Abstract

The early development of taste and food pleasure plays a crucial role for children determining food and behavioural choices in adult age. Eating a variety of foods especially vegetables is essential to achieve adequate coverage of macro- and micronutrients. However, children’s vegetable consumption falls below current recommendations, highlighting the need to identify strategies that can successfully promote better acceptance of vegetables.

Except for our innate liking of sweet foods, we learn sensory pleasure from food through our early eating experiences. Infants have a fine palate and more taste buds than adults when they are born. They have about 10,000 taste buds all around their tongues including at the roof of their mouths and the back and sides of the mouth. The flavours of what a mother eats while pregnant can reach the infant and help set up flavour preferences later on. From birth, infants can taste and smell foods, an experience that can take place through human milk as the food eaten by the mother influences the flavour of her milk, and thereby the child’s preference.

Thus, preferences for specific flavours develops early, through milk-related flavour exposure, or even during pregnancy, allowing for an easier acceptance to new flavours and textures. Breastfeeding favors the acquisition of a taste for a variety of foods. At weaning, food preferences develop due to repeated exposure to a variety of foods especially vegetables and fruits. The persistence of these early influences seems to be long-lasting. Factors favouring the development of food acceptance at the beginning of complementary feeding include, in particular, the role of early variety, repeated exposure, timing of introduction the foods, and the sensory properties (texture, taste and flavours).

During the 3rd year of life, most children enter a neophobic phase, during which previously liked foods are no longer accepted and the introduction of new foods becomes difficult. However, habits of eating a variety of vegetables and foods acquired before the neophobic phase trace further on into childhood and early adulthood. Recently, experimental studies have reported promising interventions that increase acceptance of vegetables and new foods. The first, offering infants a high variety of vegetables at weaning, increased acceptance of new foods, including vegetables. The frequency of changes in vegetables was more effective than the number of solids and vegetables fed. The combination of breastfeeding and a wide variety of foods will produce the greatest new food intake, persisting at later stages. The second, offering an initially disliked vegetable at 8 subsequent meals markedly increased acceptance for that vegetable. These effects have been shown to persist into childhood. This underlines the importance of promoting access to a variety of healthy foods (such as vegetables and fruits) in early childhood. In conclusions, early experiences with vegetable variety during weaning can impact food choice and preference into childhood, and parents should actively encourage their children to try new vegetables and foods. Parents should offer an initially disliked food about 8 times to promote the acceptance of healthy foods. The effects are long-lasting and provide the foundation for science-based nutrition recommendations to help parents promote healthy eating habits to their children.

Biography

Andrea Maier-Nöth holds a professorship at the university in Sigmaringen, Germany and is a guest-professor at the University of Bern, Switzerland. She is a teaching and research professor in nutrition, sensory and consumer research questions along the whole product life cycle. In this role, she also is responsible for driving the strategy development and application of the new Inno-Camp Concept, that focus on testing and driving innovation areas and product ideas to launch.