

# TRENDS OF CHILDHOOD OBESITY IN ASEAN

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The World Health Organization (WHO), in 2003 has declared that obesity is a global epidemic to such an extent that the word “Globesity” was coined. Using the WHO definition obesity is more than 3SD of the BMI in the WHO child growth standards. Overweight is  $>2$  SD, and the risk of overweight is  $>1$  SD or  $\leq 2$  SD (WHO, 1995).

In 2010, 43 million children, with 35 million in developing countries, were overweight and obese, and 92 million children were at risk of overweight (de Onis *et al*, 2010). The global prevalence of overweight and obese children is increasing. In 1990, it was 4.2%; in 2000 it was 5.1%; in 2010 it was 6.7%, and for 2020 the estimated rate is 9.1% (Fig 1).

## Prevalence of childhood obesity in Asia

In Asia, the prevalence of overweight and obesity among preschool children is 3.2% in 1990 that increased to 4.9% in 2010, and the estimated prevalence for 2020 is 6.8%. Translated into actual numbers, in 1990 there were 12.4 million children in Asia who were obese, which increased to 18 million obese children in 2010. By 2020, there will be 24 million children in Asia who will be obese. For Southeast Asia, the number of obese children increased from 1.2 million to 2.5 million over 20 years (1990-2010) (de Onis *et al*, 2010) (Table 1).

## Prevalence of childhood obesity

**Singapore.** In Singapore, there has been a

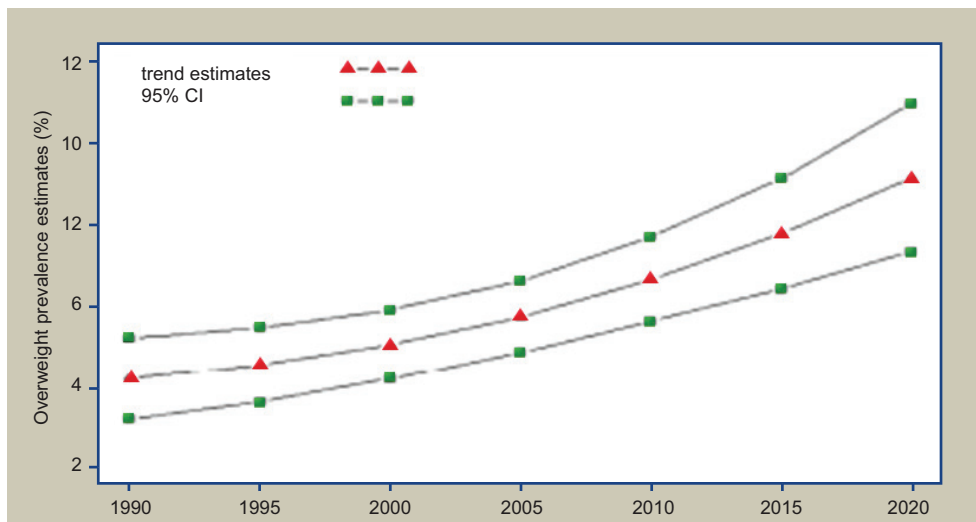


Fig 1—Global prevalence and trends of overweight and obesity among preschool children. (Source: de Onis *et al*, 2010).

Table 1

Numbers of overweight and obese children aged 0-5 years (>2 SDs from weight-for-height median) with 95% CIs, by United Nations (UN) regions: 1990-2020.

UN regions and subregions	No. of overweight and obese children						
	1990	1995	2000	2005	2010	2015	2020
	Millions						
Asia <sup>a</sup>							
(n)	12.4	12.9	13.7	15.2	17.7	21.0	24.3
(95% CI)	6.3, 18.5	7.5, 18.4	8.8, 18.7	10.3, 20.2	11.7, 23.7	12.9, 29.1	13.4, 35.2
Eastern							
(n)	6.3	5.6	5.1	4.7	4.8	5.1	5.1
(95% CI)	3.2, 12.2	2.8, 11.0	2.5, 10.0	2.3, 9.5	2.3, 9.8	2.4, 10.5	2.4, 10.6
South Central							
(n)	4.2	4.8	5.4	6.0	6.6	7.4	8.0
(95% CI)	1.5, 11.9	21.1, 10.8	2.8, 10.1	3.3, 10.9	3.3, 13.2	3.0, 17.7	2.5, 24.0
Southeastern							
(n)	1.2	1.4	1.7	2.0	2.5	3.0	3.5
(95% CI)	1.0, 1.4	1.2, 1.7	1.3, 2.1	1.5, 2.7	1.7, 3.5	1.9, 4.5	2.1, 5.6
Western							
(n)	0.6	1.0	1.6	2.4	3.8	5.5	7.7
(95% CI)	0.4, 1.1	0.7, 1.5	1.2, 2.1	1.8, 3.3	2.5, 5.5	3.2, 8.8	4.0, 12.8
Developing countries							
(n)	20.7	22.4	25.0	28.9	34.7	42.0	49.9
(95% CI)	14.5, 26.9	16.8, 28.0	19.9, 30.1	23.8, 34.1	28.5, 41.0	33.5, 50.5	38.4, 61.4
Developed countries <sup>b</sup>							
(n)	6.2	6.3	6.4	7.1	8.1	8.8	9.5
(95% CI)	4.7, 8.1	4.7, 8.2	4.8, 8.4	5.4, 9.3	6.1, 10.6	6.7, 11.5	7.2, 12.4
Global							
(n)	26.9	28.7	31.4	36.1	42.8	50.8	59.4
(95% CI)	20.4, 33.3	22.9, 34.5	26.0, 36.7	30.6, 41.5	36.2, 49.4	42.0, 59.6	47.7, 71.1

<sup>a</sup>Excluding Japan; <sup>b</sup>Including Europe, Northern America, Australia, New Zealand, and Japan. (Source: de Onis *et al*, 2010).

steady decline of the prevalence of childhood obesity from 14% in 1992 to 9.3% in 2005, followed by slight increase to 9.9% in 2008 and 2009 (Fig 2). A number of successful government and private-based intervention programs implemented in Singapore that reduced the burden by 4% (Lee and Pang, 2012).

**Thailand.** A regional survey conducted showed that 8% of girls and 13.5% in boys in north-eastern Thailand are obese. The shift from agriculture based to industrialized economy is the reason for this change (Langendijk *et al*, 2013).

**Cambodia.** In 2010, data from the provinces of Pursat, Battambang, and Pailin

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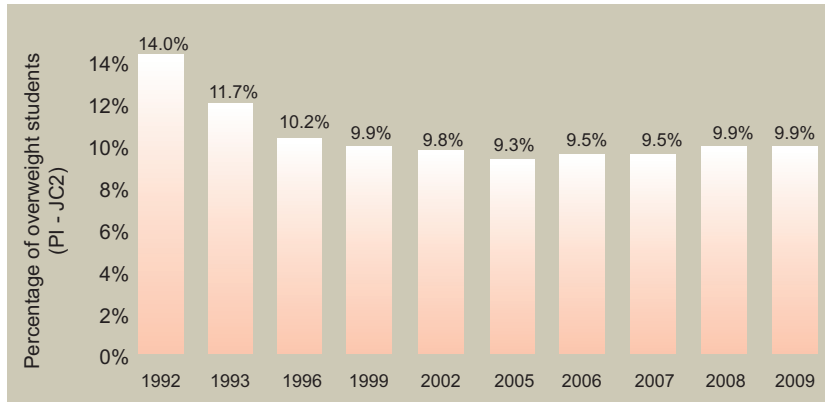


Fig 2—Overweight prevalence among the young in Singapore (1992-2009).

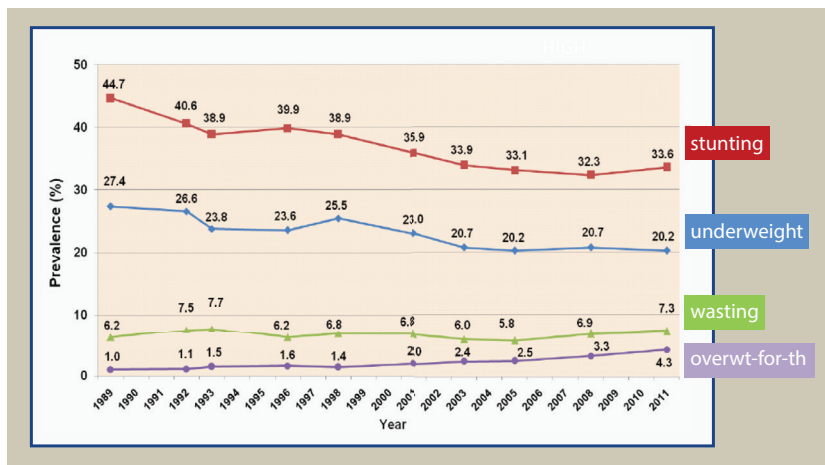


Fig 3—Trends of malnutrition among children, 0-5 years old, 1989-2011, Philippines.

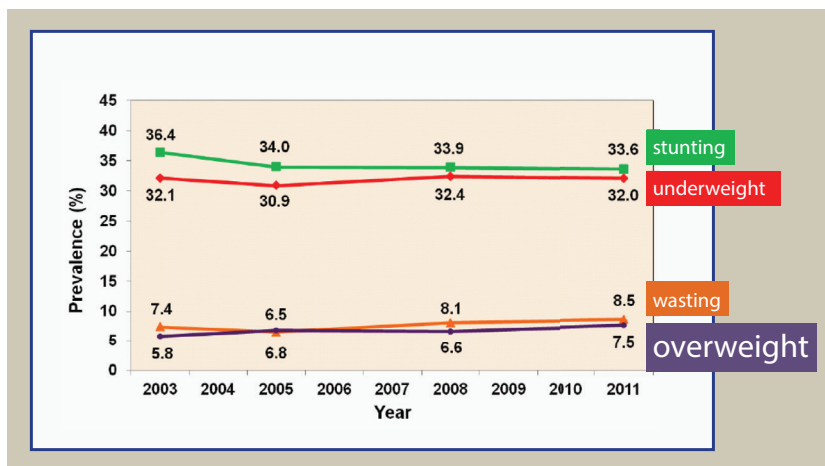


Fig 4—Trends of malnutrition among 5-10 years old, 2003-2011, Philippines.

have a high prevalence of 20% and 21%, respectively, of overweight children (N-RNCD, n.d.).

**Philippines.** The Philippines is one of the Southeast Asian countries suffering from the double burden of malnutrition meaning both undernutrition and obesity are concerns affecting Filipino children. In 1990, the incidence of undernutrition was 27%, with little change through the years, so that in 2011 the incidence is 20.2% among 0-5 year old children. Among the 5-10 year old in 2003, the prevalence of undernutrition was 32% which remain unchanged up to year 2011. In 1990, the prevalence of obesity among 0-5 year old children was 1% that increased to 4.3% in 2011 (FNRI, n.d.) (Figs 3, 4).

In summary, Asia has the highest number of overweight/obese children (18 million) in 2010, which is expected to climb up to 24 million. Interventions and programs have to be done to address the serious health problem affected ASEAN children.

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