

A Survey of Young Child Feeding in Hong Kong (2016)

- Executive Summary -



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Executive Summary

Background

A diet consisting of variety of nutrient dense foods is not only essential to meet the nutritional requirement of young children, but it is also necessary for them to develop their feeding skills as well as establishing a healthy eating pattern.

In 2011, Family Health Service (FHS) of the Department of Health developed and disseminated a parent education resource with the title “Healthy eating for 6-24 month old children”. The resource promotes parents to feed children responsively and in a developmentally appropriate way. It recommends young children consuming a diet of a variety of foods, an adequate intake of fruit and vegetable, and an appropriate amount of milk intake, 360 to 480 ml a day. Children are recommended to stop consuming milk in feeding bottles by 18-month of age. In addition to distribution of health education materials, relevant key messages are also disseminated via various channels including individual advice provided to parents attending Maternal and Child Health Centre, information on website of FHS, and health talks.

To provide an update on local situation of food consumption pattern of children and parental feeding practice and to evaluate the effectiveness of the health promotion actions mentioned above, FHS commissioned a private research agency to conduct a survey on young children and their parents attending maternal and child health centres.

Survey Objectives

The objectives of the Survey are to study the following aspects of children aged 1 to 4 years:

- i) their pattern of milk consumption, including type of milk and milk product consumed, quantity of milk consumed, milk drinking behaviours, parental attitude on choice of milk and formula milk and use of feeding bottle;
- ii) their consumption of fruits, vegetables, and use of nutritional supplements;
- iii) the feeding practices of the parents;
- iv) the source of information of child feeding obtained by parents; and
- v) the breastfeeding experiences of the mothers of 1-year-old children.

Methods

The survey was conducted at 29 Maternal and Child Health Centres (MCHCs) in Hong Kong from 22 July to 29 September 2016.



The target respondents of the survey were parents with children of four age-intervals, namely, 12 to <15 months old (12-month group), 18 to <21 months old (18-month group), 24 to <30 months old (24-month group) and 48-<60 months old (4-year group). Parents were excluded if they could not read or write Chinese, or if their children having any of the following characteristics : (1) being born preterm (before 37 weeks of gestation); (2) suspected or diagnosed having developmental delay or abnormalities, or (3) chronic medical problem or congenital abnormalities requiring regular specialists' care and follow up.

A face to face interview was conducted by trained interviewers, using Cantonese or Putonghua, to administer the survey questionnaire. Computer Assisted Personal Interviewing approach (CAPI) was adopted in the survey.

Among 2447 eligible parents being invited, 1639 parents completed the survey. The overall response rate was 67.0%. Majority of the respondents (88.4%) were mothers.

Key findings

(a) Type of milk consumed by children

- i) Nearly all children of the 12-, 18-, 24-month groups, 99.8%, 99.3% and 99.5% respectively, consumed either breastmilk, formula, cow's milk or milk products alone or in combination during the 7 days prior to the survey. In the 4-year group, 93.7% children were consumers and 6.3% children did not receive breastmilk nor consume any milk or milk products.
- ii) The proportion of children received breastmilk was 31.2% in the 12-month group, 15.7% in the 18-month group and 9.6% in the 24-month group.
- iii) Follow-up formula was the most common choice of milk among the children of one and two years of age. It was consumed by 72.9%, 82.9% and 83.6% of children in the 12-, 18- and 24-month groups respectively.
- iv) Consumption of cow's milk was increasingly popular with age. The percentage of children consumed cow's milk increased from 7.3% in the 12-month group to 63.9% in the 4-year group. More preschool children in older age group chose fruit flavoured/chocolate milk and calcium- fortified soy milk.
- v) Milk products, including yoghurt and cheese, were popular in the 18-month, 24-month and 4-year groups, about 30% consumed yoghurt and about 60% had consumed cheese in the 7 days prior to the survey.



(b) Frequency and amount of milk consumed

- i) Of the children who did not receive breastmilk, 37.6% in the 18-month group, 37.0% in the 24-month group and 12.3% in the 4-year group consumed the recommended quantity of 360 to 480 ml of milk a day.
- ii) Excessive intake of milk, defined as daily quantity more than 480 ml, was not prevalent. The percentage of children with excess intake of milk decreased from 25.9% of children in the 18-month group to 16.7% in 24-month group and 4.2% in the 4-year group.
- iii) Non-consumers and those consumed milk less than 360 ml a day accounted for 36.5% in the 18-month group, 46.2% in the 24-month group and 83.5% in the 4-year group.
- iv) Non-consumers of milk and those consumed milk less than 360 ml a day accounted for 36.5%, 46.2% and 83.5% of children not receiving breastmilk in the 18-, 24-month and 4-year groups respectively. Preschool children also consumed milk less regularly. About 2.2% of children in the 24-month group and 13.8 % in the 4-year group did not consume any milk during the 7 days prior to the survey. Eight percent (7.5%) of the children in the 24-month group and 36.0% in the 4-year group consumed milk but they did not consume milk daily.

(c) Drinking milk from feeding bottles

- i) Persistently drinking milk from feeding bottles was still common and was reported by 84.4%, 68.5%, and 31.6% of children in the 18- and 24-month and 4-year groups respectively.
- ii) A significant proportion of parents, 62.6%, in the 18-month group did not attempt to wean their children from bottles. The corresponding proportion was 39.8 % and 13.1% among the parents of the 24-month and 4-year groups.

(d) Parental perception about formula milk

- i) Although both follow-up formula and cow's milk provide important dietary source of calcium for young children, significantly more parents of children below 24 months (51.3%, 46.9% and 47.6% of parents of the 12-, 18- and 24-month groups respectively) agreed or strongly agreed that follow-up formulae had better nutritional value for calcium than cow's milk, comparing to 39.8% of parents in the 4-year group. A higher percentage of parents of children below 24 months (40.9%, 41.1% and 41.1% of parents of the 12-, 18- and 24-month groups respectively) agreed or strongly agreed that the follow-up formulae having better effect on enhancing children's immunity than cow's milk, comparing to 31.8% of parents in the 4-year group.
- ii) Similarly, more parents of younger children (31.2%, 32.6% and 36.8% of the 12-, 18- and 24-month groups respectively) compared to 25.8% parents of the 4-year group agreed or strongly agreed that follow-up formulae have more nutritional values in the



development of children's brain than other foods in diet.

(e) Consumption of vegetables and fruits

- i) Overall, more than 80% of children consumed vegetables every day. More than 70% children ate fruit daily.
- ii) About 37% of the 12-month group and 43.7% of the 18-month group consumed the recommended quantity, at least 80 g (one serving), of vegetables daily. More children met the recommended intake of fruits, 67.8% in the 12-month group and 79.0% in the 18-month group consumed at least 40 g (half serving) fruit daily.
- iii) Of the 24-month group, 19.6% children met the recommended intake of vegetables (at least 120 g daily), and 46.3% children had fruit consumption meeting the recommended at least 80 g of fruits per day.

(f) Use of nutrient supplements

- i) About 25% of the studied children had taken nutrient supplements in the 7 days prior to survey.
- ii) Cod liver oil, fish oil, calcium and vitamin C supplements were the most common supplements consumed.

(g) Parental feeding practice and children's behavior at mealtime

- i) Almost one third of the children in the 12-month group and about 20% of the 18- and 24-month groups never or seldom dined with parents or their family members. Offering children the same foods as other family member and allowing children to self-feed was uncommon among the parents in the 12-month group. Allowing children watching TV or electronic device during mealtime was a common practice in parents with preschool children. These mealtime settings were not conducive for toddlers to establish good eating behaviour.
- ii) Prolonged meal time, or the duration of mealtime was always or often more than 30 minutes, was increasingly reported by parents as children became older, from 17.2% in the 12-month group to 30.2%, 38.3% and 55.2% in the 18-month, 24-month and 4-year groups respectively. Nearly one in ten parents (8.7%) with the 4-year-olds reported that their children often or always took more than 60 minutes for a meal.
- iii) About one fourth of parents of the 18-month, 24-month and 4-year group expressed concern that their children were eating too little. These parents were also more likely having children with a prolonged meal time.
- iv) Use of food as reward was common in toddlers and preschool children, while offering foods to sooth a fussy child was common in the 12-, 18-, 24-month groups.



(h) Source of information of child feeding

- i) Most parents, 91.2%, reported they had read the child feeding booklets provided by Department of Health (DH) and about 30.1% browsed the DH webpage on child feeding.
- ii) Family, relatives and friends, health professionals and websites on parenting were the top 3 most reported sources of child feeding information that the respondents referred to.
- iii) About one-third of parents had received feeding message from the mothers' clubs of the formula milk companies. Of the respondents in the 4-year group, 38.8% reported the child's school as the source of information.

(i) Breastfeeding experiences of the mothers

- i) More than 90% mothers of the 1-year-olds had initiated breastfeeding after childbirth. One-third (33.3%) of them breastfed for at least 12 months.
- ii) "Not having enough milk" was the most common reason for the mothers stopping breastfeeding, quoted by 58.3% of respondents. It was the most frequently reported reason by the mothers, regardless of the time when they stopped breastfeeding. About 30% cited "having the need to be back to work" as their reason to stop breastfeeding. Other common reasons were, "breastmilk alone did not satisfy their children", "breastfeeding was too tiring" and "breastfeeding was too inconvenient", as reported by 14.2%, 13.6% and 13.0% of mothers respectively.

Comparison with the findings of the survey in 2010

(a) Type of milk consumed by children

- i) There was a significant increase in children receiving breastmilk in this survey. The proportion of children received breastmilk in the 12-, 18- and 24-month groups increased sharply, from 9.8%, 5.4% and 2.9 % respectively in 2010 to 31.2%, 15.7% and 9.6% in 2016.

(b) Frequency and amount of milk consumed

- i) Regarding the quantity of milk consumed, a higher percentage of the 12-month and 18-month groups consumed milk of the recommended quantity, 360 to 480 ml per day, 28.9% and 37.6% respectively in this survey compared with 18.5% and 33.3% respectively in 2010. The proportion of children consuming more than 480 ml per day decreased significantly in all groups. In the 24-month and 4-year groups, it decreased from 40.5% and 15.4% in 2010 to 16.7 and 4.2% in 2016 respectively. On the other hand, the proportion of children consuming less than 360 ml a day increased in the



24-month and 4-year groups in 2016.

- ii) The percentage of non consumers remained similar in the two surveys. However, there was a substantial increase in the proportion of children who did not consume milk daily in 2016. In 2010, 0.8% and 7.9% of the 24-month and the 4-year groups did not consumed milk daily respectively and these increased to 7.5% in 24-month and 36.0% in the 4-year groups in 2016 respectively.

(c) Drinking milk from feeding bottles

- i) There was a significant drop in the percentage of persistent feeding bottle users compared to the survey in 2010. The percentage of children drinking milk from feeding bottle among the 18-month-olds reduced from 95.2% in 2010 to 84.4% in 2016. Among the 24-month-olds and the 4-year-olds, it dropped from 89.4% and 55.2% in 2010 to 68.5% and 31.6% in 2016 respectively.

(d) Consumption of vegetables and fruits

- i) Children aged 1 to 2 years who participated in this survey consumed more vegetables than their peers in the 2010 survey. Based on the 3-day food record, 29.1%, 36.1% and 35.0% children of 12-, 18- and 24-month groups in 2010 consumed at least 80 g (a serving) of vegetables a day. In 2016, a higher percentage of children consumed at least one serving of vegetables daily based on parents' report, 37.0%, 43.7% and 53.1% of 12-, 18- and 24-month groups respectively. The percentage of 4-year-olds consumed at least 160 g (two servings) of vegetables were 8.9% in both surveys.
- ii) Compared to the survey in 2010, 1 to 2- year-old children also consumed more fruits than their counterparts in the 2010 survey. In 2010, 54.4%, 61.8%, 67.5% of 12-, 18-, 24-month groups consumed at least 40 g (half serving) of fruits a day based on their 3-day food record. A higher percentage, 67.8%, 79.0%, 79.5% in 12-, 18-, 24-month groups in 2016 respectively, took at least 40 g fruit a day based on parent's report. The percentage of 4-year-olds consumed at least 80 g (one serving) of fruits in 2016 were 53.5% which was similar to 49.8% in 2010.

Conclusion & Recommendations

This Survey showed that a considerable proportion of toddlers were not allowed to feed themselves and rarely dined with their parents or other family members. Allowing children watching TV or electronic device during mealtime was common among the parents in preschool children. These parental feeding practices were not appropriate for the development of young children and hampered young children adopting a healthy eating behavior.



Parents of older children may encountered more difficulties in feeding which were reflected by their concern of children's appetite and prolonged meal time. Parental concerns of their children eating too little indicated that their expectation of children appetite might not be appropriate. Explicit information of age appropriate portion size should be provided so that parents could have a more realistic expectation of children's intake. This may help reducing their anxiety on feeding children and promoting more developmentally appropriate feeding behaviour.

This survey showed that a large proportion of children still did not consume adequate amount of fruit and vegetables. Effective feeding strategies, including availability, repeated exposure and parents as role model should be further promoted as part of developmental appropriate feeding practices.

The frequency and amount of milk consumption dropped as children's age increased. Low and infrequent milk intake was prominent among the preschool children of 2 and 4 years old. This was similar to the eating habits of adults in Hong Kong reported by the Behavioural Risk Survey 2013 and the Population based Food Consumption Survey 2005-2007 also reported a low intake of milk and milk products in local adults.

Parents have a pivotal role in modelling food intake for their toddlers and preschoolers. Parent education resources on feeding for toddlers and preschool children should be strengthened and address the diet of both the children and their parents. Parents should be encouraged to provide adequate amount of milk and milk alternatives for both themselves and their children. Information including calcium rich food source, guidance on portion size, the exchange serving size for milk and milk products with traditional calcium rich foods, could help them in making food choices. Practical information, such as cooking tips and recipes, are indispensable to help parents to include these calcium rich foods into the family meal. By improving the availability of milk, milk products and other calcium rich foods in the family meal, it can also improve the calcium intake in parents which would likely be low.

Lastly, the compliance of stop drinking milk from feeding bottle after 18 months of age was poor. The parental barrier in bottle weaning should be further studied.