ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #262

1. Title:
Indices of Comprehensive Agreement with a Recommended Diet: A Descriptive Analysis

2. Writing Group:
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3. Timeline:
Conditional upon acceptance of the Publications Committee, analyses will begin immediately (by the lead author). Expected time of completion is July, 1994.

4. Rationale:
Diet plays a significant role in the development and prognosis of many chronic diseases. Usually the assessment of differences in diet between populations is limited to single nutrient comparisons, or to risk-inducing nutrients only (such as saturated fats and cholesterol). A comprehensive summary of dietary agreement provides an index which collectively and simultaneously assesses reported consumption of a host of nutrients relative to the amounts recommended to prevent a given chronic disease. The proposed study will investigate the properties of three methods capable of comprehensively determining overall dietary agreement (with standard recommendations): the Diet Quality Index (DQI), a sum of scores across nutrients classified by excellent, fair, and poor agreement with the recommendations, the Euclidean, a simple multivariate distance function, and Hotelling’s $T^2$, multivariate distance function which accounts for the correlation between nutrients. To demonstrate the utility of the methods, analysis will be conducted in persons with non-insulin dependent diabetes mellitus (NIDDM), one of the most common chronic diseases in the United States for which there are dietary recommendations. Beyond identifying the qualities of each of the methods, it is the hope that this research will encourage the utilization of summary measures in capturing the holistic picture of diet as it relates to disease.

5. Analysis:
Analyses will include: (1) demonstration of the indices, (2) discussion of the differences in the indices, and (3) discussion of issues that affect the choice of method.

6. Data Requested:
Visit 1 Data needed for this manuscript only. Dependent variables: dietary nutrients (total calories, carbohydrates, fats (including subtypes), cholesterol, protein, fiber, alcohol, sodium), and food frequency data. Independent variables: race, gender, age, BMI, physical activity, income, education, medication data.