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Health Tips

Eating well helps young children grow healthily, develop properly and function well at home, in school and in the community.

Thus, parents and carers should help young children eat well and build sustainable healthy eating habits.

Raising Healthy Preschool Children (Part I : Healthy Eating)

Preschool children generally refer to young children between toddler stage and school age, around 2–6 years old. During this period, children become independent in self-care and learn to eat table food with their families. They would develop better controlled and coordinated movements to participate in games and sports, as well as start to solve problems mentally and ask questions [For more information on child development, please visit the Family Health Service (FHS) website of the Department of Health (DH) at <http://www.fhs.gov.hk>].

In Hong Kong, most preschool children enjoy good health. As the Child Health Survey (CHS) 2005/2006 of the DH indicated, 92.0% of children aged 2–6 years were rated as having ‘good’, ‘very good’ or ‘excellent’ general health status by their parents.¹ In terms of motor, cognitive, language and moral developments, preschool children in Hong Kong are comparable with their peers in western societies.² However, there are concerns about childhood obesity, unhealthy eating habits, and low physical activity level.

Obesity in Young Children

Childhood obesity is a major public health issue, both globally and locally. Studies have shown that obesity takes its toll on children’s health directly. For example, type 2 diabetes used to be rare among children, but it has now been found in children as young as 4 years of age.³ Moreover, children who become obese before 6 years of age are likely to stay obese throughout childhood and often persist into adolescence and adulthood,^{4,5} thereby increasing their risk of metabolic disorders, cardiovascular diseases and other chronic health conditions in later life. Beyond adverse effects on physical health, obesity may have a profound negative influence on children’s psychological well-being too. Obese children are more prone to low self-esteem, negative body image and depression.

Globally, early childhood overweight and obesity have increased dramatically in the past two decades. An analysis of 450 nationally representative cross-sectional surveys from 144 countries showed that the prevalence of overweight and obesity (defined as having a weight for height greater than 2 standard deviations above the median World Health Organization growth standards) among children aged below 5 has increased from 4.2% (or 26.9 million) in 1990 to 6.7% (or 42.8 million) in 2010. This rising trend is expected to continue and reach 9.1% (or 59.4 million) in 2020.⁶

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In Hong Kong, an earlier study on 1 437 young children aged 3–5 years attending Maternal and Child Health Centres (MCHC) of the DH in 2007 reported an overall prevalence of obesity of 7.7% (6.4% for boys and 9.0% for girls), with obesity defined as body weight exceeding 120% of the median weight for height based on the 1993 Hong Kong Growth Survey.⁷ Further figures from MCHC on 1 635 young children aged 4–5 years (who were born in 2006 and received preschool vision screening between February and March 2011) showed a corresponding rate of 9.0% (10.4% for boys and 7.4% for girls).⁸ More importantly, data from the Student Health Service of the DH showed that the detection rate for obesity (defined as body weight exceeding 120% of the sex -adjusted median weight for height) among Primary 1 students has risen from 11.3% in 1996/97 to 16.6% in 2009/10.⁹

While obesity in childhood is the result of many factors, it is determined to a large extent by children's dietary habits, physical activity level and sedentary behaviours, which in turn are shaped by the social and physical environments around them. An ethnographic study of 10 Hong Kong Chinese preschool children aged 2–6 years observed that contributors to obesity in preschool children could be ascribed to the children (such as picky eating, short sleep time which was associated with additional opportunities for eating, or limited time for free play), the primary carers (such as some mistaken beliefs and attitudes towards childhood obesity, feeding children high-energy foods, or under-estimating the amount of exercise that children need), the preschool settings (such as provision of high-energy snacks and meals, failure to address children's developmental needs for active play, or prioritising sedentary activities to meet parents' demands for an academic education), and the

wider environments (such as widespread availability of fast and processed foods, or lack of provision of safe spaces for children to play).¹⁰

Parental misperception of children's weight can strongly influence their children's eating style, food preferences and calorie intake. Research showed that nearly half (46%) of Hong Kong mothers under-estimated their preschool children's body weight status.⁷ If you are concerned about your young children's weight status, take them to see your family doctor or visit the MCHC of the DH. Proper measurements can be taken to tell whether your children weigh appropriately for age, are underweight or overweight.

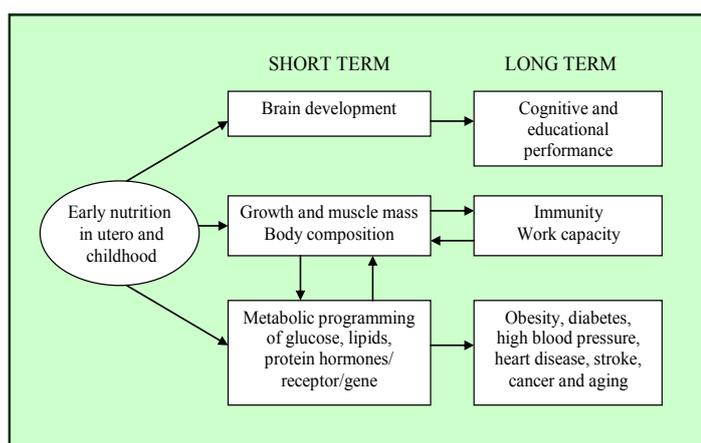
In fact, preschool years are a good time to help young children establish lifelong healthy habits. Provision of appropriate care and education at this stage is critically important for their healthy development and in averting later health problems, including obesity. In this issue of *NCD Watch*, we would talk about some eating and nutrition issues concerning preschool children (Part I). In the next issue, the focus will be on the importance of physical activity on raising healthy preschool children (Part II).



Start Early with Healthy Eating

Proper nutrition in early years of life can have a profound effect on children’s ability to learn and think analytically, communicate and socialise with others proficiently, adapt to new environments and changes effectively. In contrast, unbalanced nutrition can impede their reproductive health, behavioral development, cognitive growth and educability, thereby undermining future work productivity. Healthy eating is also critical in preventing obesity and avoiding other diet-related diseases in later life (Figure 1).

Figure 1: The short- and long-term effects of early nutrition¹¹



Source: UNICEF 2001.

Eating Behaviours among Preschool Children in Hong Kong

Local research showed that many Hong Kong preschool children do not eat well – consuming not enough fruit, vegetables and milk, but too much fried food, fast food, junk snacks and soft drinks (Table 1). Although most children had 3 regular meals per day, 3.2% of the children aged 2–6 years were found to have always or sometimes omitted breakfast in the 7 days preceding the survey; and 70.9% of the preschool children had meals while watching television 5 days or more per week.¹

For or children, the general daily dietary fibre requirement should be equivalent to their age plus 5 grams (e.g. the daily dietary fibre requirement for a 4-year-old child is about 4 + 5 = 9 grams). However, a community-based study reported that the average fibre intake among preschool children aged 3–5 years reached only 40% of the daily recommended intake. Such low fibre intake was related to their low intake of plant-based foods, including fruit, vegetables and unrefined grains.¹²

Table 1: Specific eating behaviours among preschool children aged 2–6 years in the 7 days preceding the survey

Eating behaviour	Proportion
Consumption of <i>fruit</i> less than 1 unit per day	46.6%
Consumption of <i>vegetables</i> less than half bowl per meal	49.8%
Consumption of <i>cow's milk</i> less than 1 cup (= 250 ml or 8 fluid oz) per day	29.1%
Consumption of <i>fried food</i> in main meals at least 3 times per week	13.9%
Consumption of <i>fast food</i> at least once per week	66.8%
Consumption of <i>junk snacks</i> at least once per day, such as chips and candies	13.7%
Consumption of <i>soft drinks</i> at least 1 cup (= 250 ml or 8 fluid oz) each day	15.2%

Source: Child Health Survey 2005/2006.

Helping Preschool Children Eat Well

Very often, parents and carers are responsible for WHAT, HOW MUCH, WHEN and WHERE young children eat. As young children are excellent imitators and by nature copy what they see around them, it is also important for parents, other family members and carers to act as a role model by having good eating habits. Recognising that preschool children tend to learn bite-by-bite, food-by-food and meal-by-meal, the following are some tips for parents and carers to help and encourage young children to eat well:

What and How Much to Eat

- ☉ Encourage young children to try and taste a variety of nutritious foods from each food group, while keeping the right portion size appropriate to the children's age.
- ☉ Offer young children with grains and cereals (such as rice, noodle or pasta), vegetables, and lean meat (or its protein substitutes, such as fish, beans and eggs) in the ratio of 3:2:1 by volume.
- ☉ Offer young children more fresh fruit and vegetables, as well as appropriate amounts of whole-grain foods such as whole-wheat bread and oatmeal.
- ☉ Offer young children about 2 servings (or 480 ml) of low fat milk or milk products equivalents a day.
- ☉ Limit young children's consumption of foods that are high in fat, salt and sugar, and processed or preserved foods, such as ham, sausages and preserved vegetables etc.
- ☉ Choose healthier snacks whenever possible, such as fresh fruit, cherry tomatoes, boiled egg or green sandwich. Avoid offering snacks that are high in sugar, salt and fat, such as

confectionary, chocolate, cakes, prawn crackers or potato chips.



- ☉ Serve young children plain water (which is the best drink for all including children). Avoid giving them soft drinks or other sugary drinks. Even pure fruit juice needs to be offered sparingly as excessive consumption may increase caloric and sugar intake and lead to overweight and even obesity.

When to Eat

- ☉ Offer young children three regular meals, and always start the day with a nutritious breakfast.
- ☉ Offer snacks once and only when young children feel hungry between main meals. Space out snack times evenly with at least a time lag of 1.5–2 hours between each main meal so that they may not be over-hungry or that their appetite for the next meal may not be spoiled.
- ☉ Respect young children's appetite that may vary from day to day. Let young children decide how much they eat, and do not force them to 'clean their plate'.
- ☉ Do not use food as a reward, or as a way of dealing with young children's tantrum or bad mood.

A balanced diet can provide all the nutrients that a child needs. Therefore, vitamin supplements are usually not necessary. If you think your children's picky eating behaviours are affecting their growth or development, talk to your family doctor or registered dietitian for advice.

Where to Eat

- © Eat at home with young children as often as possible. Allow children to feed themselves. Serve family-style meals while seated at a table with TV turned off so that you and your children can enjoy the meal and time together.
- © When eating out, choose healthier dishes with less fat, sugar and salt, or look for restaurants with the EatSmart Decal and choose dishes that come with the EatSmart '3 Less Dish' or 'Dish with More Fruit and Vegetables' logo whenever possible. To search for a nearby EatSmart restaurant, please visit the designated website at <http://restaurant.eatsmart.gov.hk>.

Apart from home, pre-primary institutions (including preschools, kindergartens and childcare centres) also play an important role in fostering good eating habits in young children. In fact, close to 90% of children aged 3–5 years living in Hong Kong attend and spend significant amounts of time at pre-primary institutions. A local focus group study in 2009 involving a total of 47 participants (including parents, caregivers, principals, teachers and food preparation staff of pre-primary institutions) found that the foods provided at pre-primary institutions were generally perceived as nutritious. However, there were occasions that less healthy foods (including chocolate cake, candies and sugary drinks) were served, such as during birthday celebrations. Some teachers used sweets as rewards at times.¹³ A follow-up observation study in 2010 of the actual situation of food provision in two pre-primary institutions showed similar findings.¹⁴

Eating habits, once formed, can be hard to break. Young children who develop a sweet tooth and dislike for vegetables will find it much harder to main-

tain a healthy diet through their later life than those raised with a balanced diet with appropriate amounts of fresh fruit and vegetables, grains and cereals, meat and dairy products. With the support of other government departments, academics and non-governmental organisations, the DH has produced a number of nutrition and physical activity guides or guidelines empowering parents, carers as well as school personnel of pre-primary institutions to help young children cultivate sustainable good eating habits and physical activity practices. These guides or guidelines, such as the '**StartSmart Parent Guide**', the '**Nutrition Guidelines for Children Aged 2 to 6 Years**' as well as the '**Physical Activity Guide for Children Aged 2 to 6 Years**' (available soon), can be downloaded from the thematic website at www.startsmart.gov.hk.



(Chinese versions only)

Remember that the earlier the better to start building healthy eating habits. Eating well helps young children grow healthily, develop properly and function well at home, in school and in the community!



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A local study found that early childhood caries (ECC) was common among young children in Hong Kong.

The study involved a random sample of 1 296 Chinese preschool children aged 3-5 years (with a mean age of 3.9 years) who were subjected to an oral examination for early childhood caries status. To assess the impact of ECC, parents were asked to self-complete the Chinese version of Early Childhood Oral Health Impact Scale (ECOHIS). Results showed that 35.1% of the preschool children had experienced dental caries - 19.9% for ECC and 15.2% for severe ECC. Decayed teeth were found in 34.3% of the young children while 5.2% had filled teeth. Overall, the mean decayed, missing, and filled teeth (dmft) score was 1.5. The most common impact on the child, as reported by parents, was 'pain in the teeth, mouth or jaws' (39.4%), followed by 'difficulty eating some foods' (23.9%), 'difficulty pronouncing words' (21.6%) and 'difficulty drinking hot or cold beverages' (21.0%).

While the causes of dental caries are often multifactorial, ECC is totally preventable. Parents and carers need to realise that young children's teeth are more susceptible to decay and should take appropriate measures to prevent ECC. These include avoidance of caries-promoting feeding behaviours (e.g. never put young children to bed with a bottle or sippy cup), limiting their consumption of sugary foods and drinks, supervising their oral hygiene practices, and taking them for regular dental check-up.

[Source: Wong HM, McGrath CPJ, King NM and Lo ECM. Oral health-related quality of life in Hong Kong preschool children. *Caries Res* 2011; 45(4): 370-6.]



Data Brief

Eating dinner together as a whole family fosters parent-child bonding by giving the children time to interact with their parents. Through role modeling and coaching, it also helps children learn healthy eating habits that will last a lifetime.

The Child Health Survey 2005/2006 of the Department of Health used a structured questionnaire and face-to-face interviewed parents of over 1 800 preschool children aged 2-6 years on how frequent children would have dinner with family. Results showed that the majority (83.4%) of preschool children aged 2-6 years had dinner with family for 5 days or more per week. However, 1.8% of children had dinner with family for less than 1 day per week (including never or rarely).

Even for the busy parents who cannot manage to eat every meal with their children, they should try as often as possible.

Frequency of having dinner with family per week in preschool children aged 2-6 years

Frequency per week	Proportion
5 days or more	83.4%
3-4 days	7.5%
1-2 days	5.7%
Less than 1 day (including never or rarely)	1.8%
Unknown / Missing	1.6%
Total	100.0%

Source: Child Health Survey 2005/2006.

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