

de Onis M, Dewey KG, Borghi E, Onyango AW, Blossner M, Daelmans B, Piwoz E, Branca F. **The World Health Organization's global target for reducing childhood stunting by 2025: rationale and proposed actions.** *Maternal Child Nutrition* 2013;9 Suppl 2:6-26. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/mcn.12075/pdf>

Introduction

Growth stunting in early life continues to be a critical public health concern. Stunting is associated with impaired cognition and educational performance, lower adult wages, lost productivity and, when accompanied by excessive weight gain later in childhood, increased risk of nutrition-related chronic diseases (1). In 2012, the World Health Organization (WHO) adopted a resolution on maternal, infant and young child nutrition that included six global targets to reduce the high burden of disease associated with malnutrition, particularly during the critical period from conception to 24 months of age, which included a global target to reduce the number of stunted children under 5 years of age by 40% in 2025 (2). This issue of NNA summarizes a manuscript published in *Maternal and Child Nutrition* reporting on WHO's global target for reducing childhood stunting and proposed actions to meet the target.

The WHO global nutrition target

To meet the global target for reducing stunting by 40% in 2025, an average annual reduction rate (AARR) of 3.9% will be required between 2012 and 2025. This rate is calculated using the global stunting prevalence in 2010, which was estimated as 171 million stunted children under 5 years of age (3). This AARR of 3.9% per year is more than twice the global rate as determined in an analysis of 110 countries with at least two stunting prevalence estimates, which found that stunting prevalence dropped from 1995 to 2010 by 1.8 % per year. At the regional level, Africa had an almost stagnant prevalence of stunting over the past two decades, due to the large population increase. However, some countries made substantial progress. Ethiopia reduced stunting rates from 57% to 44% between 2000 to 2011, Ghana from 34% to 29% between 1993 to 2008 and Mauritania from 55% to 22% from 1990 to 2012 (<http://www.who.int/nutgrowthdb/en/>).

Setting individual country targets

One approach of setting national targets is to use the global AARR of 3.9% at the country level. However, ideally national targets should take into consideration country-specific levels and trends of stunting, risk factor trends, demographic changes, experiences with developing and implementing policies and interventions, and health system development. When this approach was used for 34 high-burden countries, the national AARRs ranged from 2.3% to 6.8% (See table 3 for details: <http://onlinelibrary.wiley.com/doi/10.1111/mcn.12075/pdf>). To avoid setting unrealistically high targets

for stunting reduction rates, de Onis *et al.* recommend setting a ceiling at 5%.

What can be done to reduce stunting?

The critical 'window of opportunity' is widely recognized as the ~1000 days from conception until 2 years of age (<http://www.thousanddays.org/>). Although it is known that stunting begins during pregnancy, it is uncertain what proportion occurs before versus after birth, which it will likely vary by population.

Prenatal nutrition interventions

The impact of multiple micronutrient supplementation during pregnancy on birth weight and length was investigated in two recent meta-analyses. The two meta-analyses found a significant increase in birth weight, although the mean increase in birth weight differed by analyses and ranged from +22 g (4) to +53 g (5). The difference in birth length was investigated in one meta-analysis only and found to be not significant (4).

The provision of balanced protein-energy supplementation has been investigated in several populations. A recent meta-analysis found that mean birth weight was significantly greater (+73 g) in children whose mother received prenatal protein-energy supplementation during pregnancy, and the prevalence of low birth weight was reduced by 32% (6). The effect of protein-energy supplementation on birth weight was greater in undernourished women.

Another meta-analysis investigated the impact of nutrition education and counselling during pregnancy on birth weight and found an increase in mean birth weight (+105 g) (7). However, this increase was significant only when nutrition education and counselling were combined with another dietary intervention in the form of food supplements, micronutrient supplements or nutrition safety net interventions. In addition to prenatal interventions, adequate maternal nutrition prior to conception is increasingly considered important (8).

Post-natal nutrition interventions

Exclusive breastfeeding during the first 6 months of life is an important nutrition intervention due to its impact on infant morbidity and survival. However, there is little evidence on the impact of exclusive breastfeeding on stunting.

Complementary feeding interventions have the potential to increase child growth from 6 to 24 months of age, but currently available evidence is inconsistent (8). Possible strategies to improve complementary feeding are nutrition counselling, increasing energy density of complementary foods, fortification of complementary foods and selected micronutrient supplementation. Current evidence of the impact of these interventions on stunting prevalence is inconsistent (9). An important consideration is the need to avoid strategies that may decrease breast milk intake of the breast fed child (9).

Integrating approaches

Because infection can cause linear growth restriction, integrated interventions that combine nutrition, infection control and care for mothers and children are likely to have a larger impact on stunting than any of these components alone. For example, the integrated management of childhood illness (IMCI) in Bangladesh was associated with a reduction in stunting (10). Research is currently ongoing to assess the impact of nutrition interventions integrated within a comprehensive approach to reduce stunting.

Conclusion

The multiple causes of childhood stunting operate both pre- and postnatally and through nutritional and non-nutritional pathways. Assessing the impact of any single intervention is therefore extremely challenging. Evidence from large-scale interventions using an integrated multi-sectoral approach is limited at present, but nutrition interventions alone are almost certainly insufficient. Along with nutrition interventions to reduce stunting, efforts should focus on developing and implementing nutrition-sensitive agriculture to improve household food security, increasing maternal education and women's empowerment in support of their own health and their capacity to care for their children, improving hygiene, sanitation and water quality to reduce infections and implementing social protection programs to increase purchasing power and access to services and amenities (11). As part of the multi-sectoral approach, programs aiming to increase birth spacing also should be considered, as birth spacing has an overall beneficial impact on maternal health, which in turn leads to improved child health (12).

In summary, the WHO adopted the resolution on maternal, infant and young child nutrition that included the global target to reduce childhood stunting by 40% by 2025. Integrated multi-sectoral approaches are needed to meet these targets, and systems should be put in place to screen for stunting and monitor progress to achieving this goal.

NNA Editor's Comments *

The country-specific AARR needed to meet the global targets for stunting reduction by 2025 is determined by the estimated stunting prevalence in 2010, stunting trends and projected population growth. Thus, African countries with a very high population growth rate will have to achieve even higher AARR to reach the global targets for stunting reduction by 2025. In the most recent Lancet series on maternal and child nutrition, Bhutta *et al.* (8) estimated the effect of the 10 evidence-based nutrition interventions implemented at 90% coverage in 34 countries with the highest burden of stunting. They concluded that only about 20% of the existing burden of stunting can be averted with nutrition interventions (8), which highlights the need for multi-sectoral actions.

* These comments have been added by the editorial team and are not part of the cited publication.

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