

Stunting, overweight and obesity in the very young: two sides of a coin

South African children have a major problem of stunting as well as overweight and obesity, already starting as young as two years old. On the positive side, the South African National Health and Nutrition Examination Survey (SANHANES-1), shows that there is a clear decrease in wasting and underweight as well as an improvement in the iron and vitamin A status of children aged 2-5, report *Muhammad Ali Dhansay, Demetré Labadarios, Olive Shisana and Whadi-ah Parker.*

Nutrition, in general, is an important prerequisite to both individual and national development. More specifically, nutrition early in life is considered to be an important determinant of health and disease patterns in adulthood. As such, nutrition during the first 1 000 days – right from the start of pregnancy up to the child’s second birthday – is considered critical to the child’s development and health in adulthood.

Various national surveys have shown that child undernutrition, especially stunting (chronic undernutrition), has remained unacceptably high in South Africa. Although other forms of child undernutrition occur less frequently, they are of equal importance.

The South African National Health and Nutrition Examination Survey (SANHANES-1) provided more recent information on the prevalence of malnutrition, including undernutrition and overnutrition, overweight and obesity.

There was an increase in both stunting and severe stunting among toddlers aged 1-3 years.

Findings

Stunting, overweight and underweight

When compared to the previous national data of the National Food Consumption Survey (NFCS) in 2005, bearing in mind the limitations of comparisons between surveys, there was an increase in both stunting (3.1%) and severe stunting (3.1%) among toddlers aged 1-3 years in the country (Figure 1). In this age group, other forms of child undernutrition (underweight and wasting) had improved and remained in the low severity category of public health importance as defined by the WHO. In the older age group of children (4-6 years), all undernutrition indices improved when compared to the NFCS 2005 data (Figure 2).

Figure 1: Trends in the prevalence of undernutrition in children aged 1-3 years, SA 2005-2012.

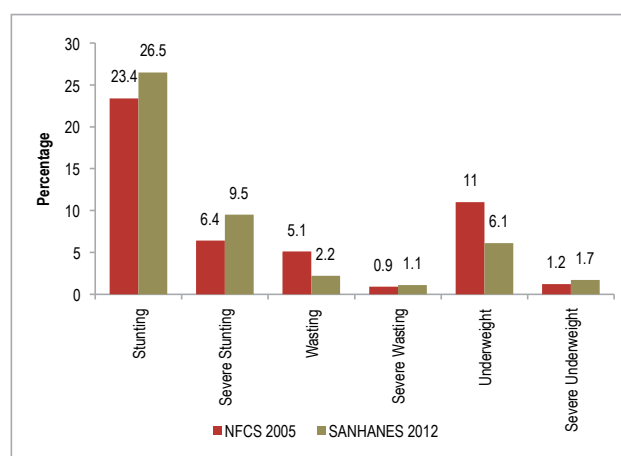
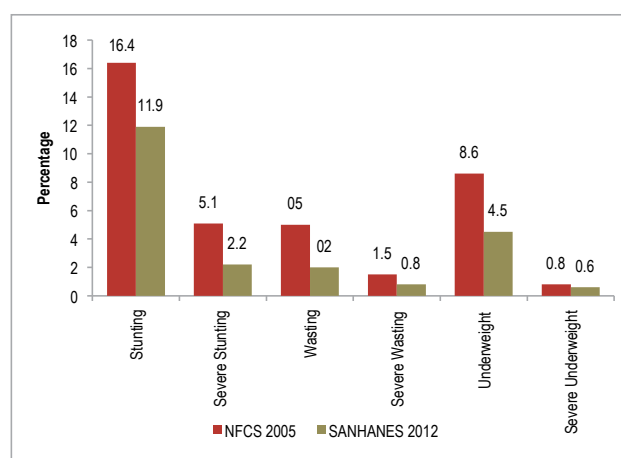


Figure 2: Trends in the prevalence of undernutrition in children aged 4-6 years, SA 2005-2012.

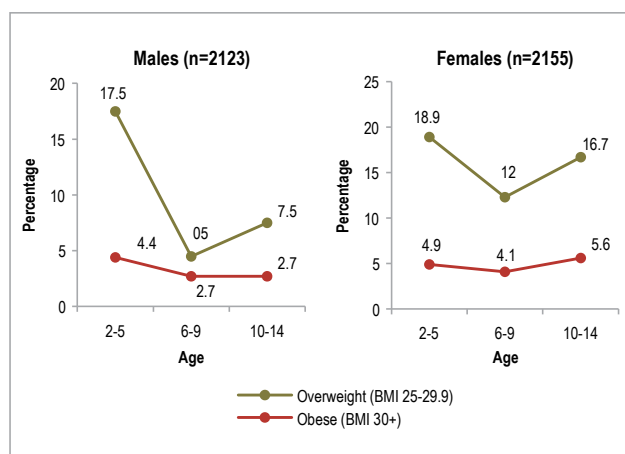




In the SANHANES-1, overnutrition (overweight) in boys was 17.5% in the 2-5 year group, 4.5% in the 6-9 year group, and 7.5% in the 10-14 year age group (Figure 3). For girls, the prevalence for the respective age groups was even higher (18.9%, 12.3% and 16.7% respectively); the prevalence being the highest in the 2-5 years age group. The more severe form of overnutrition (obesity) was recorded in 4.4%, 2.7% and 2.7% of boys for the respective age groups, which was lower than that recorded in girls (4.9%, 4.1% and 5.6% respectively).

Of all the children (aged 2-14 years) in the survey, overnutrition (combined overweight and obesity) prevalence was higher among girls (23.6%) than among boys (16.2%), as illustrated in Figure 3. Over almost a decade, the prevalence of overweight and obesity combined in both boys and girls aged 1-9 years increased from 14.0% in the 2005 NFCS data to 19.9% in the SANHANES-1, which was higher than both the 8.5% reported for the year 2010 and the 12.7% projected for children 0-5 years in 2020 in the African continent as a whole.

Figure 3: Prevalence of overweight and obesity in children aged 2-14 years by sex and age, SA 2012.



Significant improvements in the iron and vitamin A status in children younger than five years of age may reflect the beneficial impact of the food fortification intervention programme.

Micronutrients

The SANHANES-1 focused on iron and vitamin A as two micronutrients important for early childhood development. Iron is the most common nutritional deficiency and the leading cause of anaemia, the condition of having less than the normal number of red blood cells, while vitamin A is essential for eye health and the proper functioning of the immune system.

Other factors that play a significant role in anaemia, which should be kept in mind in the management of anaemia, include malaria, helminth infections (parasites) and other chronic infections, particularly HIV/AIDS and tuberculosis.

In the children aged five years and younger, overall, the prevalence of anaemia was 10.7%, mild anaemia 8.6% and moderate anaemia 2.1%. There were no cases of severe anaemia. The prevalence of iron depletion was 8.1% and of iron deficiency anaemia 1.9%.

When comparing SANHANES-1 findings with those of the 2005 NFCS, the prevalence of anaemia and iron deficiency anaemia decreased by 63.0% and 83.2% respectively. At the national level, the prevalence of vitamin A deficiency was 43.6%, which was a decrease from the 2005 reported prevalence of 63.6%.

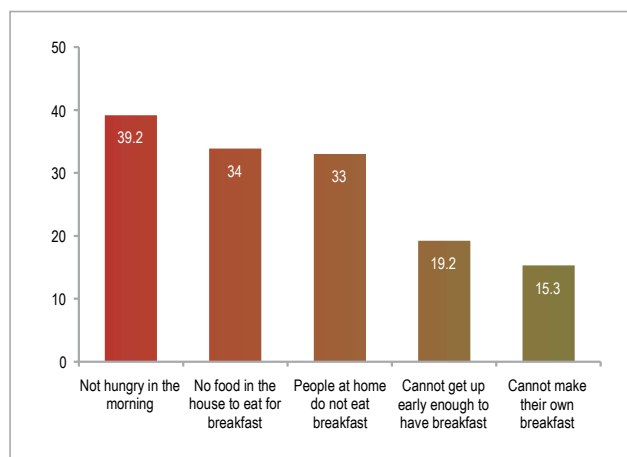
The significant improvements in the iron and vitamin A status in children younger than five years of age may reflect the beneficial impact of the food fortification intervention programme. However, the decrease in the prevalence of inadequate vitamin A status from 63.6% to 43.6% at the national level remains a major public health concern.

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What do children know about nutrition?

The SANHANES-1 showed the importance of good eating habits. While it was encouraging that the majority of children (86.1%) believed it was important to have breakfast, one third of them (33.9%) indicated that they did not have food at home for breakfast (Figure 4) and almost an equal third had nothing at home to put in their lunch boxes. Measures to improve food security in vulnerable communities are imperative.

Figure 4: Dietary behaviour of children 10-14 years in relation to eating breakfast, SA 2012.



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The majority (71.7%) of children had a low score on general nutritional knowledge, 27.3% had a medium score and only 0.9% had a high score. Although the majority of children (82.2% males and 78.3% females) indicated

that they were happy with their weight at the time of the survey, about one out of three children (36.4%) thought they had a 'normal' body image, nearly two thirds (61.6%) thought they had a 'fat' body image and 2.0% thought they had a 'very thin' body image, based on identifying an appropriate body image silhouette from a range of silhouettes. Disconcertingly, only 18.2% of children were able to correctly identify a 'normal' body image.

It is apparent that extensive health and nutrition education is crucial to achieve improved health and nutrition knowledge of South African children. Moreover, the focus should be on educating them about healthy (normal) body size status, as well as healthier ways of achieving it.

Health and nutrition education has to be seriously considered to improve the health and nutrition knowledge of South African children.

What to do?

On the basis of these findings, the SANHANES team made various recommendations, available in the full report on www.hsrc.ac.za. The recommendations include the following:

- Stunting should be diagnosed early in a child's life in order to prevent it. As such, the current approach to growth monitoring should be adapted to include the measurement of height/length regularly and the appropriate personnel should be enabled to take such measurements accurately.
- The Food Fortification Intervention programme, in conjunction with the Salt Iodation programme, should be retained but reappraised both in terms of compliance and current legislated fortificants, and levels thereof, particularly iron and zinc.
- The increasing trend of overweight and obesity should be addressed collectively at the home, school and community level with the aim of increasing awareness, promoting healthy food choices and practices, and increasing physical activity.
- Curricula that address the importance of healthy eating, physical activity and body image perceptions should be implemented or introduced within schools. ■

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