Stunting Prevalence in Children Under 5
(Outcome Indicator)

Description:

Stunting refers to low height for age, reflecting a sustained past episode or episodes of under-nutrition and poor health. This indicator is normally expressed as measuring moderate and severe stunting.

Rationale:

Stunted growth is one of the primary manifestations of malnutrition in early childhood. It is a commonly used indicator that reflects larger structural and interrelated issues related to the lack of access to adequate food and nutrient intake as well as poor health conditions. It has also been identified as the primary indicator in monitoring the realization of SDG 2 on ending hunger and malnutrition in all its forms (Target 2.2), so will be globally monitored and evaluated closely at national and international levels over the next 15 years[1]. Importantly, the monitoring of the achievement of the SDGs is to place greater emphasis on detecting inequalities in stunting rates, thus calling for more disaggregation of the height-for-age data.

According to the World Health Organization (WHO):[2] Stunted growth reflects a process of failure to reach linear growth potential as a result of suboptimal health and/or nutritional conditions. On a population basis, high levels of stunting are associated with poor socioeconomic conditions and increased risk of frequent and early exposure to adverse conditions such as illness and/or inappropriate feeding practices. Similarly, a decrease in the national stunting rate is usually indicative of improvements in overall socioeconomic conditions of a country.

Method of measurement:

The percentage of children aged 0–59 or more often 6-59 months whose height adjusted for their age falls below minus two standard deviations from median height-for-age, applying the WHO Child Growth Standards.

Indicator	Criterion
Overall Stunting Rate (%)	Below – 2 SD of the median height for age
Moderate Stunting (%)	Between -2 and -3 SD of the median height for age
Severe Stunting (%)	Below -3 SD of the median height for age

Data collection and sources

International secondary data sources presenting height for age data include Demographic and Health Surveys (DHS, USAID), , Multiple Indicator Cluster Surveys (UNICEF) and other national household or anthropometric surveys. For example, height for age data can be found in the annual *State of the World's Children* report. The 2016 report (reporting data from 2015) can be found at the following link: (Table 2, page 121): http://www.unicef.org/publications/files/UNICEF_SOWC_2016.pdf. International secondary data sources have some limitations as sources of monitoring data (see below).

Disaggregation

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[1] WHO. World Health Statistics 2016: Monitoring Health for the SDGs. Geneva, 2016. (

[2] The description of child growth indicators and interpretation is provided by the World Health Organization (WHO), available at: http://www.who.int/nutgrowthdb/about/introduction/en/index2.html

The height for age data are normally presented in secondary sources by age-group and by gender of under-five children[3]. If the source of the data is a national survey, the stunting rates may also be presented by localities, or by different income classes. This facilitates disaggregation to detect inequalities in stunting rates among under-five children from different socio-economic classes or from different localities in the country.

Periodicity

The reported data normally refer to a specific year. Annual or bi-annual publications such as the State of the World's Children (SOWC) of UNICEF normally present the latest available national data, which is not necessarily for the year of the publication and likely not to be the same for all countries. Thus, in reporting historical monitoring data making use of annual or bi-annual publications, care should be taken to note the actual year that the data were obtained.

Analytical Approaches:

The analytical approach should be designed to monitor the overall and severe stunting rates, and to assess changes over time in the inequality of the stunting rates among different population groups, to the extent that the available date allow. For example, if the overall stunting rate declines over time, we want to know whether this decline is present in all population groups, or is limited to a few specific groups of children. Thus for example, we would ask: (a) is the stunting rate declining among all under-five children, or only among older under-five children, (b) what changes in stunting rates do we observe among rural and among urban under-five children, (c) what changes in stunting rates do we observe in girls and in boys, (d) what changes in stunting rates do we observe among children from women-headed and from men-headed households, or among children from indigenous and from non-indigenous communities[4], etc.

Comments and Limitations

Height measurements among under-five children are normally obtained in two ways: (a) measurements made in medical facilities (health posts, clinics, hospitals), and (b) community-based surveys. The difference is important: clinic-based data are limited to children who attend the clinic, leaving aside children who do not attend the clinic because of poor access to medical facilities or because of other reasons. Non-attending children are more likely to be suffering from under-nutrition, meaning that clinic-based measurements in many countries provide a downward bias in stunting rates. Community-based surveys are more likely to include children from marginalized families, especially when such surveys make a concerted effort to be all inclusive.

International secondary databases basically rely on country-generated data. This limits the use of these data in monitoring: (a) as national surveys are often infrequent, these data sources may report missing data for consecutive years, (b) data across all countries are reported by time intervals[5], and (c) sample sizes vary considerably among countries, and often within countries over time. As much as possible, use

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[3] For example, the WHO Global Database on Child Growth and Malnutrition.

[4] For example, see FAO, Panorama de la Seguridad Alimentaria y Nutricional en América Latina y el Caribe 2014, Chapter 4 (Rome, 2014)

[5] See, for example, SOWC 2016.

should be made of primary data sources from the 23 first-stage countries, which are also more likely to present disaggregated data[6].

This indicator, as it reflects structural socio-economic conditions, is not very sensitive to small real changes over time. Thus, care should be taken when interpreting small changes over time in this indicator, especially changes within a short time period. Such positive or negative changes may reflect more random measurement errors and sample size differences than a real change in stunting. Robust differences over time of course are indicative of real change in stunting among under-five children.

Under-five children constitute a cohort, and over time newly born children will enter this cohort while others will grow older and leave the cohort. This has an implication for how we interpret changes in the stunting rates of under-five children over time. A decline in the stunting rate over time points to fewer of the new entrants suffering from growth deficiencies, and may indeed be indicative of improving socio-economic conditions. However, it does not indicate that the socio-economic conditions necessarily improved for the children that left this cohort. For this we would perhaps need to monitor stunting rates of school-aged children.

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[6] See, for example, changes in stunting rates by wealth quintiles 2000-2008 in Sierra Leone, as reported in Global Nutrition Report 2014 Nutrition Country Profile of Sierra Leone (www.globalnutritionreport.org), using DHS data.