Nutrition - Low birth-weight

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Definition

The low birth-weight rate refers to the proportion of babies born alive who weigh less than 2,500g at birth.

The proportion of children affected by stunting, wasting, underweight, and low birth-weight, 2005

Province	Under weight (%)
Eastern Cape	7.8
Free State	14.1
Gauteng	6.4
KwaZulu-Natal	5
Limpopo	12.3
Mpumalanga	10.9
North West	12.4
Northern Cape	38.3
Western Cape	8.2
South Africa	**9.3**

Source Department of Health (2007) District Health Information System Database. Cited in: Health Systems Trust: Health Statistics Low birth weight rate (% live births <2500g). Viewed at: http://www.hst.org.za/healthstats/153/data, September 2009.

What do the numbers tell us?

The health and nutritional status of the mother greatly influences the growth and development of the baby during pregnancy and infancy. Birth weight is an indicator of both fetal growth and maternal well-being. [1] If the mother is under-nourished, of poor health, or too young, there is a greater chance of pregnancy or labour-related complications, including the baby being born with a low birth weight. [2] Mothers may also be unaware of the effects of substance abuse on their unborn child. Infants born with low birth weight are at risk of a number of health conditions. These infants may not be able to gain sufficient weight, and may suffer long-term health problems such as developmental delay and other disabilities. [3] With an estimated perinatal mortality rate [4] of 38 per 1,000 births in South Africa [5], neonatal deaths and illness are critical public health

concerns. The prevention of low birth weight has been identified as one of the main gaps that should be addressed to reduce deaths and illness in infants. [6]

In 2006, South Africa had a low birth-weight rate based on the District Health Information System (DHIS) and the Perinatal Problem Identification Programme (PPIP) of 9% [7] and 15.5% [8], respectively. This means that about one out of every ten babies born alive weighed less than 2,500g. However, as a large proportion of births – and therefore birth weights – are not documented, the exact figures are likely to be underestimated. Sometimes mothers are not told the weight of their babies at birth, or babies are not weighed at birth.

The Northern Cape province had the highest rate of low birth-weight babies (24%) followed by the Western Cape (17%), and Free State (14%). These rates are higher than the national average. Six of South Africa's nine provinces have low birth-weight rates equal to or higher than the national average. However, data from the District Health Information System should be interpreted with caution as data collection, and therefore data quality problems, exist. [9] For this indicator, some data for the North West province are implausible [10], and the very small proportion of low birth weight infants reported for the Gauteng province is questionable.

These figures raise serious concerns about the health status of infants, their chances of survival and their quality of life, particularly in provinces with a high incidence of low birth weight. They also indicate that many pregnant women may be undernourished or of poor health, which may result from high levels of poverty among women of child-bearing age. Efforts to reduce the proportion of babies born with low birth weight should focus on improved access to antenatal care, health promotion in pregnant women, adequate nutrition during the antenatal period, and improvements in perinatal care.[11]

Technical notes

The low birth weight rate is calculated as follows: total number of births <2 500g x 100 / total number of births. [12]

Strengths and limitations of the data

The District Health and Information System (DHIS) collects the data manually (i.e. a paper-based system) at facility level using forms and registers, also known as routine monthly reports (RMR). Electronic formats are available at some of the clinics within the districts.

The DHIS relies heavily on the accuracy of data collection at facility level. Data quality issues at clinic level have been noted in other child health programmes, in particular the prevention-of–mother to child transmission of HIV programme. A study of data collected for this programme showed that data were not reported consistently, and reported data were not always accurate. [13] The quality of DHIS data is questionable [14], which raises concerns about the accuracy of the data presented here.

Related Links

South African Department of Health (http://www.doh.gov.za/index.html)

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)

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

References

[1] 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.

[2] Pattinson RC, Sithembiso V, Hardy B, Moran N & Steyn W (2009) Overview. In: Pattinson RC (ed) Saving babies 2006 – 2007: Sixth perinatal care survey of South Africa. Pretoria: Tshepesa Press.

[3] Illingworth RS (1987) The Development of the Infant and Young Child. Normal and Abnormal. London: Churchill Livingstone.

[4] This rate applies to babies weighing more than 500g at birth.

[5] Ibid – see note 2.

[6] Mhlanga RE (2008) Maternal, Newborn and Child Health: 30 years on. In: Barron P & Roma-Reardon J (eds) South African Health Review 2008. Durban: Health Systems Trust.

[7] Department of Health (2007) District Health Information System Database. Cited in: Health Systems Trust (no date) Health Statistics Low birth weight rate (% live births <2500g). Viewed at: www.hst.org.za/healthstats/153/data, September 2009.

[8] Ibid – see note 2.

[9] Ibid – see note 7.

[10] Health Systems Trust (no date) Health Statistics Low birth weight rate (% live births <2500g). Viewed at: www.hst.org.za/healthstats/153/data, September 2009.

[11] Mhlanga RE (2008) Maternal, Newborn and Child Health: 30 years on. In: Barron P & Roma-Reardon J (eds) South African Health Review 2008. Durban: Health Systems Trust.

[12] Mate KS, Bennett B, Mphatswe W, Barker P, Rollins N (2009) Challenges for Routine Health System Data Management in a Large Public Programme to Prevent Mother-to-Child HIV Transmission in South Africa. PLoS ONE 4(5): e5483. doi:10.1371/journal.pone.000548.

[13] Mhlanga RE (2008) Maternal, Newborn and Child Health: 30 years on. In: Barron P & Roma-Reardon J (eds) South African Health Review 2008. Durban: Health Systems Trust.

[14] Pattinson, R (ed) (2000) Saving Babies: A Perinatal Care Survey of South Africa. Pretoria, South Africa: MRC Research Unit for Maternal and Infant Health Care Strategies.

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