# Early Exposure to Dietary Sugar and Salt

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Obesity, with its comorbidities such as cardiovascular heart disease (CVD), is one of the most common chronic diseases in childhood.[1] It probably begins early in life, and as the prevalence continues to rise the diets of young children assume increasing significance. Cogswell et al[2] provide useful information on the salt and sugar contents of commercial food products that can be used to improve the diets of young children.

Taste preferences for sugar and salt are mostly innate. Sugar and salt contribute to the overall pleasure and enjoyment of food.[3,4] Sweet taste receptors respond to all classes of sweet tastants including natural sugars, artificial sweeteners, d-amino acids, and intensely sweet proteins. Pleasure from sweet taste promotes adequate caloric intake for times when food is scarce. Salty taste supports the proper dietary electrolyte balance. This happy relationship becomes a problem when there is a surfeit of food. Competitive food markets take advantage of these preferences to encourage consumption. Children are an important target because food preferences, eating behaviors, and decisions about pleasurable foods begin early and probably last throughout the life.[5]

Sugar is a caloric source, and as calorie intake increases, so does weight gain unless compensatory activity ensues. Most fruits, vegetables, and grains have naturally occurring sugars that are simply part of the food and carry with them nutrients such as vitamin C, folate, and B vitamins. The problem comes when sugars are added to increase consumption. Because sweetness can induce reward and craving similar to that seen in drug addition, some have argued that the concept of addiction could apply to the intake of sweet foods.[6]

Salt is naturally occurring in most foods. Little information is available on dietary salt or recommendations for salt intake for children ≤2 years of age. However, the Institute of Medicine[7] and the World Health Organization[8] recommend that, in general, dietary sodium be limited to avoid CVD. Because preferences for sodium intake later in life are related to early experiences,[9] infants and young children should not be exposed to high-sodium foods.

Cogswell et al[2] sought to quantify the amount of sugar and sodium added to infant and young child foods. They used a commercial nutrition database, food labels, and the Food and Drug Administration reference amounts customarily consumed per eating occasion (RACC) to estimate the sugar and sodium content of foods commercially prepared for and consumed by this age group. The good news is that little sugar and sodium is added to food intended for infants. The bad news is that many foods prepared for toddlers contain added sugar and salt. For example, the mean sodium content in toddler meals and dinners is 361 mg/RACC, but sodium content varied by 836 mg/RACC. Savory snacks and sides also have a range of sodium, and some have the same amount of sodium as salted potato chips. The adequate intake for toddlers is only 1000 mg/day,[10]



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so young children could consistently consume too much sodium. Similarly, many toddler foods, especially convenience snacks, have added sugar, and often the form is a concentrated juice, which may be interpreted as a healthful part of the food. The lack of specificity in labeling made it difficult for the investigators to be precise in the amount of added sugar because natural and added sugars are reported as 1 number. Nevertheless, some commercially prepared toddler desserts contain more sugar than vanilla ice cream. This study shows that toddlers are exposed to foods that have an unnecessarily high content of salt and sugar. This could lead them to develop a desire for these tastes for the rest of their lives. The continued consumption of foods with high sodium and sugar content places children at risk for obesity and CVD, risks that they should not experience and risks that we, as pediatricians, have an obligation to mitigate.

This report is important for several reasons. It points out the variability of added sugars and salt in toddler foods and the possibility that with guidance parents might make better choices. It provides information that pediatricians can use to guide parents and policymakers can use to set standards for commercial foods intended for children. Alternatively, of course, pediatricians could encourage families to provide home-prepared foods that have no additions and set the stage for lifelong healthy eating.

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