

Issue Briefs

Maternal and child nutrition

Critical issues

M *Malnutrition, especially stunting, is damaging to a young child's development, with negative effects that persist into later life.*

Studies show that stunting in young children is closely associated with poor educational performance, reduced years of schooling and lower incomes as adults.

Children who are stunted are more likely to grow into adults who are less educated, poorer, less healthy and more prone to non-communicable diseases. Stunting is, therefore, a widely accepted predictor of the poor quality of human capital, which in turn diminishes the future earning capability of a nation.

Interventions to reduce stunting should start well before birth, with the mother's prenatal care and nutrition, and continue up to the age of two years.

The process of becoming a stunted child – called length growth faltering – begins in utero, up to two years of age. By the time the child is past two years of age, it is too late to undo the damage of the early years. The mother's health and nutrition status is, therefore, a crucial determinant of stunting in children.

Addressing malnutrition, in particular stunting, requires action in more than one sector. Inadequate dietary intake and disease – which are the immediate causes of maternal and child malnutrition – are due to inappropriate or inadequate infant and young child feeding practices, frequent illnesses and infections, poor hygiene and care practices. In turn, these are caused by factors such as the caregiver's lack of education and knowledge, the use of unsafe water, an insanitary environment, limited access to food and income poverty.

Children receive the greatest benefits when nutrition interventions form part of an integrated early childhood development (ECD) programme.

For example, adding micronutrient powders to young children's food or providing fortified foods, and counselling mothers and fathers on feeding practices should go hand-in-hand with teaching parents about optimal health and hygiene practices, activities to improve parenting skills, and psychosocial interventions to promote the child's psychological development. The benefits to society of ECD programmes outweigh the costs by five to seven times.

The need for urgent action

W ***hilst Indonesia has shown a steady decline in poverty, child malnutrition has shown little improvement.***

From 2007 to 2011, the proportion of poor people in Indonesia declined from 16.6 to 12.5 per cent but malnutrition showed no significant reduction (Figure 1). The prevalence of stunting is especially high, affecting one out of every three children under five years of age, which is a proportion that constitutes a public health problem according to the criteria of the World Health Organization (WHO).

Stunting affects poor children much more. The proportion of children suffering from stunting in the poorest quintile of the population is nearly twice that of children in the highest wealth quintile. Rural areas have a greater proportion of stunted children (40 per cent) than do urban areas (33 per cent). The prevalence of stunting amongst children living in households headed by an uneducated person is 17 times higher than that amongst children living in households headed by a person with tertiary education.

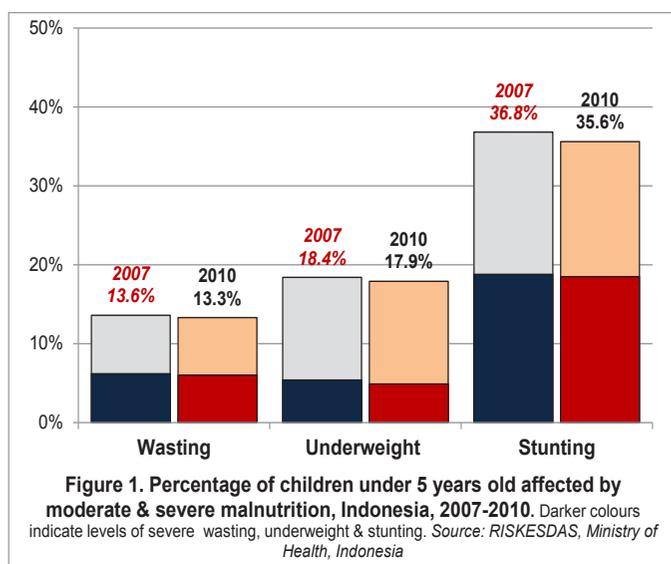


Figure 1. Percentage of children under 5 years old affected by moderate & severe malnutrition, Indonesia, 2007-2010. Darker colours indicate levels of severe wasting, underweight & stunting. Source: RISKESDAS, Ministry of Health, Indonesia

Geographic data show the depth and scope of the malnutrition problem and the need for urgent action.

The WHO (1995) classification is used for assessing the severity of malnutrition by prevalence range (low, medium, high, very high) for each indicator.

- **Stunting varies across Indonesia from medium to very high prevalence.** Even in Yogyakarta, the province with the lowest prevalence, stunting affects 23 per cent of children under five years of age. Seven provinces have very high prevalence (40 per cent or more), whilst 17 provinces have high prevalence (30-39 per cent). More than half the children (58 per cent) in East Nusa Tenggara are stunted, a proportion that is some 2.5 times the prevalence in Yogyakarta (Figure 2).
- **Wasting rates are high.** Nationally, six per cent of children show severe wasting, which puts them at high risk of death, a situation that has shown no improvement between 2007 and 2010. Nine provinces have very high prevalence of wasting, at 15 per cent or more.
- **Sixteen provinces have high underweight prevalence,** affecting 20 per cent or more of children. Underweight prevalence is very high in West Nusa Tenggara, exceeding 30 per cent.

Stunting is particularly challenging because of the scale of the problem, the country’s decentralized nature and the limited capacities of local governments. Rough estimates in 2007 indicated that some 81 per cent of districts in Indonesia had high to very high prevalence of child stunting.

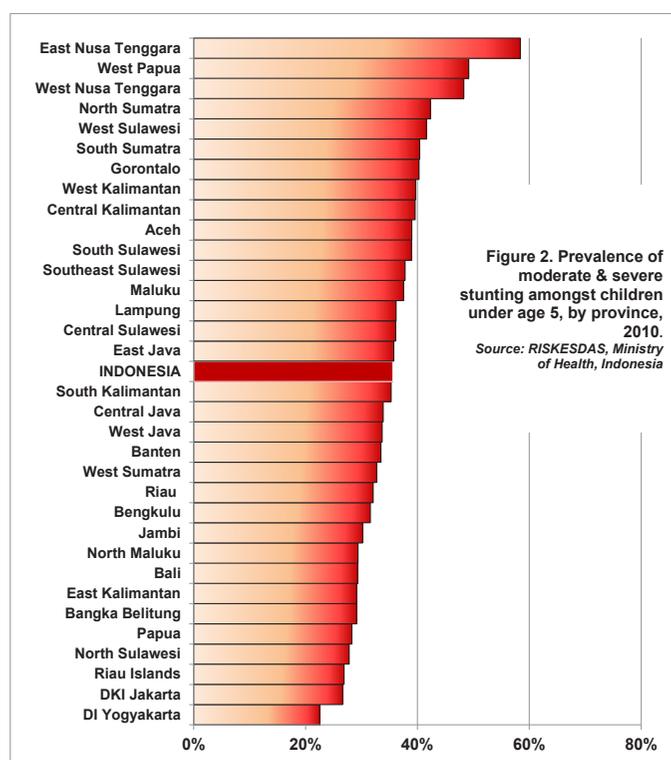


Figure 2. Prevalence of moderate & severe stunting amongst children under age 5, by province, 2010. Source: RISKESDAS, Ministry of Health, Indonesia

National data on maternal nutrition are generally lacking, but low birth weight and anaemia provide an indication.

The weight of the child at birth is the direct outcome of the mother’s health and nutrition status before and during pregnancy. Nationally, the proportion of children with low birth weight in 2010 (11 per cent weighing less than 2,500 grams) did not change significantly from that in 2007. In 14 provinces, the prevalence of low birth weight increased from 2007 to 2010. Anaemia seems to be a problem, affecting around one-quarter of pregnant women in 2007.

More than one-third of all reproductive aged women in Indonesia are not meeting the national requirements for energy or protein dietary intake.

In more than one-third of all provinces, this proportion rises to over 40 per cent of reproductive-aged women.

Barriers

There are three main barriers to improving nutrition and child development in Indonesia.

First, stunting and maternal nutrition are not easily visible. People are generally not aware that malnutrition is a problem, unless it takes the form of severe wasting. Efforts are therefore misdirected at tackling severe wasting, rather than directed at systems and interventions to prevent maternal and child under-nutrition.

Second, people associate malnutrition with a lack of food and believe that providing food is the answer.

Food availability is not a major cause of malnutrition in Indonesia, although lack of access to food due to poverty may be one of the causes. Even children from the two highest wealth quintiles show medium to high stunting, so food provision alone is not the solution.

Third, inadequate knowledge and inappropriate practices are significant barriers to improving nutrition.

In general, people do not realize the importance of nutrition during pregnancy and the first two years of life. More specifically:

- **Women** do not realize the importance of their own nutrition. For example, 81 per cent of pregnant women received or bought iron tablets in 2010, but only 18 per cent consumed the tablets as recommended for at least 90 days. The difference between Yogyakarta and West Sulawesi, respectively the best- and worst-performing province in this regard, is 65 percentage points.
- **Communities and health workers** need to understand the importance of exclusive breastfeeding and appropriate infant and young child feeding practices, and provide support to mothers accordingly. The 2007 Indonesia Demographic and Health Survey showed that less than one in three infants below the age of six months were breastfed exclusively and that only 41 per cent of children aged 6-23 months received complementary feeding that was in line with recommended practices on timing, frequency and quality.
- **Families** often lack knowledge on nutrition and hygiene practices. According to Riskesdas 2010, a significant proportion of households in Indonesia still use unsafe water (45 per cent) and unsafe means of excreta disposal (49 per cent). At least one in every four households in the poorest two quintiles still practice open defecation. Such practices are linked to diarrhoeal disease, which in turn contributes to malnutrition. In 2007, diarrhoea was the cause of 31 per cent of deaths amongst children in Indonesia between the ages of 1 to 11 months, and 25 per cent of deaths amongst children between the ages of one to four years old.

- **Service providers and community workers** do not provide adequate nutrition counselling. Without effective counselling, growth monitoring is ineffective in reducing malnutrition.

- **Local decision makers** often do not have sufficient knowledge of what works and what does not work for nutrition. This translates into wasted resources, for example, on preschool feeding programmes, which are not effective in reducing child malnutrition, although they may provide educational benefits. The lack of awareness also translates into inaction on important measures that district decision-makers should implement, for example, the issuance and enforcement of local legislation (*Perda*) on universal salt iodization or on breastfeeding. In 2007, only 62 per cent of households across Indonesia were able to consume adequately iodized salt, an indicator that has not shown much improvement over recent years.

Opportunities for action

Interventions related to young child feeding practices and maternal nutrition are key to addressing child malnutrition.

Addressing malnutrition will require scaling up nutrition interventions proven by scientific evidence to work. This is the package of Effective Nutrition Interventions (ENI), which provides a continuum of care from pre-conception to two years of age – covering the “1,000 days” of opportunity. Nutrition counselling of pregnant women and mothers to promote good practices is an essential part of this integrated package (see Box).

National level action is required to strengthen policy and legislative frameworks, institutional mechanisms and human resource development.

Special attention should be given to:

- Establishing and strengthening a national and subnational coordination mechanism for the implementation of the National Food and Nutrition Action Plan, and for coordination with non-nutrition sectors;

What should the ENI Package include?

- **Nutrition counselling of pregnant women and mothers of young children**
- **Good infant and young child feeding practices:** initiation of breastfeeding within the first hour of birth, exclusive breastfeeding of infants less than six months of age, and introduction of complementary feeding in line with recommended practices at 6 months, with continued breastfeeding up to at least two years of age
- **Micronutrients for pregnant women and for young children** including:
 - Iron and folic acid or multiple micronutrient supplementation for pregnant women
 - Adequately iodized salt for all households
 - Vitamin A supplementation for children aged 6-59 months
 - Zinc supplementation for diarrhoea management amongst children older than 6 months
- **Good hygiene practices** in pregnancy, infancy and early childhood
- **Deworming** for pregnant mothers and children aged 1-5 years
- **Treatment of severe wasting**, using ready-to-use therapeutic foods
- **Energy and protein supplements** for undernourished pregnant women
- **Calcium supplementation** for pregnant women

- Developing, monitoring and enforcing national regulations to control the marketing of breastmilk substitutes;
- Revising the minimum health services standards to include nutrition actions and targets, such as those related to nutrition counselling, complementary feeding and maternal nutrition;
- Strengthening the health information system to improve data reliability, promoting supportive supervision of health and nutrition programmes, and promoting the continual use of data by health staff to improve programme impact;

- Strengthening national food fortification programmes by updating fortification standards for wheat, making oil fortification mandatory, and improving the enforcement of the existing legislation on salt iodization;
- Implementing measures to recruit, develop and retain qualified nutritionists, including incentives for those working in under-served areas.

Implementing ENI at district level will require the commitment of district leaders as well as support from national and provincial levels for a range of actions:

- ***Develop and implement district nutrition plans and budgets for ENI***, with clearly defined roles and responsibilities at each level, especially for nutritionists at Puskesmas¹ Parts of the ENI package lie outside the health sector and involve many other stakeholders, raising the possibility of fragmented efforts. District decision makers will therefore need to ensure effective coordination, as well as the consistency of the plans with national targets. Coordination with cash transfer programmes, such as PKH,² is also necessary, to make sure that the services used by beneficiaries are available at high quality.
- ***Foster motivation amongst health and nutrition staff with appropriate incentives.*** Rewards could include professional recognition, increased responsibilities and a performance-based component to salaries, with performance judged against indicators on programme coverage and results. The data from the current food and nutrition surveillance system (*Sistem Kewaspadaan Pangan dan Gizi*) need to be used more effectively for local decision making and targeting. Continual feedback, monitoring and supervisory sessions play important roles in motivating teams, all requiring adequate resources from the district.
- ***Prioritize nutrition counselling.*** District and community health providers need to be educated on the importance and effectiveness of counselling,

¹ Puskesmas: Community Health Centre (sub-district level)

² PKH: *Program Keluarga Harapan*, a conditional cash transfer programme

ENI and the continuum of care concept. District communication campaigns need to use arguments on education performance as well as health arguments.

• **Encourage the revitalization of Posyandu using nutrition counselling and ECD as central activities.** Indonesia's vast network of Posyandu³ is the only structure that offers possibilities for nutrition counselling down to the community level. From 2000 to 2006, the number of Posyandu increased by 15 per cent, whilst the number of better functioning and more sustainable Posyandu types (Purnama and Mandiri) increased by 60 per cent, a trend that merits encouragement. Experience over the past decade with models such as Taman Posyandu shows that community support to Posyandu is more sustained when families are motivated by education and social reasons – notably ECD and better school performance – than by health or nutrition alone.

• **Develop ways to motivate community agents and parents.** Districts need to revitalize and motivate the PKK⁴ volunteers serving in Posyandu. In some districts, training for volunteers in income generating activities combined with district government support for credit mechanisms provide incentives for volunteers involved in activities promoting early childhood development. In others, the opportunity for training itself for instance, on nutrition counselling) or friendly competition amongst Posyandu could act as incentives.

Resources

Bappenas (National Development Planning Agency) & Ministry of Health (2010): *The Landscape Analysis: Indonesia Country Assessment. Final Report*, 6 September 2010.
Available from:
<http://www.mediafire.com/?iz88bx6eazx8cz6>
Accessed 5 August 2012

Barnett, S.W. (1985). 'Benefit-cost analysis of the Perry Preschool Program and its policy implications.' *Educational evaluation and policy analysis*. 7: 333-342

Barnett, S.W. (1995). 'Long-term effects of early childhood programs on cognitive school outcomes' *The future of children*. 5: 2550.

Bhutta, Z., Ahmed, T., Black, R.E., Cousens, S., Dewey, K., Giugliani, E., Haider, B.A., Kirkwood, B., Morris, S.S., Sachdev, H.P.S. and Shekar, M. (2009): 'What works? Interventions for maternal and child undernutrition and survival.' *Maternal and Child Undernutrition* 3: Lancet 371:417-440.

BPS-Statistics Indonesia and Macro International (2008): *Indonesia Demographic and Health Survey (IDHS 2007)*. Calverton, Maryland, USA: Macro International and Jakarta: BPS.

Kramer, M. (1987): 'Determinants of low birth weight: methodological assessment and meta-analysis.' *Bulletin of the World Health Organization* 65: 663-737

Ministry of Health (2008a): *Laporan Nasional: Riset Kesehatan Dasar (Riskesdas) 2007*, Jakarta: National Institute of Health Research and Development

Ministry of Health (2008b): *Revitalizing Primary Health Care. Country Experience: Indonesia*. WHO-SEARO Regional Conference on Revitalizing Primary Health Care, 6-8 August. Jakarta: World Health Organization

Ministry of Health (2011): *Laporan Nasional: Riset Kesehatan Dasar (Riskesdas) 2010*, Jakarta: Ministry of Health, National Institute of Health Research and Development.

Pelto, G., Dickin, K. and Engle, P. (1999). *A critical link: Interventions for physical growth and psychological development*. Geneva: World Health Organization

Shrimpton, R., Victora, C.G., de Onis, M., Lima, R.C., Blössner, M. and Clugston, G. (2001): 'Worldwide timing of growth faltering: implications for nutritional interventions.' *Pediatrics* 107: E75

³ Posyandu: Integrated Services Post (village level)

⁴ PKK: *Pemberdayaan Kesejahteraan Keluarga* (Family Welfare Empowerment), an extensive network of volunteers

Victora, CG., Adair, L., Fall, C., Hallal, PC., Martorell, R., Richter, L. and Sachdev, H.S. (2008): 'Maternal and child undernutrition: consequences for adult health and human capital.' *Maternal and Child Undernutrition 2*, *Lancet* 371: 340357

World Health Organization (1995): 'Physical Status: Uses and Interpretation of Anthropometry.' WHO Technical Report Series, Report No. 854. Geneva, Switzerland: World Health Organization.