

Plenary Session / EC – US Workshop: Early life programming of obesity

Lecture 1: Contribution of genes and experiential factors to individual differences in taste preferences and eating behavior among children

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Abstract

Unhealthy eating habits that plague many adults – too few fruits and vegetables, too many salty, sweet and fatty foods – are rampant in the youngest members of society. Although health professionals recommend a reduction in intake of these foods and an increase in intake of grains, fruits and bitter-tasting vegetables, this advice is difficult for adults, let alone children, to comply with. A primary reason for this difficulty is the remarkably potent rewarding properties of the tastes and flavors of foods high in sweetness, saltiness and fatness. In this talk, I will outline the biological underpinnings that drive such food choices. I will then review how the inherent plasticity of these senses during pre- and early post-natal life interacts with early life experiences. Armed with a basic understanding of these processes, programs can then be developed to ensure that children expand their food likes to include more vegetables and fruits.

Selected References:

- Mennella JA, Jagnow CJ, Beauchamp GK. Pre- and post-natal flavor learning by human infants. *Pediatrics* 107: e88, 2001.
- Mennella JA, Pepino MY, Reed DR. Genetic and environmental determinants of bitter perception and sweet preferences in children and adults. *Pediatrics* 115:e216-22, 2005.
- Forestell CA, Mennella JA. Early determinants of fruit and vegetable acceptance. *Pediatrics* 120:1247-54, 2007.

Review Article on the Ontogeny of Flavor Perception and Preferences:

- Mennella JA, Beauchamp GK. Optimizing oral medications for children. *Clinical Therapeutics* 30: 2120-2132; 2008.