The objective of our study was to simply work is admittedly a retrospective study, with the known limits of used are habitually accepted by many international journals. Our Table 1 of the manuscript and are detailed in the text. The schemas of nutritional deficiencies are provided in Figure 1 and note that the patient's exclusion criteria and biological assessment improves the quality of our future publications. Nevertheless, we evaluate the prevalence and type of nutritional deficiencies experienced after gastric bypass and not to investigate the causes and origins of such deficiencies.

In conclusion, the international literature data suggest that standard multivitamin supplements are ineffective at preventing nutritional deficiencies after gastric bypass, so I am unable to agree with Ledoux and Larger's assumption.

No conflicts of interest were reported.

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REFERENCES

Social class and diet quality

Dear Sir:

The commentary by Darmon and Drewnowski, “Does social class predict diet quality?” (1) provides support for a phenomenon well described in the English literature (2, 3). As food costs rise, food selection narrows to those items providing the most energy at the lowest cost. When these conditions persist, essential nutrients disappear from the diet and malnutrition ensues (3, 4). This, the [Freidrich] “Engels’ phenomenon,” derives from an 18th century observation of the deteriorating diet of English working men whereby “at the lowest round of the ladder, among the Irish, potatoes provide the sole food” (2–4). Nutritionists in the United States have not been exposed to this observation, reflecting, perhaps, its
origins with an original Communist theorist and disbelief that poverty was widespread here (5).

The authors are to be commended for their consistent use of the phrase “Socioeconomic status (SES) associated variables,” rather than SES (1), because the dimensions of the outcomes are greater between SES groupings than they are within them (6). SES, like race-ethnicity, never explains. Rather, it points to social gradients or “causes of causes” affecting well being (7). These are, as Marmot writes, “...influenced by such factors as social position, relative versus absolute deprivation, and control and social participation” (7).

I have 2 concerns. First, economic factors, taken alone, do not determine the nutritional status of individual children in a family or community (4, 8, 9). Elements of food culture have a powerful impact on outcome, more so perhaps among the poor than among the affluent. As Gopalan writes, “Differences in the nature of intra-familial distribution of food, in particular in infant feeding and child-rearing practices, between the families and between communities can result in important differences with nutritional status (especially of children) between households, and between communities with nearly similar overall levels of dietary inadequacy” (8).

Second, we need not stand idly by while the costs of essential goods and services rise beyond the ability of those who produce those goods and provide those services to afford them (10). Mechanisms to reverse Engels’ phenomenon are at hand. Supplemental programs such as WIC, School Feeding, and Food Stamps improve nutritional status in 2 ways (11). The foods provided have a high nutritional value, and families then spend the same dollar amount to meet lower energy needs. Thus, the nutrient value of the foods purchased by a poor family increases to that of the “nonpoor.” The foods consumed would move to the right on the curves provided in Figure 2 of the article by Darmon and Drewnowski (1), essentially reversing Engels’ phenomenon.

Promoting good nutrition and addressing issues of availability and affordability must inform public policy. I would appreciate comments from the authors on the effect of food culture on the adequacy of diet and the impact of social interventions to make culturally acceptable nutritious food available and affordable. Thank you for this excellent contribution to the literature on nutrition and poverty.

No conflicts of interest were declared.

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REFERENCES


Reply to RJ Karp

Dear Sir:

We thank Karp for his encouraging words. The links between food, diets, and incomes have indeed been remarked on by a diversity of authors, ranging from Jean-Anthelme Brillat-Savarin in 1825 to John Boyd Orr in 1936. Karp’s description of how food choices are affected by soaring prices was recently echoed in statements made by Margaret Chan, the Director General of the World Health Organization. Speaking at the High-level Conference on World Food Security in Rome on 3 June 2008 (1), Chan said, “Food choices are highly sensitive to price. The first items to drop out of the diet are usually healthy foods—fruits, vegetables and high quality sources of protein...Nutrient-poor staples are often the cheapest way to fill hungry stomachs.”

Those statements are directly supported by our research on the relation between diet quality and diet cost (2). Energy-dense foods that are nutrient-poor are the cheapest option for the low-income consumer (3). Whereas higher food spending does not guarantee a higher-quality diet, reducing food expenditures below a certain minimum virtually ensures that the resulting diets will be nutrient-poor and energy-dense. Computer optimization programs, driven by cost constraints only, consistently create diets with compositions that resemble those that are consumed by disadvantaged groups (4). In contrast, higher-quality diets not only cost more but are more likely to be consumed by the more affluent.

Many of these facts are strenuously denied by some nutritionists, both in the United States and elsewhere. One contention is that healthy foods cost no more than unhealthy ones. In a 2004 report, the Economic Research Service of the US Department of Agriculture contended that 3 servings of fruit and 4 servings of vegetables, mostly fresh, could be obtained for as little as 64 cents, leaving 84% of the food budget left over to buy other foods (5). Frozen broccoli spears were deemed to be a better economic value than were cookies or chocolate, despite their feeble energy content and low satiating power. The clear implication was that most low-income Americans could afford a healthy diet; but simply chose not to. Low-income households selecting low-cost, energy-dense foods are typically those that are consumed by disadvantaged groups (6). The recent rise in food prices that has begun to affect the middle class has helped put our earlier work in a new and much sharper perspective (7).

We agree with Karp on the importance of culture and social norms. Important work by social and medical anthropologists has