

Nearly half of all child deaths caused by malnutrition

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Malnutrition is responsible for nearly half (45 percent) of all deaths in children under five, according to new research published as part of *The Lancet Series* on maternal and child nutrition. The results show that malnutrition is now responsible for around 3.1 million deaths in children under five annually.

The authors, led by Professor Robert Black, of Johns Hopkins Bloomberg School of Public Health, Baltimore, USA, performed a comprehensive new analysis of the different causes of maternal and childhood malnutrition, including poor breastfeeding practices and deficiencies of vitamins and minerals such as vitamin A, zinc, iron and calcium. They also analysed the consequences of malnutrition, including stunting (low height for age), wasting (low weight for height), and underweight (low weight for age), all of which result in increased risk of death and illness for both pregnant women and children.

Overall, the global prevalence of stunting has slowly decreased in the past twenty years, but rates are not falling quickly enough to meet global targets set just a year ago at the [World Health Assembly](#). The authors estimate that stunting affected at least 165 million children worldwide in 2011. In the same year, at least 50 million children were affected by wasting, and 100 million children were underweight. Over 90% of these were in Asia or Africa, with Africa the only major world region where the number of children with stunting has increased in the last decade.

Undernutrition doesn't just affect a child's survival chances or [body](#)

[measurements](#), but has numerous adverse effects on development, with consequences ranging from poorer [school performance](#) to increased susceptibility to infectious disease.

[Maternal nutrition](#) is also crucial, not just for the mother's own survival, but for her child's chances of survival and development; undernourished women more likely to die in pregnancy, to give birth prematurely, and to have babies who are born premature or too small for their [gestational age](#). Iron and calcium deficiency are identified as key contributors to maternal deaths, putting mothers at increased risk of anaemia and pre-eclampsia; maternal iron deficiency is also found to be associated with low birth weight.

While the adverse effects of premature birth on a child's survival and development are well-established, the study reveals startling new findings which show that children born too small for their gestational age – over a quarter (27%) of births in low- and middle-income countries – are also at substantially increased risk of dying. Restricted growth in the womb, due to maternal undernutrition, is estimated to be responsible for more than a quarter of all newborn deaths. Children born too small are considerably more likely to be stunted a year later, and are also at greater risk of some types of illness as adults.

In addition to the enormous burden of illness and disease resulting from maternal and child undernutrition, changing diets and patterns of physical activity mean that obesity and overweight are now increasingly affecting many of the countries already suffering the adverse consequences of undernutrition, resulting in a 'double burden' of maternal and child disease and illness.

According to Professor Black, "Nutrition has profound effects on health throughout the human life course and is inextricably linked with mental and social development, especially in early childhood. In settings with

insufficient material and social resources, children are not able to achieve their full growth and developmental potential."

"While there have been some improvements in nutritional conditions in recent years, the extent of these conditions remains high with serious detrimental health consequences. The high number of child deaths related to both stunting and wasting is unacceptable, and at the same time, rising levels of obesity and overweight will have vast implications for future health care expenditures and the overall development of nations."

In a research Article accompanying the Series, Dr Joanne Katz, of Johns Hopkins University, and co-authors provide further evidence for the risks facing babies born too small for their age. While previous studies have focused on the risks facing babies with low birth weight, Dr Katz and colleagues analysed data on over 2 million births to identify the risks facing babies born small for their gestational age, who often do not have a low birth weight (by the commonly used 2500g threshold).

They found that babies born too small were at [increased risk](#), compared to babies of a normal size, and that the highest risk babies were those born both preterm and small for their gestational age. The results suggest that reductions in child mortality might be achieved by targeting interventions that reduce the number of babies born too soon or too small.

More information: [www.thelancet.com/series/mater ... -and-child-nutrition](http://www.thelancet.com/series/mater...-and-child-nutrition)

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