrition, reproductive health programmes to delay adolescent pregnancies with promotion of pre-conceptional and antenatal nutrition, providing access to safe water, sanitation and hygiene, promoting physical activity, disease prevention and management (WHO, 2018).

The National Policy on Food and Nutrition in Nigeria has a key objective to reduce undernutrition among children, adolescents and women of reproductive age with a key target to reduce the emerging increase in obesity prevalence in adolescents and adults by 2025. However, there are no clear target that address undernutrition among adolescents. The Federal Ministry of Health in collaboration with stakeholders is presently working to update theadolescent health policy and develop guidelines on adolescent nutrition in line with the global framework of interventions. This constitutes part of the national efforts to prioritize adolescent nutrition in Nigeria.

There is no record of any focused adolescent nutrition programme in Nigeria, however, a number of health and empowerment projects for adolescents have been implemented in the past. Iron Folic Acid (IFA) supplementation in Nigeria is limited to pregnant adolescents (UNFPA, 2019); and management of acute malnutrition at National and State levels by Government and several organisations is limited to under-five children. The promotion of pre-conception and ante-natal nutrition including routine IFA are ongoing in all the health facilities across the country, which pregnant adolescents are likely to benefit from if they access ante-natal care services.

There are also recently launched programmes targeted at adolescent nutrition and health, these include Expanding Micronutrient Supplementation for Vulnerable Adolescent Girls and Women of Reproductive Age, Aneamia Reduction in School and Non-School Girls (ARISING) project, and Improving Adolescent Health in Nigeria's largest cities using strengthening a network of 'youth hubs' in the state capitals of Lagos and Kano, among others. However, there are other programmes such as Accelerating Nutrition Results in Nigeria (ANRiN) that have adolescent nutrition component in selected states.

The project on "Expanding Micronutrient Supplementation for Vulnerable Adolescent Girls and Women of Reproductive Age" by UNFPA and Nutrition International (NI) in Nigeria has the goal to contribute to reducing anaemia and related morbidity. The project components include demand creation, capacity building and supply-chain management of weekly iron and folic acid supplements (WIFAs) targeted at

women of reproductive age (ages 15-49), adolescents and youths in Kaduna, Kebbi, Bauchi and Sokoto States. The ongoing UNICEF-supported ARISING project is targeted at 10 million school age children and adolescent girls and boys to have access to nutrition packages including consumption of iron/folic acid in 10 Nigerian States by December 2022. The project aims to strengthen institutional capacity to address school age children and adolescent nutrition in the targeted States, improve knowledge and practice among Stakeholders, and reduction in anaemia.

Other organizations that have programmes with adolescent nutrition and health components include the AlikoDangote Foundation and Youth Empowerment Foundation (YEF). Aliko Dangote Foundation Integrated Nutrition (ADFIN) programme is committed to advancement of Community-based Management of Acute Malnutrition (CMAM) known as "CMAM Plus" initiative across 13 States in Northern Nigeria. The project which is to be implemented between 2019 and 2023 has as one of its objectives, the Management of At-Risk Adolescent Mothers and Infants under 6 Months of Age (MAMI) with particular interest in nutritional vulnerability. Furthermore, the project is expected to reach households of children with Severe Acute Malnutrition (SAM) and their communities that contribute the most to the SAM burden with food security, cash-based interventions, livelihoods support, engendered optimal nutrition, hygiene and care-seeking behaviours (Aliko Dangote Foundation, 2019).

The YEF Goal Project promotes physicalactivity through The Goal ModelSports - games, physical education or planned exercise to improve cardio-respiratory function, muscle fitness and bone health in order to reduce symptoms of anxiety and depression. The project addresses data gap in adolescents access to recreation and physical fitness services. These are expected to have beneficial effect on reduction in overweight and obesity as well as improved nutritional status.

The Challenges

The main challenges affecting adolescent nutrition in Nigeria are as follows:

i. ***Policy Gaps:*** There are many policies and strategies in Nigeria with focus on adolescents, however, none specifically addresses adolescent nutrition. In the health and education sector, programmes such as the National Adolescent Health Programme, and the School Feeding and Health Programme have been put in place. In the country strategic plans of action, adolescent nutrition is not properly addressed. There are few programmes that target adolescents specifically for nutrition interventions, most of which are related to reproductive health, school nutrition, or micronutrient supplements.

ii. ***Coordination and Delivery Platforms:*** Although there are some projects and programmes on adolescent health and nutrition, these are however fragmented and not properly coordinated. There are also limited identifiable delivery platforms for adolescent nutrition programmes.

iii. ***Data Gaps on Adolescent Nutrition:*** There are no national data on adolescent nutritional status even though there are pockets of information from fragmented researches from different parts of the country. Most surveys providing information on adolescents only focus on female adolescents as part of women of reproductive age to the exclusion of younger adolescents aged 10-14 years and male adolescents in general. Similarly, data on nutritional knowledge and food consumption of adolescents are scarce and often unavailable. This has placed limitation on planning and advocacy for prioritizing adolescent nutrition as an important component of national development agenda in Nigeria.

iv. ***High Rate of Adolescent Pregnancy:*** Almost one out of every five older adolescents has begun child bearing, when the growth and development is not yet completed and nutritional requirements are rarely met. Moreover, they are hard to reach with nutrition and health services and therefore contribute to the high burden of infant and maternal mortality in Nigeria.

Conclusion

Adolescence is a period characterized by nutritional vulnerability that requires critical interventions for current, future and intergenerational nutritional health. The general lack of data on adolescent nutrition in Nigeria has limited the prioritization of its inclusion in national development agenda resulting in the observed poor nutritional situation of the

adolescents. The Nutrition Society of Nigeria calls for urgent actions to bridge the identified policy and data gaps, increase delivery platforms to reach adolescents with minimum package of nutrition interventions giving special consideration for nutritional needs of pregnant adolescent mothers.

Based on the above observations, the Nutrition Society of Nigeria is making the following official position statements:

1. Addressing Policy Gaps

As a matter of urgency, the government should review the existing policy on food and nutrition and develop guidelines and strategic plan of action on adolescent nutrition. Such guidelines and plan of action should include IFA supplementation, deworming, school gardening and nutrition education, as well as periodic anthropometric measurement as components of School-based programme.

2. Coordination and Delivery Platforms

The coordination of the adolescent nutrition programmes should be properly articulated within the national framework for food and nutrition coordination to be domiciled in the Presidency with responsibility to coordinate sectoral nutrition activities and interventions. More opportunities and avenues should be created to serve as platforms for delivery of nutrition programmes to reach both in-school and out-of-school adolescents. These include School and Faith-based platforms, safe spaces, community spaces, youth friendly centres, sporting and ICT platforms, business hubs and other channels.

3. Data Gaps on Adolescent Nutrition

Data on adolescent nutrition are required for effective planning and decision making. A national survey on adolescent nutrition is urgently required to bridge the existing gap in Nigeria. Government and other stakeholders including development partners, professional associations and academia should develop a joint research agenda focused on adolescent nutrition.

4. Adolescent Pregnancy

Reproductive health education for in-school and out of school adolescents should be pursued in States with high burden of adolescent pregnancy. Traditional and religious institutions, and community development associations should be strengthened to encourage girl child education, prevent child marriage,delay child bearing and encourage back to school programme for adolescent mothers. Efforts should be intensified to improve access to antenatal care services for adolescent, pregnant mothers through existing and novel platforms such as health facilities, use of mobile phone, community trackers, etc.

5. Minimum Package of Nutrition Intervention for Adolescents

The Nutrition Society of Nigeria, in view of the nutrition situation of adolescents, hereby recommends the following as a minimum package of intervention to improve the nutrition and health of adolescents:

i. Nutrition education in schools on healthy diets with emphasis on reduction in consumption of sugar and sugar sweetened beverages
ii. Iron folic acid supplementation and deworming using health facilities, school and community based platforms
iii. Social marketing activities by private sector should encourage healthy diets
iv. Behavioural and lifestyle intervention for overweight and obese adolescents
v. Improved access to reproductive health services

In addition to the above, the special needs of pregnant adolescents should be considered by providing them with the following interventions

vi. Multiple micronutrient supplementation
vii. Calcium supplementation
viii. Food supplements with adequate energy and protein
ix. Improved access to ante-natal care services

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This position paper of the Nutrition Society of Nigeria has been duly adopted by the National Executive Council of the Society on April 29 2021. Anyone interested in using portions of the position paper or republish it should send a request or enquiry to the Nutrition Society of Nigeria at info@nutritionnigeria.org.

STATEMENT OF POTENTIAL CONFLICT OF INTEREST
No potential conflict of interest

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