Is dietary carbohydrate essential for human nutrition?

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Dear Sir:

I read with interest the article by Dewally et al (1) regarding diet and cardiovascular disease in the Inuit of Nunavik, but I was disappointed that no information regarding macronutrient intake was presented or considered in the estimation of cardiovascular risk. The traditional Inuit diet consists primarily of protein and fat, somewhat similar to the low-carbohydrate diets promoted in popular weight-reducing diets (2). These diets have caused concern among nutritionists because of the metabolic changes and health risks associated with limited carbohydrate consumption (3). However, in exploring the risks and benefits of carbohydrate restriction, I was surprised to find little evidence that exogenous carbohydrate is needed for human function.

The currently established human essential nutrients are water, energy, amino acids (histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine), essential fatty acids (linolenic and α-linolenic acids), vitamins (ascorbic acid, vitamin A, vitamin D, vitamin E, vitamin K, thiamine, riboflavin, niacin, vitamin B-6, pantothenic acid, folic acid, biotin, and vitamin B-12), minerals (calcium, phosphorus, magnesium, and iron), trace minerals (zinc, copper, manganese, iodine, selenium, molybdenum, and chromium), electrolytes (sodium, potassium, and chloride), and ultratrace minerals (4). (Note the absence of specific carbohydrates from this list.)

Although one current recommended dietary carbohydrate intake for adults is 150