

## Malnutrition among Under-fives, a major problem

I searched internet for “Malnutrition among Under-fives” and found the opening remarks in a number of articles on the subject disturbing. The subject has been ignored or given just lip service. Worldwide health donors have been prioritising to improve childhood malnutrition (MDG 1 target 2) and reduction in childhood mortality (MDG 4, target 5, and MDG 7, target 10). Almost all countries now include reduction of malnutrition among under-fives in the country as an important health indicator but actions do not match with the promises made.

Following statements say it all:

The nutritional status of under five children is a sensitive indicator of a country’s health status as well as economic condition. The analyses revealed that 45 percent of the children under age five were suffering from chronic malnutrition ....

*Factors Causing Malnutrition among under Five Children in Bangladesh.* <https://www.researchgate.net/publication/26564294>

Malnutrition is the most common nutritional disorder in developing countries and it remains one of the most common causes of morbidity and mortality among children worldwide.

*Musa et al. Prevalence of malnutrition among children under five years old in Khartoum State, Sudan.* <https://doi.org/10.1016/j.poamed.2014.01.001>

Malnutrition prevents children from reaching their full physical and mental potential. Health and physical consequences of prolonged states of malnourishment among children are: delay in their physical growth and motor development; lower intellectual quotient (IQ), greater behavioural problems and deficient social skills; susceptibility to contracting diseases.

*FAO: State of Food Insecurity in the World, 2008: Food Security Statistics* [<http://www.fao.org/es/ess/faostat/foodsecurity>]  
and

*Black R, Morris S, Jennifer B: Where and Why Are 10 Million Children Dying Every Year? The Lancet 2003, 361:2226-2234*

Malnutrition among under-five children is a major public health problem in India. This is reflected by the fact that the prevalence of under-weight children in India is among the highest in the world, and is nearly double that of Sub-Saharan Africa.

*World Bank. India, Undernourished children.* <http://web.worldbank.org/>

Early childhood malnutrition affects physical growth, morbidity, mortality, cognitive development, reproduction, and physical work capacity; and it consequently impacts on human performance, health and survival. It is an underlying factor in many diseases for both children and adults, and is particularly prevalent in developing countries, where it affects one out of every 3 preschool-age children.

A well-nourished child is one whose weight and height measurements compare very well with the standard normal distribution of heights and weights of healthy children of the same age and sex. The number of children under 3 years of age in the family, age of mother, occupation of the parents, marital status, family income, parental education, maternal nutritional knowledge, residence location (urban or rural), gender, and breastfeeding practices are some of the factors playing a part in the undernourished state of children under five years of age.

There was erroneously held belief that size of the children depends on their parent's size or their ethnicity. If children are breast fed for first six months followed by appropriate feeding with locally available supplementary foods, keeping in mind the quality, quantity of each feed and its frequency, children grow normally attaining optimal growth.

The WHO Multicentre Growth Reference Study (MGRS) was implemented to provide data to construct growth curves from birth to 5 years of age (de Onis et al., 2004). A key characteristic of the new standard is that it makes breastfeeding the biological "norm" and establishes the breastfed infant as the normative growth model. Health policies and public support for breastfeeding should be strengthened by having breastfed infants as the reference for normal growth and development.

The pooled sample from the six countries (Brazil, Ghana, India, Norway, Oman and the USA) that participated in the MGRS allowed the development of a truly international standard, reiterating the fact that children grow similarly when their health and care needs are met. ([Infant and young child nutrition. EB105/INF.DOC./1](#))

The wealth of data collected allowed the replacement of the international NCHS/WHO references on attained growth (weight-for-age, length/height-for-age, and weight-for-length/height) and the development of new standards for body mass index (BMI)-for-age, head circumference-for-age, arm circumference-for-age, triceps skinfold-for-age and subscapular skinfold-for-age. In addition, the accompanying windows of achievement for six gross motor development milestones provide a unique link between a child's physical growth and motor development.

Since WHO Anthro launch in April 2006 for growth monitoring; stunting (chronic food shortage), wasting (acute food shortage) and underweight (general food shortage) are three standards to describe malnutrition in a population, each signifying the type and likely cause of malnutrition prevalent. Use of this free software from WHO allows systematic growth monitoring of children under five years and appropriate advice to their mothers can bring about a healthy change in a population. ([WHO Anthro Manual for PC](#))

This software and the manual can be downloaded free of cost from WHO Anthro website. The programme can be used for individual assessment or for groups (clinics, projects, population surveys etc.). The software has an inbuilt analysis function to produce graphs or record at individual level or a variety of tables with statistics for groups of children.

It is not clear how many health facilities providing growth monitoring are using the system. Most of the growth monitoring service providers use printed mother retained cards, which are not regularly completed or routinely monitored. Mothers are rarely involved in participating in the monitoring of growth of their own children. Cards are often lost or torn and become illegible. With computers/tablets accessible with ease in health facilities, all the monitoring needs can be met by using the WHO Anthro. Furthermore, the process of growth monitoring can be continued in schools using WHO Anthro Plus, which allows continued growth monitoring of children 5-19 years.

Unfortunately not many primary health centres are using growth monitoring systematically for their under-fives. Every child has a right to receive this service as part of maternal and child health services.

The starting point is that growth monitoring should be a fundamental component of maternal and child health (MCH) in a primary health centre (PHC) setting. Moreover, it is time that MCH should be taken to the communities in the PHC catchment area through outreach programmes, which will allow full population coverage, rather than expecting mother to bring their children to the centre to avail this service.

There is need for communities to be mobilised and village health committee taking the responsibility of organising monthly MCH clinics, where health centre staff only provides technical help. Village health workers and volunteers organise the mothers and take the responsibility of their attendance and measuring heights and weights of Under-fives and nutrition education to mothers for themselves and their children.

Governments recognise the malnutrition problem in the country and provide resources and training programmes to make this approach possible.

Mothers (parents) should be open to learn to take care of their own health and that of their children; and help each other to ensure no one is left behind.

Doctors and nurses have a responsibility to empower their patients with knowledge so that people can help themselves.

Please also see [WHO Child Growth Standard - presentation](#)