

A chubby child, is well-nourished or ill-nourished?

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All parents want the best for their children; best schooling, best environment and best diet during their development. How do we know that we are not unintentionally hurting them by feeding them good food?

According to the World Health Organization (WHO), even though the rate of childhood obesity is not as alarmingly high as adult but is already epidemic in some area and on the rise in others. In 2003, 17.6 million children under five are estimated to be overweight worldwide. This problem is global and increasingly extends into the developing world. In Bangkok, a study by Professor Dr Pipob Jirapinyo, has shown a figure of 16% for a prevalence of obesity among the Grade I primary school children which had then jumped to 31% six years later when they were in Grade VI. A recent report from England also showed that childhood obesity has doubled in 10 years.

Assistant Professor Dr Jeerunda Santiprabhob, a paediatric endocrinologist, from Siriraj hospital suggested that the rising number of childhood obesity is caused by changing of our life style and diet. Although we cannot deny the role of gene in determining a person's susceptibility to weight gain, energy balance of calorie intake and physical activity is still an important factor to determine one's weight. A diet of high proportion of carbohydrate, saturated fat and sugar plus large shift towards inactive lifestyle such as playing computer games instead of field sports are among the major causes of the childhood obesity.

Over weight and obesity is easily assessed by using a single measure, the body mass index (BMI), which uses a mathematical formula based upon a person's height and weight. BMI equals weight in kilograms divided by the square of the height in metres (kg/m^2). For adult, a BMI over 25 kg/m^2 is considered overweight, and a BMI of

over 30 kg/m^2 of obese. A normal BMI should be within the range of 19 to 24 kg/m^2 . As for children, it is a little bit more complicated and there are 2 ways to calculate. One, by using a BMI, we do need a growth chart and a BMI of greater than 95th percentile for the age and sex is considered obese. The second, by using the figure of percent weight for height, calculate an actual weight by divided by ideal weight for height multiply by 100. A percent weight for height of 120 or above is considered obese.

Obesity and overweight pose a major risk for many chronic diseases including diabetes mellitus type 2 and high blood pressure. Diabetes mellitus type 2 is caused by the inability of the body to use insulin effectively, not by the inability of producing enough insulin as type 1. Being overweight or obese, together with physical inactivity and a high fat, high energy dense diet are believed to be the major factors for the cause of the condition. Type 2 diabetes is also one of the causes of premature death in children. A study in 125 obese children aged 6-18 years old with a mean BMI of 33.5 kg/m^2 at Siriraj hospital revealed that 21.6% of all of them had pre-diabetes (blood sugar of higher than normal but not reach the diabetic criteria) and 13.2% of all were already had type 2 diabetes. Dr Jeerunda stressed that even in the diabetic group could have no symptom at all and may come to the hospital when they already developed the serious complication of uncontrolled diabetes. Other than that, for the children with pre-diabetes, they are at risk of developing diabetes if they are not able to lose weight. It was noted that darken and thicken skin around the neck and the armpits in obese children are signs of state of insulin resistance, and should be brought in to have a check up for diabetes

Hypertension or high blood pressure is another important consequence of obesity. In the same study showed that 27% of obese children were already had high blood pressure. Apart from those, other condition which recognized as the sequel of obese are obstructive sleep apnea (obstruction of airway during sleep), fatty liver (abnormal accumulation of fat in liver), early puberty and poor self-esteem and depression.

Childhood obesity is now a national problem which everyone should be aware of. As present children will be future adults, childhood obesity is like a public health 'time bomb'. These include the cost of treatment of the condition itself, its long-term complications and related serious consequence as mention above. It is important to involve the whole family when treating obesity in children. If we would like to preserve the health of the next generation, we have to encourage our family to have a healthy life style and let's stop hurting the children by feeding them up.