Food Insecurity During Early Childhood: Marker for Disparities in Healthy Growth and Development

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Food insecurity is an important social determinant of health,[1] a key indicator of limited resources and material hardship,[2,3] and a source of significant stress as parents and other caregivers seek to provide healthy child nutrition.[4] As such, food insecurity would be expected to adversely affect child growth[5,6] and health and development more broadly.[7,8] However, there has been limited study of associations between food insecurity and child outcomes during the critical period of early childhood.[9–11]

The authors of "Food Insecurity, Health and Development in Children Under Age Four Years" aim to address this gap by using a large sample of families at high risk for both food insecurity and child health disparities.[12] Contrary to the authors' hypotheses, limited relations between food insecurity and child obesity or other growth parameters were found in the study. The only significant associations were for children between 25 and 36 months old, for whom household food insecurity was associated with increased adjusted odds of obesity. In contrast, no significant associations were found after adjustment for covariates at other ages or in relation to child food insecurity.

An important strength of the study was the inclusion of >28 000 racially and ethnically diverse families from across 5 cities in the United States. The inclusion of children from birth to 4 years enabled separate analyses of each year of life from infancy to early preschool. This is notable because food insecurity likely has different impacts at different ages. However, the study's cross-sectional design limits causal inference, especially in the context of previous work documenting a broad range of family impacts relevant to healthy growth.

In accumulating research, it has been shown that food insecurity affects feeding practices[13–15] and styles[16–18] that contribute to early child obesity. In quantitative analyses, it has been shown that food insecurity is associated with greater consumption of low-cost, high-energy–dense foods; reduced consumption of fruits and vegetables[14]; and greater focus on quantity rather than quality.[15] Studies have also shown that food insecurity is associated with more nonresponsive maternal-infant feeding styles, including controlling, indulgent, and laissez-faire.[16–18] At a granular level, recent qualitative research of mothers with significant material hardships has documented their lived experience feeding their young children.[19] In early infancy, mothers with food insecurity reported engaging in decreased breastfeeding because of perceived poor maternal diet and high stress. Specifically, they reported concerns about breast milk quantity and quality, resulting in supplementation with formula or discarding of breast milk. In late infancy and toddlerhood, mothers with food insecurity described limiting expensive healthy foods, including fruits and vegetables. Taken together,

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both quantitative and qualitative findings provide strong evidence for potential linkages between food insecurity and key pathways related to child obesity.

As noted by the authors, the cross-sectional design limited the study's capacity to demonstrate causal relations. This is especially important because mechanisms linking food insecurity and child obesity are likely complex, longitudinal, and cascading. In particular, because food insecurity has been shown to fluctuate over time,[20] relations between food insecurity and feeding styles and practices vary depending on timing and duration across pregnancy and early childhood,[17] and obesity develops over time in the context of cumulative unhealthy behaviors.[21] As such, interventional and longitudinal study will be needed to establish causal pathways, and negative findings from this study should be interpreted with caution.

Another main finding from this study is the association between food insecurity and concerns about child health and development, underscoring food insecurity as a risk for health outcomes and a marker for family vulnerability more broadly. This finding is consistent with both theoretical considerations ("family stress model")[22] and empirical evidence that material hardships likely result in adverse child outcomes through experience of family stressors.[4] Such a stressor could be maternal depressive symptoms, which this study found to be more than doubled in the context of food insecurity.[23] Furthermore, a broad literature has documented how parent perception of child vulnerability can be a barrier to supportive parent-child interactions, attachment, and child mental health.[24] Findings from this study of associations between food insecurity and child health and development beginning in infancy in a population-level sample of high-risk families represent a major contribution to the understanding of toxic stress and its impacts on families.[25]

Comprehensive policies to reduce poverty-related disparities in early childhood are reinforced in this new study. First, findings support the American Academy of Pediatrics recommendations to screen for food insecurity and refer to nutrition assistance programs and emergency food services.[26] Second, findings support recommendations for primary prevention of obesity and developmental disparities through parenting support in the context of family poverty, including food insecurity. Finally, pathways linking food insecurity to physical health and development likely include mechanisms related to nutrition and stress.[5,24] As such, findings from this study suggest that primary care preventive interventions[27,28] need to simultaneously target parenting across feeding and developmental domains to maximally reduce poverty-related disparities.

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