

## Perspectives

## Food Education for Infants and Young Children Aged 0–3 Years in China

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### ABSTRACT

The concept of Food Education (食育, Shiokuiku), first proposed by Japanese researcher Sagen Ishizuka in 1861, has evolved globally over the years, encompassing food knowledge, healthy dietary behaviors, food preparation, and food safety. Professor Li Lite introduced this concept to China in 2006. This article specifically addresses food education for infants and young children.

In 2022, the National Health Commission of China issued Guidelines on Feeding and Nutrition of Infants and Young Children in Nursery Institutions. These guidelines delineate the scope of Food Education for infants and young children as encompassing food cognition, eating behaviors, and dietary culture.

Early childhood represents a critical period for establishing food preferences and dietary habits. Food education plays a pivotal role in familiarizing infants and young children with new foods and promoting healthy eating patterns. Without structured food education, young children are more susceptible to developing food neophobia and other unhealthy eating habits.

We propose strategies to enhance Food Education for infants and young children in China by establishing a comprehensive food education system that leverages multiple channels including families, nursery institutions, early childhood education institutions, and healthcare facilities. Additionally, we emphasize the need for targeted research on food education specifically designed for this age group.

The term Food Education (食育, Shiokuiku) was first proposed by Japanese researcher Sagen Ishizuka in 1861, who posited that “physical and intellectual education, as well as education in particular skills, all stem from food education” (1). By the late 1990s,

Japan had developed a mature theoretical framework and practice of food education, culminating in the 2005 promulgation of the “Basic Law on Shiokuiku.” This legislation aimed to foster gratitude and understanding of food through comprehensive education encompassing food production, circulation, consumption, nutritional knowledge, food safety, and the promotion of healthy food culture (2). Throughout American and European countries, food education has been systematically integrated into primary and secondary education systems, cultivating children’s understanding of food sources, preparation techniques, and healthy dietary decision-making. In 2006, Professor Li Lite from China Agricultural University introduced the concept of “food education” to China (3), defining it as “the cultivation of good dietary habits.” More broadly, food education encompasses all food-based educational initiatives, including aspects of nutrition, food safety, dietary habits, and the preservation of food culture.

### Scope of Food Education for Infants and Young Children Aged 0–3 Years

The first 1,000 days of life represent a critical developmental period during which appropriate feeding and nutrition are fundamental to infant and young child development. In 2022, the National Health Commission of China issued the Guidelines on Feeding and Nutrition of Infants and Young Children in Nursery Institutions, mandating that these institutions provide age-appropriate feeding practices aligned with children’s physiological characteristics and nutritional requirements, while simultaneously implementing food education programs (4). These guidelines delineate three core components of food education for infants and young children: Food Cognition, Eating Behavior, and Dietary Culture (4). Food Cognition involves sensory exploration and learning about food through the five senses, participation in planting activities, and food preparation experiences, enabling children to understand fundamental food properties such as type,

color, texture, and taste while stimulating their interest in food. Eating Behavior focuses on cultivating positive dietary habits including regular meal patterns, mindful eating, self-feeding skills, and appropriate snack selection. Dietary Culture encompasses dining etiquette and fosters attitudes of appreciation and gratitude toward food.

### **Importance of Food Education for Infants and Young Children**

Early childhood represents a critical period for establishing food preferences and dietary habits, which significantly influence children's growth, general health, and developmental trajectories with effects that persist into adulthood. The period between 6 and 23 months is particularly crucial because it is when complementary foods are introduced, providing essential opportunities for infants to encounter and learn about new foods (5). Implementing structured food education during this developmental window not only facilitates infants' and young children's gradual acceptance of diverse foods, but also promotes the development of taste discrimination, chewing capacity, swallowing coordination, and digestive function (6), ultimately fostering lifelong healthy eating patterns.

Currently, food education initiatives in China predominantly target kindergartens and primary schools, with minimal attention directed toward children under the age of 3 resulting in concerning patterns of unhealthy eating behaviors among this vulnerable population. Recent national surveillance data revealed that 39.4% of Chinese children aged 6–23 months failed to meet minimum dietary diversity requirements, while 51.7% consumed sweet beverages and 31.2% consumed unhealthy foods (7). Furthermore, more than one-third of children aged 12–36 months across 10 Chinese cities exhibited more selective eating behaviors, which have been associated with increased risks of underweight status and compromised growth trajectories, or conversely, overweight status (8). Additionally, high food neophobia — characterized by a reluctance to try unfamiliar foods — was observed in 25.1% of children aged 12–36 months in Hunan Province. Food neophobia not only restricts an individual's food choices, but also diminishes overall food intake (9). Previous research has demonstrated that educational interventions utilizing storybooks and sensory play can effectively reduce food neophobia and increase consumption of unfamiliar vegetables among preschool children (10–11).

Therefore, implementing comprehensive food education programs for children aged 0–3 years represents an urgent public health priority. Such initiatives would not only foster healthy eating habits during this formative period, but also enhance early food cognition and establish foundations for lifelong healthy dietary practices.

### **Multi-channel Strategies to Improve Food Education for Infants and Young Children in China**

The enrollment rate for children aged 0–3 years in nursery institutions was reported to be only 7.98% in China by the end of 2023 (12), indicating that the majority of infants and young children under 3 years old are cared for at home. Consequently, families serve as the primary environment for early food learning and should function as the principal setting for implementing food education. During the first years of life, children do not make independent food choices; therefore, parents bear the responsibility for providing appropriate nutrition. Parents should introduce a diverse array of healthy and nutritious foods at developmentally appropriate times, in suitable frequencies, textures, and quantities, facilitating the establishment of taste preferences and promoting children's cognitive understanding of different foods. Moreover, children learn about food through observation and imitation, making it necessary for parents to model positive eating behaviors. As children develop, parents can engage them in simple food preparation activities, such as washing vegetables or setting the table, which simultaneously cultivates table manners. Additionally, parents can enhance children's understanding of dietary culture by introducing seasonal and festival-related foods, thereby stimulating curiosity about healthy nutrition and fostering a sense of responsibility and ownership toward healthy dietary practices.

China places significant emphasis on nursery development, and an increasing number of infants and young children will attend nursery institutions in the future. Therefore, nursery institutions should become integral venues for implementing comprehensive food education. These institutions should incorporate structured food education programs into daily activities and teach children about healthy diets, food origins, and fundamental nutrition concepts through experiential, hands-on learning approaches. First, nurseries should provide balanced, age-appropriate, and diverse meals. Second, staff should receive

specialized training in food education, including understanding the nutritional requirements of infants and young children, learning how to foster positive dietary behaviors during mealtimes, and implementing responsive feeding practices. Third, they should maintain regular communication with families regarding children's eating habits and provide evidence-based recommendations to reinforce healthy eating practices at home. Additionally, establishing small garden areas where children can cultivate fruits, vegetables, or herbs provides invaluable experiential learning opportunities. This approach enhances children's understanding of food origins and strengthens their connection to healthy eating practices.

Early childhood education institutions should serve as additional venues for food education and support families in implementing comprehensive food education practices. These institutions should organize specialized courses for caregivers to facilitate the integration of food education into daily routines, enhancing their understanding of its significance and providing practical strategies for conducting age-appropriate food education activities with infants and young children at home. They should also develop and implement food education programs specifically designed for infants and young children, with the explicit aims of enhancing children's food cognition, improving their eating behaviors, and deepening their understanding of dietary culture.

Health care institutions, as professional entities, should regularly provide expert consultations to parents and nurseries regarding infant and young child feeding and food education, addressing common concerns such as selective eating, food allergies, and developmental growth requirements. Children's growth trajectories and eating patterns should be systematically monitored through regular health check-ups, with personalized recommendations provided to parents to optimize or modify their children's feeding practices and eating behaviors.

Enhancing food education for infants and young children necessitates coordinated efforts across families, nurseries, early childhood education institutions, and health care facilities. Unlike feeding and nutrition, research on food education for children under 3 years old remains scarce, and systematic, standardized food education curricula or programs are currently unavailable. Therefore, rigorous research should be conducted to develop evidence-based, developmentally appropriate, and effective programs that align with and

implement the guidelines of the National Health Commission.

**Conflicts of interest:** No conflicts of interest.

doi: [10.46234/ccdcw2025.109](https://doi.org/10.46234/ccdcw2025.109)

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Submitted: October 22, 2024

Accepted: January 21, 2025

Issued: May 09, 2025

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