

EDITORIAL

CHILDHOOD NUTRITION AND MALNUTRITION IN NIGERIA

The nutrition situation in Nigeria is the result of several adverse and interrelated factors (social, economic and environmental) acting in synergy. In Nigeria, there is considerable food shortage and nutrient deficiency. There was no comprehensive national estimate of the magnitude of the problem until publication in 1992 of the report of the National Demographic and Health Survey (NDHS) conducted in 1990.¹ However, there have been some micro studies based on small study samples, using varying theoretical and methodological perspectives. The latter were insufficient for the purposes of policy formulation, programme development or for monitoring of any intervention programmes.

Maternal and child health care in Nigeria is also in a rather deplorable state. Access to health services is poor. In fact only 35% of the population has access to modern health care services.² The poor state of health care has exacerbated the problem of malnutrition.

In 1986, the federal government of Nigeria introduced the Structural Adjustment Programme (SAP) after other attempts to revitalise the economy had failed. SAP led to deterioration of human well-being and the exposure of a large number of households to disease, starvation and malnutrition. The general poor economic situation, which has persisted in Nigeria for several years, has led to an increase in the incidence and level of poverty, thereby adversely affecting the nutritional status of large numbers of Nigerians. Wages and incomes of workers could not keep pace with rising price levels, leading to food insecurity in most households.

The 1993 World Bank report on Nigeria³ stated that although Nigeria had vast natural and human resources, poor child nutrition meant that it was neglecting the health of future generations.

In Nigeria the prevalence of malnutrition among children under 5 years of age is significantly higher than in most other developing countries (Table I).⁴

In contrast, data on childhood obesity in Nigeria are scarce. A 1983 study,⁵ which the authors claimed to be the first study

of childhood obesity in Nigeria, reported a prevalence of 3.2% in male and 5.1% in female school-age children. However, a more recent study reported a higher prevalence figure of 18% in school children aged 5 - 15 years.⁶

INFANT AND CHILD FEEDING PATTERNS

A review of feeding patterns shows that, as was the case in the 1980s, there is a high prevalence of initiation of breast-feeding among Nigerian mothers. The UNICEF (Nigeria) Participatory Information Collection Survey of 1994 indicated that 97.4% of mothers were breast-feeding their babies during the first month of life.⁷ However, despite this high initiation prevalence there was a low prevalence of exclusive breast-feeding, as revealed by data from the 1990 NDHS,¹ which estimated the exclusive breast-feeding rate in the first month of life to be 2.1%. However, recent data from a community-based study indicate the prevalence of exclusive breast-feeding to be 12.1%.⁸ As many as 56.8% of the mothers gave water along with breast-milk and about 38% gave supplements during the first month of life.⁷ These supplements included glucose, water and in a few cases, beverages and herbal drinks. Complementary foods were introduced before the age of 4 months in 50% or more of the infants.

TYPES OF MALNUTRITION

Two main types of malnutrition have been identified in Nigerian children, viz. protein-energy malnutrition and micronutrient malnutrition.

Protein-energy malnutrition

Protein-energy malnutrition (PEM) among preschool children continues to be a major public health problem in Nigeria. In 1983/84, the National Health and Nutrition Status Survey (HANS)⁹ conducted by the Federal Ministry of Health estimated the prevalence of wasting (low weight for height) to be around 20%. A 1986 Demographic and Health Survey (DHS) of children aged 6 - 36 months in Ondo State, south-west Nigeria, found the prevalence of wasting to be 6.8% stunting 32.4% and underweight 28.1%.¹⁰ However, the DHS conducted in 1990 by the Federal Office of Statistics¹ estimated the prevalence of wasting at 9%, stunting at 43% and underweight at 36% among preschool children. These figures are lower than the figures published in 1994 by UNICEF (Nigeria)⁷ from a 1992 survey conducted among women and children in 10 states of the federation. In that report, the prevalence of wasting was put at 10.1%, stunting 52.3% and underweight 28.3% (Table II).

The figures cited here conceal some important sectoral and spatial differences. In both the NDHS (1990)¹ and UNICEF Federal Government of Nigeria (FGN) (1994)⁷ reports, on all three measures of malnutrition, more children from the north

Table I. Comparative data on child malnutrition (1990 - 1998)*

Country	Prevalence of stunting	Prevalence of exclusive breast-feeding (0 - 3 months)
Nigeria (%)	43	12 [†]
Ghana (%)	26	37
Zimbabwe (%)	32	16
Brazil (%)	11	42

* Source: UNICEF. *State of the World's Children, 2000.*⁴

[†] UNICEF-Nigeria. *Multiple Indicator Cluster Survey (MICS) 1999.*

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Table II. Prevalence of childhood malnutrition in Nigeria — comparative data

	NDHS 1990 ¹	UNICEF/FGN 1994 ⁷
Wasting (%)	9.1	10.1
Stunting (%)	43.1	52.3
Underweight (%)	36.0	28.3

Table III. Regional and sectoral pattern of childhood malnutrition in Nigeria, 1990*

	SW	SE	NW	NE	Rural	Urban
Wasting	5.5	7.6	12.1	11.3	9.6	7.2
Stunting	36.6	42.7	50.4	51.9	45.5	35.0
Underweight	26.9	29.6	43.8	44.6	38.5	26.3

* Source: NDHS 1990.¹
SW = south west; SE = south east; NW = north west; NE = north east.

than the south were found to be malnourished; similarly, rural children were found to be more malnourished than children in urban centres (Table III).

There are also important age variations in the prevalence of malnutrition. Malnutrition in Nigerian children, especially stunting, starts early in life and increases with age. The prevalence of stunting ranges from 25.3% in infants aged 6 - 11 months to 52.9% in children aged 48 - 59 months (Table IV).

Data from the recent 1999 NDHS¹¹ indicate that the prevalence of wasting has increased, while underweight and stunting have decreased compared with the 1990 NDHS.¹ The recent MICS report⁸ also confirms this trend (Table V).

Although the two NDHS surveys (1990 and 1999)¹¹ used similar sampling strategies and measurement methods, an objective comparison is impossible because the two surveys covered different age ranges; while the 1990 NDHS¹ covered the age range 0 - 59 months, the 1999 NDHS¹¹ covered the age range 0 - 36 months. Comparison with the 1994 UNICEF/FGN⁷

Table V. Changing pattern of malnutrition in Nigerian children aged 0 - 59 months

	NDHS 1990 ¹	MICS 1999 ⁸
Wasting	9.1	15.6
Stunting	43.1	33.5
Underweight	35.7	30.7

data is also impossible as that survey was not nationally representative having been conducted only in the UNICEF 'focus' local government areas (LGAs) in the four health zones of the country. Only the MICS survey of 1999⁸ is comparable with the 1990 NDHS since both included children aged 0 - 59 months. The trend that has emerged, therefore, is one of rising prevalence of wasting, while the prevalence of both stunting and underweight is on the decline.

Government efforts at reducing the incidence and prevalence of protein-energy malnutrition include the promotion of nutrition activities as part of primary health care at health care delivery centres. These activities include the promotion of exclusive breast-feeding, growth monitoring and preparation of low-cost nutritious diets using locally available food items, and in some health centres, the feeding of malnourished children.

Micronutrient malnutrition

The major forms of micronutrient malnutrition constituting a public health problems in Nigeria include iron deficiency, vitamin A deficiency and iodine deficiency disorders. Although comprehensive national prevalence data are not available for the three forms of micronutrient malnutrition, pockets of available data reflect the extent of the problem.

Iron deficiency anaemia

Iron deficiency is the most prevalent micronutrient deficiency in the world, affecting populations in both developed and developing countries. It is estimated that, worldwide, over 2 000 million people are at risk of iron deficiency anaemia, with the prevalence ranging between 40 and 60% in pregnant

Table IV. Age-specific variations in nutritional status for children aged under 5 years in Nigeria, 1990*

Age category (mts)	Height-for-age - 2 SD (stunting)	Weight-for-height - 2 SD (wasting)	Weight-for-age - 2 SD (underweight)
All children	43.1	9.1	35.7
Under 6 mts	12.4	6.3	7.6
6 - 11 mts	25.3	11.2	35.1
12 - 23 mts	44.6	15.6	45.1
24 - 35 mts	53.3	8.2	45.6
36 - 48 mts	55.3	6.8	37.1
48 - 59 mts	52.9	5.8	36.0

* Source: NDHS 1990.¹
SD = standard deviation.

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women, 20 and 40% in women of child-bearing age, and about 10% in school-age children and adult men.¹²

In Nigeria, the prevalence of iron deficiency anaemia is estimated at about 20 - 40% in adult women, 20 - 25% in children, and 10% in adult men.¹³ In selected LGAs from the four health zones in Nigeria, a prevalence of 24.9% was reported for mothers aged 15 - 45 years and 29.4% for children aged 0 - 6 years.⁷ In a small study in south-west Nigeria,¹⁴ it was reported that both iron deficiency and infections were equally important aetiological factors in the anaemia recorded in mothers and their children. Iron deficiency anaemia is worst in the south-west areas of the country. Some contributory factors include consumption of cereal-based diets, which are low in bioavailable iron, worm infestation, frequent pregnancies and haemoglobinopathies.

Vitamin A deficiency

Nigeria is listed by the World Health Organisation (WHO) as one of the category 1 countries with the highest risk of vitamin A deficiency.¹⁵ It is estimated that about 7 million preschool children in Nigeria suffer from vitamin A deficiency.³ Vitamin A deficiency is worst in the northern areas of the country where red palm oil is not consumed as much as in the south. Available data from Ondo State in south-west Nigeria indicate the prevalence of night blindness to be 15% in mothers and 5% in children.³ These figures differ somewhat, but remain significant from the public health point of view, from values recorded in a survey of mothers and children in south-west Nigeria where only 8.5% of mother samples gave a positive history of night blindness.⁷ Using serum retinol concentration as the indicator of vitamin A status, only 4.2% of mothers and 1.5% of children in the south west had values < 0.70 µmol/l, indicating vitamin A deficiency. In contrast, 14.6% of mothers and 16.5% of children in the north-east zone were vitamin A deficient using the same criterion. Dietary intake of vitamin A appears to be adequate in the south, but persistent exposure to infections is the main cause of the vitamin A deficiency in children under 5 years of age in all parts of the country.¹⁶⁻¹⁸

Efforts directed at combating vitamin A deficiency involve periodic distribution of vitamin A capsules to children under 5 years of age. However, in a recent survey of children in this age group only 22.7% confirmed receiving vitamin A capsules in the preceding 24 months.⁸ The objective of the Nigerian national government is the virtual elimination of vitamin A deficiency and its consequences, including blindness, through food fortification, supplementation and dietary diversification. Recently, there has been significant progress in the fight against vitamin A deficiency in the country. Firstly, distribution of vitamin A supplements has been successfully linked with national immunisation days (NIDs) during which vitamin A supplements are administered along with polio vaccines. Secondly, three Nigerian staple foods, viz. flour, vegetable oil and sugar, have been selected for fortification with vitamin A,

based on affordability, accessibility, and technical feasibility. Fortification of these staple foods is now mandatory in Nigeria.

Iodine deficiency disorders (IDD)

It is estimated that as many as 25 - 35 million people in Nigeria are at risk of IDD. High prevalence rates ranging from 16 to 36% have been reported from seven states of the federation. Based on these prevalence rates, it is estimated that about 4 million children are affected by IDD in the seven states, with approximately 1.5 - 3.5% of these children being mentally retarded as a result of IDD.³

The IDD problem is concentrated in the middle belt and south-east regions of Nigeria.¹⁹ This has been associated with the high consumption of cassava products in the southern parts, and to the hilly nature of the middle belt and eastern parts of the country. Current indications are that no new IDD cases are being reported, which is largely owing to the salt iodisation policy of the government. A salt iodisation legislation was enacted in 1992 requiring iodisation of salt for both human and animal consumption at the 50 ppm level. Importation of non-iodised salt into Nigeria became illegal in 1995. Recent reports indicate that currently 98% of Nigerian households consume iodised salt.⁴ Nigeria is now one of 10 countries in Africa with median urinary iodide values consistently above 100 µg/l, reflecting improvement in iodine status.

CONCLUSION

Both protein-energy malnutrition and micronutrient malnutrition continue to be important public health problems in Nigeria in spite of efforts by both the national government and international donor agencies. However, recent reports show that the prevalence of both stunting and underweight are on the decrease, but wasting continues to be on the increase. The percentage of infants aged 0 - 3 months who are exclusively breast-fed appears to be on the increase, with 12.1% of such infants being exclusively breast-fed, up from 1 - 2% in 1990.⁶

Poverty seems to be at the heart of the problem of childhood malnutrition in Nigeria. Unless and until the socio-economic status of the vast majority of Nigerians improves significantly, malnutrition will continue to pose a serious threat to the growth and development of Nigerian children and to future national development.

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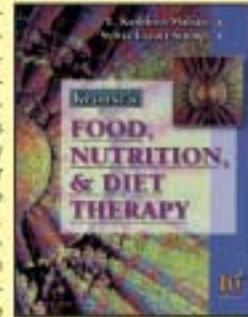
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