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DASH for Less Cash?

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It is well established that the Dietary Approaches to Stop Hypertension (DASH) eating plan, which emphasizes increased consumption of fruits, vegetables, and reduced dietary saturated fat, cholesterol, and sodium, improves blood pressure.¹ Intervention studies, for example the Exercise and Nutrition Interventions for Cardiovascular Health (ENCORE) studies, have demonstrated that DASH can be implemented with other lifestyle changes including weight loss and physical activity, which also addresses other ongoing epidemics in our society, including obesity and diabetes. DASH was formally adopted into the *Dietary Guidelines for Americans, 2010*.² Despite recommendations, widespread adoption of and long-term adherence to DASH has been limited, particularly among low-income and racial/ethnic minority groups, who are also at greatest risk for hypertension and the resulting poor health consequences. In this issue, Monsivais and colleagues³ highlight the relationship of the DASH eating pattern to food costs using data from the 2001–2002 National Health and Nutrition Examination Survey (NHANES). The authors scored diets reported by 4744 adults based on accordance with DASH and determined estimated retail costs for reported foods per 2000 kilocalories. DASH accordance was positively related to diet cost; specifically, the foods reported by those in the top 20% of adherence to the DASH dietary pattern cost 19% more to obtain than foods reported by those in the lowest DASH adherence category. The mean diet cost for the healthiest quintile was 34% higher for white adults and 21% for black adults, both statistically significantly higher than the cost for the lowest quintile in either race/ethnic group. In marked contrast, Hispanic adults (predominantly Mexican American in this sample) in the top DASH accordance quintile were consuming foods costing only 6% more than the lowest quintile.

The authors conclude that DASH-accordant diets need not necessarily cost more than less healthy diets, given the diets being reported by Hispanics. It is worth delving into the supplemental tables to better comprehend these surprising results. First, it should be noted that, on average, non-Hispanic white and Hispanic adults had similar DASH accordance scores, and both groups had significantly higher concordance scores than non-Hispanic black adults; however, accordance scores were generally low across all 3 groups. Second, the general trend of higher cost for healthier components of DASH (eg, fruits and vegetables, lower-fat dairy products) as well as higher costs for less unhealthy forms of

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foods avoided (eg, meats) was of a similar magnitude in non-Hispanic white and non-Hispanic black adults. The principal novel finding is that for Hispanic adults, the trend toward more expensive costs for the healthier components of DASH was of a similar magnitude as the other 2 race/ethnic groups ($P = .09$); however, there was no difference in cost for the components to avoid (-3% ; $P = .26$). Some limitations apply to these data. The retail cost for foods may not represent the true costs because food may be purchased and/or consumed at restaurants. Details about which specific foods were reported by participants are not included in this analysis; however, other studies have reported that the traditional Mexican diet is richer in fruits, vegetables, and fiber (via corn and beans) and that among Mexican Americans, those with less acculturation to the United States are more likely to retain these patterns.⁴ It is also not clear whether Mexican Americans purchase the majority of their food through resources that would have been included in the retail cost database and/or whether food costs in stores that might be more likely to be frequented by Mexican Americans are equivalent to costs in chain stores. Also, these data might not apply to other Hispanics such as Puerto Ricans, Cubans, Dominicans, or Central and South Americans.

The data presented in this report should encourage a lively debate about how best to improve the proportion of Americans consuming diets consistent with DASH. In addition to cost, barriers to adopting DASH include income, education, and cultural and family attitudes about DASH foods.⁵ The local food environment is also influential; living in areas with few or no supermarkets or less availability of foods in the DASH dietary pattern has been shown to be associated with worse dietary quality.⁶ The national food environment also plays an important role. The supply of refined grains and fats on a per capita basis exceeds the US Department of Agriculture's per capita dietary recommendations, but there is insufficient availability of fruits and vegetables to supply the population with even 5 servings per day, much less the 7 to 9 servings recommended by DASH.⁷ Additional research is needed to elucidate the relative importance of food costs compared with other determinants of food choices, such as access or taste preferences, for DASH adherence. Policy makers should consider which changes at the macroeconomic level might be necessary to provide an enhanced food environment, facilitating healthier food choices by the population. For example, modeling studies have suggested that changing the price of healthier foods (eg, subsidies on fruits and vegetables) and taxes and/or reduced subsidies on unhealthy foods (eg, sugars and fats) might lead to beneficial dietary change.⁸ National levers that might influence the food supply include federal farm subsidies and the Supplemental Nutrition Assistance Program (food stamps); at more local levels, economic development programs, zoning, and/or tax incentives could be structured in ways that promote access to healthier foods. Municipalities have been pursuing measures such as moratoriums on fast food restaurant permits (Los Angeles)⁹ and requiring calorie labeling on menus (New York)¹⁰; thus far there is no consensus on whether such approaches have made substantial progress in altering food consumption patterns. One need only look at tobacco use, however, to realize that large-scale behavior change over a 20- to 40-year horizon.

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