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COMPARISON OF CODING AND NUTRIENT CALCULATION SYSTEMS

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The Nutrition Coordinating Units for two multi-centered clinical trials investigating the role of dietary fat in breast cancer conducted a comparison of their coding and nutrient calculation systems. Six four-day records were coded and calculated by each center. A method of comparison was developed which permitted quantification of overall differences and identification of specific differences. There were no significant overall differences in kilocalories, protein, total fat, cholesterol, or P/S ratio calculations; five of the six correlation coefficients were greater than .85. The correlation for protein was .69. Discrepancies in food selections, amounts and nutrient calculations for individual food items were investigated and attributed to one of three categories: data base differences, coding rule differences, and differences in interpretation of ambiguous documentation on diet records. In contrast to previous studies which assumed that most nutrient calculation discrepancies were due to data base differences, our results emphasize the importance of accurate coding procedures and thorough interviewer and participant training as well as an accurate and up-to-date data base.

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THE DIETARY DATA COLLECTION SYSTEM

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The Dietary Data Collection (DDC) System is a microcomputer based system for the standardized collection and automatic coding of dietary intake data. The system prompts a user for the description of each food at the level of detail required by most scientific research studies. A food description is initiated with a user entry of a food name or category. Food identification is completed through further user selections of progressively detailed descriptions which include brand names, type of sweetener, and low fat and low sodium products. The quantity of food consumed is entered in terms of a metric or household weight or volume or a food specific unit such as "small" or "slice". The system permits user entry of raw weight or volume or a weight with refuse for foods such as meats and grains. To obtain the greatest accuracy of dietary fat and sodium intake, some foods may require specification of key ingredients or preparation methods. Mashed potatoes is an example of a food which requires user specification of the type or absence of fat, milk, and salt as variations on the standard recipe. Preparation methods which add fat and/or salt are available for user selection with appropriate foods such as stir fried chicken and marinated vegetables. The amounts of fat and salt added in preparation are generated from system algorithms. Most of the food specification details are user selected by movement of a highlight on screen displayed menus. The system translates each completed food specification into one or more food codes and amounts for subsequent nutrient analysis using optional nutrient databases. An intermediate version of the DDC system has been completed for the entry of documented 24-hour recalls or food records. The completed DDC system will accommodate the direct entry of dietary intake information during the interview process. The system is expected to standardize dietary data collection, reduce the error rate of collection and coding procedures, and decrease the total time required to collect and prepare dietary data for nutrient analysis. The DDC software is data-driven to provide flexibility for future modifications as required by specific research interests.

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