Nutritional Anthropology, Starvation, the Health of Children, and a Call to Action

Nutritional anthropology is a branch of medical anthropology—a field that has long been quietly dedicated to international health and the complex interrelationships between gender and health, human reproduction, nutrition, history and ethnography, evolutionary medicine, anthropological epidemiology, religion, and psychiatric illness. Nutritional anthropology further focuses upon the consumption of food as fundamental to human existence for two reasons.

First, the nutritional characteristics of the diet have enormous influence on the development and health of individuals. Second, cultural notions of family, community, sharing, and morality are all explored and expressed in the way food is acquired, prepared, and consumed. Some investigators in this arena have elegantly studied the effects of resettlement on nutritional status, including the association of changing diet and health outcomes with rural to urban migration (Shack et al. 1990). Perhaps counterintuitively, it has been found that dietary quality can improve with resettlement because some traditional diets are monotonous and culturally staple foods are often low in nutrient density and quality. Resettlement may result in the addition of “modern” purchased foods that can have a beneficial rather than a detrimental effect.

Matalas et al. (1999) demonstrated that disease (e.g., diabetes) risk varies with increased urbanization and economic affluence in a manner that may also be surprising. These investigators found that urban males were at higher risk for type II diabetes than their prosperous rural counterparts while the latter group was at higher risk for the same disease than poor rural men. This difference in diabetes risk was associated accompanied by an increase in relative brain size and a shift toward modern patterns of fetal and infant development.

There is evidence for both meat and fish scavenging, although sophisticated tool industries and organized hunting may not have been developed or available. It is intriguing that the earliest evidence of Homo sapiens and sophisticated tool technology is associated with aquatic resource bases. Tropical freshwater fish and shellfish are high-quality foods throughout history. This was sustained by urban and prosperous rural subjects. There has been a long history of biological research in nutritional anthropology with clinical correlates. It is now conventional wisdom that long-chain polyunsaturated fatty acids (e.g., omega-3s), especially docosahexaenoic acid (DHA), are critical for sustaining cerebral cortex growth without an attendant increase in body mass (Broadhurst et al. 1998). This work might well have contributed to the foundations of today’s explosion of investigation of perinatal nutrition and associated product development.

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Protein–energy malnutrition, vitamin A deficiency, iodine deficiency disorders, and nutritional anemias—mainly resulting from iron deficiency or iron losses—are the most common serious nutritional problems in almost all countries of Asia, Africa, Latin America, and the Near East, according to the World Health Organization (WHO). Serial global assessments by the Food and Agriculture Organization of the United Nations (FAO) and WHO have estimated the chronically undernourished population of the world, and these data are updated regularly by WHO estimates for iodine, vitamin A, and iron deficiencies. Health statistics from WHO suggest that one of every five persons in the developing world is chronically undernourished, 192 million children suffer from protein–energy malnutrition, and untold millions experience micronutrient deficiencies. In addition, diet-related noncommunicable diseases such as obesity, cardiovascular disease, stroke, diabetes, and some forms of cancer exist or are emerging as public health problems in many developing countries.

Food insecurity and hunger during childhood are associated with an array of developmental problems in multiple domains, including impulse control and violence (Vaughn et al. 2016). Population studies indicate hunger begets illness and violence, which fuel pediatric catastrophe and adult violence in many countries, including Yemen, South Sudan, Nigeria, and Uganda.

The combination of severe acute malnutrition and infectious disease is particularly deadly. Malnutrition compromises the immune system, leaving the victims more vulnerable to infections and more likely to die from them. Illness, in turn, often renders children unable to eat or drink, worsening malnutrition. A child with severe acute malnutrition is nine times more likely to die of an infectious disease than a well-nourished one (Messer 2009).

More subtle consequences of starvation and chronic malnutrition may be embodied in a constellation of behaviors known as Pervasive Refusal Syndrome, otherwise known as resignation syndrome. This is a severe condition first documented in 2005; it is characterized by social withdrawal and an active refusal in terms of eating, mobilization, speech, and personal hygiene. Pervasive Refusal Syndrome has been proposed as a new diagnostic entity in child and adolescent psychiatry although the diagnostic criteria are debated. In the past 10 years, there has been a marked increase in Pervasive Refusal Syndrome symptoms among asylum-seeking children and adolescents (Bodegård 2005, Bodegård 2010, Forslund et al. 2013).

The Daedalus Foundation asserts that approaches to alleviating the current situation of death through starvation cover the spectrum from air-dropping enormous sacks of rice and grain upon the destitute in desolate areas—often ignoring the lack of disease-free water, cooking utensils, or fuel to build a fire—to personalized care at nutritional centers. As with so many other situations, a greater solution to the issue is lodged in the complexity of risk, according to the Daedalus Foundation.

Simply stated, of the 50 million people at risk in Africa, for example, individualized care can be expected for only a few thousand; thus, there is a high probability that millions will starve and die early. If bulk food—which has to be prepared to be consumed—is provided to those with disease-state water, no fuel for fires, and no utensils, some number of them are going to starve to death—particularly infants and young children whose mothers cannot breast feed—along with some of the mothers themselves. If a wholly responsible and nutritionally sound manner of rehydration and nutrition can be provided to a large sector of the malnourished population who are in jeopardy of starvation, and, if those products can be distributed outside of nutritional facilities with a minimum of instruction—perhaps with pictorial guidance—then there is some minimal risk that somebody will get it wrong and somebody will die. On the other hand, there is even greater risk (or higher probability) that a large number of individuals can be saved from death by starvation by a responsible and physiologically sound manner of rehydration. It is not a perfect solution, but it is a better one. The simple fact is that the risk of doing nothing is far greater than doing something sound that has a low risk of harm.

Invoking this logic, we would respectfully and urgently appeal once again to those individuals and groups within academia, government, and the corporate realm to heed the early pleas of nutritional anthropology for link-age, and creative and problem–based collaboration, and the challenge from Daedalus Foundation President Edward McCulloch to do something sound. The problems of hunger are arguably worse, more complex, and more heartbreaking than ever before in our history. We must build real bridges, work together, demonstrate leadership, and be more effective in revisiting our priorities as citizens of our planet.

References cited are available via hyperlinks in the digital version of this column.

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