LETTER TO EDITOR

WHO Growth Charts for Diagnosis of Malnutrition

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Dear Sir,

Child malnutrition is a major public health issue worldwide. An estimated 144 million children under age 5 are stunted, 47 million are wasted and 38.3 million have overweight or obesity. Around 45% of deaths among children under 5 years of age are linked to undernutrition.1 Measuring the growth of infants and children is an important part of child health surveillance and gives an idea about the nutritional status of the baby. Inadequate infant growth leads to under-nutrition in children in many low- and middle-income countries, which, if followed later in life by an increased intake of calories, can result in overweight or obesity and non-communicable diseases.

In 2006 WHO released growth standard charts (MGRS - multicentre growth reference study) for children. They were based on community study populations in six countries with multiple ethnic backgrounds (viz: Brazil, Ghana, India, Oman. Norway and U.S.A.) and done under optimum circumstances.1 Anthropometry was carried out on 8440 full term, single infants (beyond 37 weeks and under 42 weeks of gestation), born to healthy non-anaemic, non-smoking mothers, with good socioeconomic and educational status, who breast fed their infants exclusively for 4 months, continued to breast feed for a year along with ideal complementary feeding, babies fully immunised, without infection 15 days prior, without medical conditions leading to substantial morbidity, giving optimum opportunity to child development . These growth standard charts are thus normative, prescriptive and on children under ideal physiologic circumstances. They tell us how

children should grow and not how they are growing.

Govt. of India from 2006 onwards, advocated WHO growth charts (height/length for age, weight for age, weight for height) for anthropometric use in Indian children under 5 years; to classify them as per their nutritional status into stunting, wasting and underweight. Using these growth charts, National family health survey NFHS-3 (2005-2006), NFHS-4 (2015-2016) and NFHS-5 (2019-2021)3 have given the prevalence of stunting to be 48, 38.4 and 35.5% respectively, wasting to be 19.8, 21, 19.3% and underweight to be 42.5, 35.8, 32.1% respectively. One realises that the reduction from NFHS 4 to 5 has been marginal. The impact of various nutrition related schemes has not been felt. Causes of not being able to reduce malnutrition from 2015 to 2020 could be poverty, inappropriate implementation of nutrition schemes, special food not supplied or did not reach the children, both quality and quantity of food were deficient or food was adequate but was not absorbed due to diarrheal diseases, worms, poor WASH facilities etc. One more reason put forth by some is, inaccuracy or fallacies in WHO growth charts.

There have been some scientists who have debated the use of WHO charts. After release of WHO growth charts in 2006; 125 countries adopted them, 25 were considering them and 30 had not adopted them by 2012.2 By 2022 more than 140 countries had adopted them. Some countries observed that the growth of their children has been more in terms of height and weight compared to WHO standards (China, USA) while some others like India have found their growth lower.(2,4) Few studies have shown divergent comparisons between the national growth charts and the WHO growth charts. Examples are places like the United Kingdom, Poland, Norway, Germany, Hong Kong, Iran, United Arab Emirates and South Africa. For this reason, the United Kingdom created growth charts for certain ages based on the joining of the WHO growth references with local data, while countries such as China, Bolivia, Denmark, Norway and Belgium, have not used the WHO growth charts widely due to divergences in growth parameters of their populations when compared to the reference growth charts. For children under five years old, the WHO length/height-for-age growth charts were shown appropriate for children from Argentina, South Africa, Brazil, Gabon, Qatar, Pakistan and the United States. Latest data shows that over140 countries have adopted WHO growth charts.(2,4)

It is important that all countries use standardised growth charts to compare levels of growth and assess the nutritional status across countries. Therefore use of growth charts devised by WHO merit consideration. Of late, there have been reports that contextualisation of growth charts are required in India. This will be harmful, as it will not only stop comparing Indian children with the world's children but also compare children of today with those of the past so as to see the intergenerational effect. Therefore we suggest the continued use of WHO growth charts.

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