HELEN KELLER INTL | ARCH ASSESSMENT & RESEARCH ON CHILD FEEDING

What are older infants and young children eating in Cambodia?

Findings from a study of diets among 10-19 month-olds in rural/peri-urban Kandal Province

Key findings

- Dietary diversity was limited in Kandal province. Across all ages, minimum dietary diversity was achieved by only a minority of children, meaning most children did not eat a diverse enough diet to meet their nutritional needs. Because of this low diet diversity, few children achieved a minimum acceptable diet.
- Sweet beverage consumption and unhealthy food consumption were very common.
- Consumption of all types of fruits and vegetables was low, with half of children aged 10-14 months and more than one third of children aged 15-19 months not having any fruits or vegetables in the day before the interview.
- Consumption of breastmilk substitutes was common, with consumption highest among 10-14 month-olds and steadily decreasing as children aged.
- Previous research showed high consumption of breastmilk substitutes and unhealthy commercial foods and beverages among young children living in urban areas. This research shows that a high proportion of young children living in rural/peri-urban areas also consume these products.
- Consumption of commercially produced complementary foods was very low.
- The main food groups consumed were cereal/starchy staples, flesh foods, dairy products, and unhealthy commercial foods and beverages.
- Addressing the high consumption of breastmilk substitutes and unhealthy commercial foods and beverages by infants and young children should be a national priority.

Background

Good nutrition during the first 1,000 days of life —from the start of pregnancy to a child's second birthday —is essential for children's growth and development.[1] The World Health Organization (WHO) guiding principles on complementary feeding (See Box 1) for infants and young children aged 6-23 months recommend that children be fed a diet of a variety of nutritious, safe foods several times a day, along with continued breastfeeding, to ensure their dietary needs are met.[2,3] Unfortunately in Cambodia, many children do not achieve this standard.[4,5] According to the 2014 Demographic and Health Survey (DHS), just 32% of Cambodian children 6–23 months of age consumed the recommended variety and frequency of foods during the previous day.[6] While Cambodia has made some progress towards reducing the number of children who are stunted, nearly one quarter of children under the age of 5 are still too short for their age.[7] One possible contributor to poor-quality diets among children is the consumption of unhealthy commercial foods and beverages,[8] which may replace other healthier foods. According to the 2022 DHS, respectively 28% and 21% of Cambodian children 6–23 months of age consumed a sweet beverage or unhealthy food the previous day.[7] Overconsumption of unhealthy commercial foods and beverages during the

vital complementary feeding period has been associated with an insufficient intake of essential nutrients and poor linear growth[8] and a greater risk of overweight/obesity in childhood.[9] A 2014 study reported that 38% of children between 6-11 months of age and 63% of 12-23 month-olds in Phnom Penh consumed a commercially produced food or beverage in the previous day.[10]

To further understand the foods and beverages consumed during the complementary feeding period and current infant and young child feeding practices, Helen Keller International conducted a study among older infants and young children living in Kandal Province, Cambodia from June 2021 to January 2022.

Box 1:

The WHO guiding principles for appropriate complementary feeding (2005) include:

- Continue breastfeeding until 2 years of age or beyond
- Practice responsive feeding
- Practice good hygiene and proper food handling
- Start at 6 months with small amounts of food and increase gradually as the child gets older
- Gradually increase food consistency and variety
- Increase the number of times the child is fed
- Use fortified complementary foods or vitamin-mineral supplements as needed
- Increase fluid intake during illness

Methods

A longitudinal survey was conducted in the rural/peri-urban district of Khsach Kandal, Kandal province, Cambodia with interviews conducted by telephone to ensure the safety of staff and participants during the COVID-19 pandemic. A total of 567 caregivers of children aged 10-14 months were enrolled and interviewed (timepoint 1). Every month for six months, we collected data about the caregiver, the household and the child (e.g. breastfeeding status and whether the child had been ill). A total of 549, 539, 527, 523 and 501 caregivers were interviewed when children were 11-15 months (timepoint 2), 12-16 months (timepoint 3), 13-17 months (timepoint 4), 14-18 months (timepoint 5) and 15-19 months (timepoint 6), respectively.

In addition, we asked about the types of foods and beverages consumed by the child in the previous day. Caregivers were first asked to list all the foods consumed by the child in the day before the interview. Then, they were asked to provide further details of each item listed, including whether foods/beverages were commercially produced or not. Foods consumed by children in Kandal were grouped into eight defined food groups based on the 2021 WHO indicators for assessing infant and young child feeding practices.[11] Three additional categories of commercially produced food and beverage products were also identified: breastmilk substitutes, commercially produced complementary foods, and unhealthy commercial foods and beverages (see Box 2).

Box 2:

Additional categories of commercially produced food/beverage products consumed by infants and young children.

Breastmilk substitutes:
Defined as any food being marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not suitable for that purpose.

Commercially produced complementary foods:
Defined as foods marketed as suitable for feeding children up to 36 months including infant cereal, purees, puffs/rusks, and puddings.

Unhealthy commercial foods and beverages:
Defined as commercially packaged/branded foods and beverages for general consumption including sweet biscuits/crackers, savory crisps/crackers, bakery items, confectionery items, soft drinks, sweet milks, malt/chocolate drinks, juice drinks and instant noodles. These products are often high in added sugar, salt and unhealthy fats.

Results

Foods consumed in previous 24 hours

Figure 1 shows the percentage of children who consumed a food from each of the eight defined food groups the day before the interview. The results are shown for each of the six data collection timepoints.

Figure 1: Percentage of children who consumed each food group in the preceding day at each timepoint

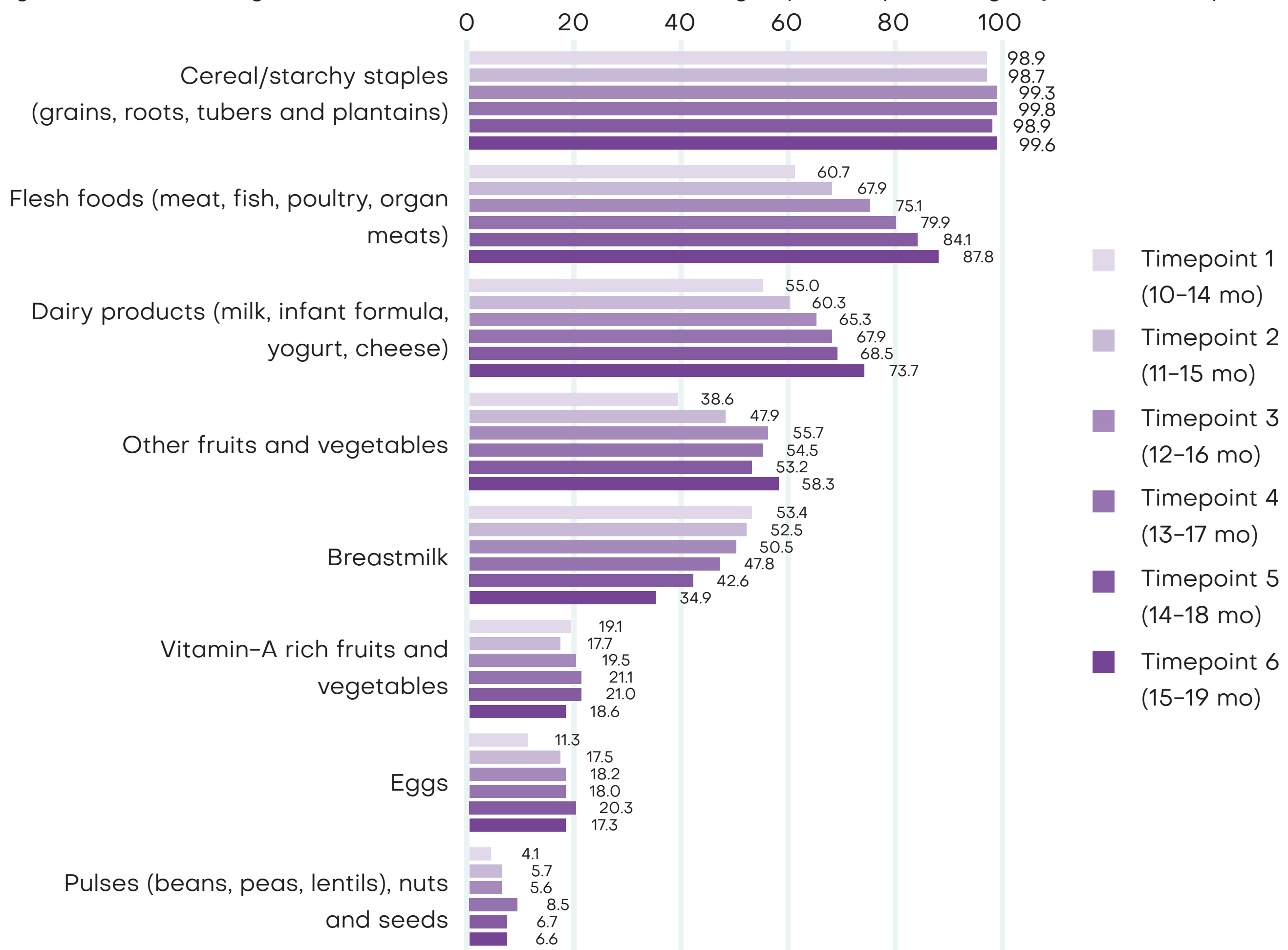
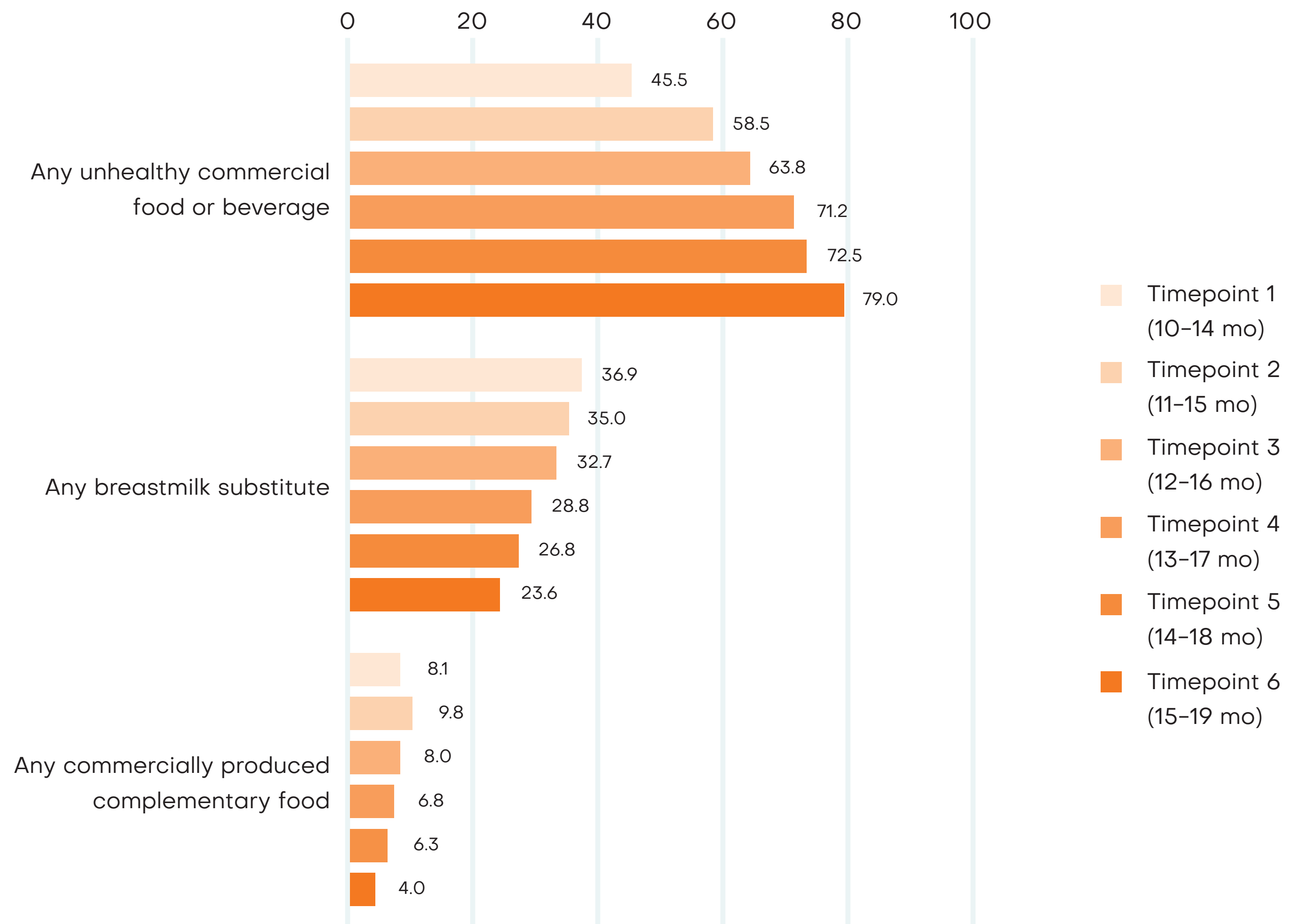


Figure 2 shows the percentage of children who consumed a food from additional categories of commercial food and beverage products the day before the interview. The results are shown for each of the six data collection points.

Figure 2: Percentage of children who consumed additional categories of commercial food and beverage products.



Cereal/starchy staples was the most commonly consumed food group, with nearly all children across all ages consuming rice (boiled rice or rice porridge) in the previous day.

Consumption of both flesh foods and dairy products increased with age. The most commonly consumed flesh foods were fish, followed by pork. The most commonly consumed dairy products were breastmilk substitutes among 10-17 month-olds and sweetened milk among 14-19 month-olds.

Across all ages, consumption of vitamin-A rich fruits and vegetables, eggs, pulses and commercially produced complementary foods was very low. The most commonly consumed vitamin-A rich vegetables were carrots, while the most commonly consumed pulses were soybeans. Infant rusks/puffs/crackers were the most commonly consumed commercially produced complementary foods.

Consumption of other non-vitamin A rich fruits and vegetables was low but showed an increase from 38.6% among 10-14 month-olds to 58.3% among 15-19 month-olds, with the most common other fruits being bananas (26.1%-31.2%) and the most common other vegetables being wax gourds (6.5%-13.5%).

Consumption of breastmilk substitutes was highest among the youngest children, 36.9% of 10-14 month-olds, and decreased as children grew older to just under one-quarter of 15-19 month-olds.

Young children in Kandal commonly consumed unhealthy commercial foods and beverages. Consumption of unhealthy commercial foods and beverages increased from 45.5% among children aged 10-14 months to 79.0% among 15-19 month-olds. The most commonly consumed unhealthy commercial foods and beverages were sweet milks and sweet/savory biscuits. At 15-19 months old, half of children were consuming sweet milks and over one-third were consuming sweet/savory biscuits.

Achievement of WHO complementary feeding indicators

Box 3.

Updated WHO indicators for complementary feeding (2021):

Optimal practices

- **Minimum dietary diversity:** Percentage of children 6–23 months of age who consumed foods and beverages from at least five out of the eight defined food groups during the previous day.
- **Minimum meal frequency:** Percentage of children 6–23 months of age who consumed solid, semi-solid or soft foods (including milk feeds for non-breastfed children) at least the minimum number of times during the previous day.
- **Minimum acceptable diet:** Percentage of children 6–23 months of age who consumed a minimum acceptable diet during the previous day.

Practices to avoid

- **Sweet beverage consumption:** percentage of children 6–23 months of age who consumed a sweet beverage during the previous day.
- **Unhealthy food consumption:** percentage of children 6–23 months of age who consumed selected sentinel unhealthy foods during the previous day.
- **Zero vegetable or fruit consumption:** percentage of children 6–23 months of age who did not consume any vegetables or fruits during the previous day.

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Complementary feeding indicators (Box 3) were assessed among children 10-19 months of age in Kandal based on the newly updated WHO indicators, which measure optimal feeding practices to achieve as well as practices to avoid.[11]

Figure 3: Percentage of children who achieved recommended optimal feeding practices in the preceding day at each timepoint

	Timepoint 1 (10-14 mo)	Timepoint 2 (11-15 mo)	Timepoint 3 (12-16 mo)	Timepoint 4 (13-17 mo)	Timepoint 5 (14-18 mo)	Timepoint 6 (15-19 mo)
Minimum dietary diversity	16.1	23.0	27.1	31.9	29.6	28.7
Minimum meal frequency	98.8	99.1	99.6	99.8	98.9	100.0
Minimum acceptable diet	15.7	22.6	26.5	31.3	28.5	27.5

While nearly all children achieved minimum meal frequency, just between 16.1% -31.9% of children met WHO recommendations on minimum dietary diversity, indicating that many children are not achieving a diet that is diverse enough to meet their nutritional needs. Because of the low levels of dietary diversity, only 15.7%-31.3% of children achieved a minimum acceptable diet.

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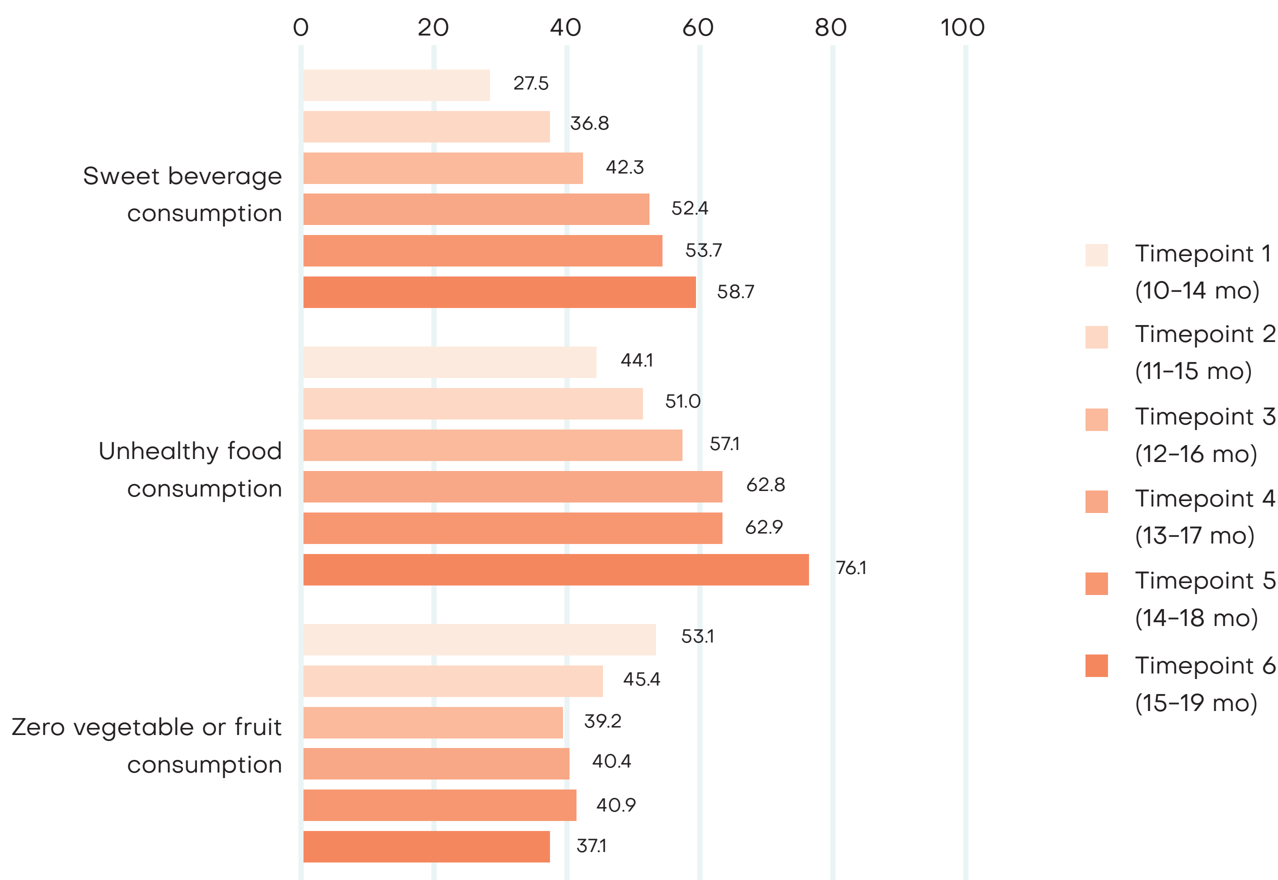
The percentages of children with complementary feeding practices to avoid in the day prior to interview each month are shown in Figure 4.

Figure 4: Percentage of children with complementary feeding practices of concern at each timepoint



Sweet beverage consumption and unhealthy food consumption were prevalent and increased with age; sweet beverage consumption increased from 27.5% among 10-14 month-olds to 58.7% among 15-19 month-olds and unhealthy food consumption increased from 44.1% among 10-14 month-olds to 76.1% among 15-19 month-olds.

Consumption of zero vegetables or fruit was also prevalent but decreased with age; 53.1% of children 10-14 months of age consumed no vegetables or fruit in the preceding day as compared to 37.1% of children 15-19 months of age.

Key recommendations

Addressing the high consumption of breastmilk substitutes and unhealthy commercial foods and beverages by infants and young children should be a national priority.

- Policies and programs should aim to improve infant and young child nutrition by increasing consumption of healthy, more nutritious, locally available foods during the complementary feeding period, particularly fruits and vegetables.
- Since 2005, a national policy (Sub-Decree 133) to support breastfeeding by restricting the promotion of breastmilk substitutes marketed for children less than 2 years of age exists in Cambodia[12] and a multisectoral Oversight Board composed of a Control Committee and an Executive Working Group (EWG) was created in 2014 to improve the monitoring and enforcement of Sub-Decree 133. Stakeholders, including the multi-sectoral Oversight Board for monitoring and enforcement of Cambodia's Sub-Decree 133 on Marketing of Products for Infants and Young Child Feeding, should continue their important efforts to monitor and enforce Sub-Decree 133 and promote optimal infant and young child feeding.
- Optimal feeding practices, particularly dietary diversity, need to be improved. Reasons why young children are being fed unhealthy foods and beverages need to be better understood and addressed.

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