Nutrition - Wasting in children

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Definition

A healthy child gains approximately 2 – 3 kg of body weight each year from the age of one until adolescence. There are cut-offs for weight based on globally accepted standards.[1] Wasting is present when the child's weight-for-height is less than -2 standard deviations from the mean. If a child's weight-for-height score is less than -3 standard deviations, the child is considered to be severely wasted.

Prevalence of wasting in children, by province, 1999 & 2005

PROVINCE	WASTING		Severe Wasting	
	1999	2005	1999	2005
Eastern Cape	1.8	4.1	0.3	1.4
Free State	3.4	2.8	2.0	-
Gauteng	1.2	3.3	0.0	1.0
KwaZulu-Natal	4.3	1.3	1.3	-
Limpopo	7.5	4.4	1.2	0.4
Mpumalanga	2.8	7.5	0.7	2.3
North West	5.7	3.2	0.9	-
Northern Cape	9.6	19.1	2.2	-
Western Cape	0.9	11.5	0.3	4.4
South Africa	**3.7**	**4.5**	**0.8**	**1.0**

Source Labadarios D (ed) (2007) *The National Food Consumption Survey – Fortification Baseline (NFCS-FB): The knowledge, attitude, behaviour and procurement regarding fortified foods, a measure of hunger and the anthropometric and selected micronutrient status of children aged 1 – 9 years and women of child bearing age: South Africa, 2005.* Pretoria: Department of Health, Nutrition Directorate.

Notes

1. Wasting is defined as the percentage of children whose weight-for-height is less than -2 standard deviations below the mean, and similarly, severe wasting is the proportion of children whose weight-for-height is less than -3 standard deviations below the mean.
2. Provinces with no available data are indicated with a dash.

What do the numbers tell us?

Poor nutrition will adversely affect a child's physical and mental capacity [2], and severe forms of malnutrition could lead to death. In 2000, the Medical Research Council's Burden of Disease estimates ranked malnutrition as the fifth leading cause of death among children younger than five years. [3]

A healthy child gains approximately 2 – 3 kg of body weight each year. Wasting is present when the child's weight-for-height measurement is less than two standard deviations from the globally accepted reference cut-off point. A child whose weight-for-height or length score is less than three standard deviations is severely wasted. Children who are affected by wasting generally lack essential nutrients in their diet. The prevalence of wasting in South Africa is an indication of acute malnutrition or loss of weight, and of children's poor access to sufficient nutritious food.

In 2005, nearly one out of every 20 children (5%) aged 1 – 9 years was wasted, while 1% of children in this age group was severely wasted. Equal proportions (5%) of 1 – 3-year-old and 4 – 6-year-old children were wasted. The Northern Cape (19%) had the highest proportions of children who were wasted, followed by the Western Cape (12%). Again, children living in formal rural areas (commercial farms) were more likely to be wasted than those in cities or rural areas under traditional authority.

The prevalence of children affected by wasting seems to have decreased in rural areas since 1999. However, it is of concern that the prevalence of wasting and severe wasting for children in urban areas was higher in 2005 than in 1999.

The 2005 National Food Consumption Survey report recommends that nutrition and health-related interventions accompany an increase in employment levels – and therefore household income – to ensure improvements in children's nutritional status in the long term.

Technical notes

For children younger than three years, height was determined by means of a measuring board. The average of two readings was used. If the two readings varied by more than 0.5 cm the procedure was repeated. For children three years of age and older, height was determined by means of a stadiometer. The average of two readings was used. If the two readings varied by more than 0.5 cm the procedure was repeated.

Weight was determined for all children using pre-calibrated electronic scales. The average of two readings was used. The procedure was repeated once. The two readings could not vary by more than 100g; if so, the scale was checked for accuracy and the procedure repeated.

For each child, a z-score (the number of standard deviations [SD] from the reference population median) was calculated for weight-for-height. If a child had a z-score below -2 SD, he/she was classified as wasted. If a child had a z-score below -3 SD, he/she was classified as severely wasted.

Strengths and limitations of the data

The 2005 National Food Consumption Survey [4] consisted of a cross-sectional survey of a nationally representative sample of children aged 1 – 9 years in South Africa, using the Census 2001 data. The survey population consisted of all the children aged 1 – 9 years (12 – 108 months) and women of reproductive age living in the same households in South Africa. This initial sample was adapted by means of 25% over-sampling to accommodate for children and women who would not be home at the time of the survey. A total of 226 enumerator areas (EAs) were included in the survey, 107 of which were urban-formal, 23 urban-informal, 15 rural-formal and 81 tribal areas. All qualifying EAs were selected with a known probability. A qualifying household for inclusion in the survey was defined as any household with at least one child aged between 1 – 9 years and at least one woman of reproductive age living in it.

Validated questionnaires were administered by trained fieldworkers and a blood and urine sample was taken from the respondents of each household to assess micronutrient status. Samples of tap water and maize

were collected from each household and tested for iodine and vitamin A respectively, the latter at the household level. All questionnaires were translated in the country's official languages for use as appropriate. Quality assurance measures were employed throughout the survey.

Suggested links

The Social and Economic Impact of South Africa's Social Security System
Samson M, Lee U, Ndlebe A, Mac Quene K, van Niekerk I, Gandhi V, Tomoko, H & Abrahams C 2004 Economic Policy Research Institute (www.epri.org.za/rp37.htm)

Food for Thought: A review of the National School Nutrition Programme
Kallman K 2005. In: Leatt A & Rosa S (eds) Towards a Means to Live: Targeted poverty alleviation to make children's rights real. Children's Institute, University of Cape Town [CD-ROM] (http://ci.org.za/depts/ci/pubs/pdf/poverty/facts/Foodforthought.pdf)

South African HealthInfo™ network
Medical Research Council
(http://www.sahealthinfo.org/sahealthinfo.htm)

References

[1] Kruger HS, Swart, R, Labadarios, D, Dannhauser A & Nel JH (2007) Anthropometric status. In: Labadarios D (ed) (2007) The National Food Consumption Survey – Fortification Baseline (NFCS-FB): The knowledge, attitude, behaviour and procurement regarding fortified foods, a measure of hunger and the anthropometric and selected micronutrient status of children aged 1 – 9 years and women of child bearing age: South Africa, 2005. Pretoria: Directorate: Nutrition, Department of Health.

[2] Swart R, Sanders D & McLachlan M (2008) Nutrition: A primary health care perspective. In: Barron P & Roma-Reardon J (eds) South African Health Review 2008. Durban: Health Systems Trust.

[3] Bradshaw D, Bourne D & Nannan N (2003) What are the leading causes of death among South African children? MRC Policy Brief No.3. Tygerberg: South African Medical Research Council.

[4] Labadarios D (ed) (2007) The National Food Consumption Survey – Fortification Baseline (NFCS-FB): The knowledge, attitude, behaviour and procurement regarding fortified foods, a measure of hunger and the anthropometric and selected micronutrient status of children aged 1 – 9 years and women of child bearing age: South Africa, 2005. Pretoria: Department of Health, Nutrition Directorate.

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References