

Children's Nutritional Health: Running on Empty?

Abstract: *This review discusses evidence-based perspectives on promoting children's nutritional health. Future directions for inquiry and empirically driven public policy initiatives also are addressed.*

Keywords: child; nutrition; lifestyle

Generally speaking, the current state of children's nutritional health is dismal. Mirroring the lifestyles of their adult counterparts, the dietary habits of most US youngsters fall far short of professional health recommendations, resulting in suboptimal intakes of key nutrients (most commonly vitamin E, calcium, magnesium, potassium, iron, zinc, protein, and/or fiber) and overconsumption of unhealthy fats, sugar, and sodium. As "junk" foods increasingly crowd out nutritionally dense essentials, undernutrition and obesity are fast becoming paradoxical fellow travelers across the United States and other Westernized nations.¹⁻¹⁰

Tracking Risk Trajectories

Early nutrition profoundly influences lifelong health trajectories. To cite but one of many possible examples, prenatal and early postnatal dietary habits (especially when obesogenic) may remodel metabolic programming in such a way as to heighten cardiometabolic vulnerabilities that may

translate to later disease risk.¹¹⁻¹⁶ However, the cardiometabolic consequences of unhealthy eating, although critical, may be only the most visible tip of the iceberg.^{6,7,15,17-21}

As an illustrative case in point, nutritional shortfalls during sensitive prenatal and postnatal periods take a toll on optimal brain development, raising both short- and long- term risks for cascading adversities. Although specific outcomes depend on myriad crosscutting factors (eg, the type and amount of micronutrient deficit, its developmental timing and duration), affected children struggle with a constellation of cognitive and psychosocial vulnerabilities, including

lower IQ, distractibility, and behavioral disinhibition.^{8,9,17,19-21}

Beyond their significant proximal impact on child adjustment, these unexpected departures from normative development are worrisome prognostically. Given the sequential and cumulative nature of skill acquisition during critical childhood periods, delayed achievement of the earliest developmental milestones has the potential to hinder mastery of subsequent age-relevant tasks, thereby compounding the risk for down-

stream psychosocial maladaptation.^{17,22} In short, considering the serious biopsychosocial implications of nutrient gaps early in life, boosting the nutritional content of children's diets has become a multidisciplinary priority.

Promoting Nutrition at Home

The family is pivotal in shaping children's food preferences and practices. To a large extent, dietary habits are acquired through socialization experiences that may be direct (eg, through personal encounters with healthy foods), vicarious (eg, by observing significant

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others' eating behaviors), and/or instructional (eg, as a result of hearing about others' food-relevant beliefs and experiences). Sound dietary practices often are rooted in repeated exposure to a variety of nutritious foods prepared in healthy, developmentally appealing ways and enjoyed with loved ones.²³⁻³¹

As children mature, the family's influence may become somewhat diluted by broader sociocultural inputs (eg, peers, media). Still, parents hold considerable sway over family eating

habits by prudent management of the household milieu, such as providing regular family meals at home featuring nutritious ingredients and sensible portion sizes, ready access to healthful snacks, and a general approach to eating emphasizing balance rather than an excessive focus on forbidden foods or body weight. Reducing children's "screen time" as a way of limiting exposure to predatory advertising and other cues for health-detrimental behaviors also has considerable empirical support.^{2-4,25,28,32-36} In sum, healthy eating (and other) behaviors are enhanced by an "authoritative" parenting style, marked by clearly communicated expectations, consistent but reasonable limit setting and supervision against a broader backdrop of warmth and respect.^{32,37,38}

However, parental management of the family food milieu may be complicated by numerous mitigating influences. Among the most widely discussed is socioeconomic status (SES), which probably affects child nutrition through a variety of mechanisms, including parental education, health literacy, and financial resources.^{7,31,33,39-41}

Another critical but underappreciated hazard is parental psychopathology (especially mood and substance abuse problems). Although frequently overlooked, psychological dysfunction may impair parents' abilities to maintain a stable, health-enhancing context in which child nutrition is monitored, incipient difficulties are promptly identified, and professional recommendations are followed through.⁴²⁻⁴⁴ To paraphrase a popular adage, there is no health without mental health.^{42,45}

Notwithstanding the usefulness of individual differences as markers for special risk, slumping nutrition rapidly is becoming an unfortunate fact of contemporary life for too many children and their parents. Alas, this hazardous trend shows no sign of imminent improvement. Indeed, pummeled by an intricate web of socio-cultural and economic demands (eg, increased work hours, single parenting stresses, and geographic separation from socially supportive extended kin networks), more parents are struggling to sustain key family tasks (eg, spending time with children and monitoring child behavior; regularly preparing home

meals) and scrambling to play defense against mounting cultural pressures for health-detrimental lifestyles.^{7,36,38}

Promoting Nutrition at School

Galvanized by the alarming upsurge in behaviorally based, pediatric health problems and their well-documented link to academic underperformance and broader risk trajectories,^{8,9,46-48} a consensus has coalesced around the merits of school nutrition programs. Although the complexities associated with the wholesale dissemination of school-based health initiatives have been reviewed elsewhere,⁴⁹ one especially innovative recent trend is worth noting. Driven by a convergence of market and social forces (eg, spiking fuel/shipping costs, widely publicized food-borne illness outbreaks, support for environmental sustainability and "green" technologies), momentum is building for the "farm to school movement," which links schools with nearby farmers to substitute locally grown foods for those formerly transported from afar. As an added benefit, these partnerships often spin-off educational experiences that teach students about agriculture, healthy food preparation, and other related topics.⁵⁰⁻⁵⁶

The National Farm to School Network⁵⁵ now estimates that as many as 2000 farm-school alliances may be ongoing across the United States. In some regions, other community partners (eg, universities, non-profit organizations, and/or for-profit companies) offer additional expertise and assistance to facilitate implementation. To date, self-selected groups of students, parents, and communities have reported considerable satisfaction with these coalitions. Although preliminary, some research also suggests the possibility of heightened fruit and vegetable consumption among student participants. The boldness of this approach and its potential benefits argue strongly for more systematic evaluation of farm-school alliances.⁵⁰⁻⁵⁶

Social Policy and Legislative Efforts

Despite recent efforts to push back against a social ecology awash in

unrelenting cues for unhealthy eating, the victories won by individual parents and schools have been largely pyrrhic, underscoring the need for a broader spectrum response. Accordingly, social marketing and legal strategies have become increasingly championed tools in the public health armamentarium to curb health-detrimental dietary habits. Although a diversity of legal and public health mandates (eg, "fat taxes," access and advertising restrictions on junk food) targeted at multiple levels of influence (eg, schools, communities) have been discussed, the potential pros and cons of top-down regulations (vs empirically informed, grassroots decision making sensitive to rapidly evolving data) remain to be fully explored.^{36,57,58}

However, while the merits of legal and social policy mandates are being debated, market forces may prompt a lull in at least some risky dietary practices. For instance, in an effort to contain costs, certain food processors and fast-food vendors may be surreptitiously reducing portion sizes (eg, scaling down quantities in familiar prepackaged foods, shrinking the size of hamburgers).⁵⁹ To be sure, these micro-shifts toward portion control, in and of themselves, are unlikely to close the nutrient gap. Still, an accumulation of small differences that incrementally chip away at harmful overconsumption habits can only help.

Inching Toward Nutritional Health

The search for a simple nutritional game changer in pediatric lifestyle medicine is illusory, at best. As Elsner so aptly pointed out,

Food is an expressive and communicative system, which reflects relationships within social groups such as families, as well as people's attitudes about their bodies in terms of what is or is not regarded as acceptable/unacceptable and dangerous/not dangerous. . . . As our social networks and bodies change, it is logical that our ideas about foods change as well.^{60(p17)}

Coming to grips with children's nutritional woes will require an evidence-based, life span developmental perspective that attends to the fusion of biopsychosocial mediators influencing dietary habits at the individual, family, school, community, and national levels. **AJLM**

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