Hispanic Foodways: Issues in Data Collection and Data Analysis

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Introduction and Objectives

All humans require the same basic nutrients, yet the foods that supply these nutrients are as different as the environments in which people exist and the cultures through which people have adapted to their environments. The reciprocity between humans and their environments involves the intersection of biological needs with physical, social, and cultural environments. And thus there is little doubt that the environmental changes occurring in many societies today have profound biological as well as social consequences, with particular reference to maintaining traditional food habits.

In assessing nutritional status of population groups, the crucial need to identify environmental and family factors has long been recognized. The household ecology represents one of the most closely associated set of factors influencing nutritional status of the family. Among those, *diet* is of particular importance in regulating nutritional conditions in young children and adults [Figure 1].

Either alone or in combination, biochemical, clinical, anthropometric and dietary indicators have been utilized to identify malnutrition [either under or overnutrition]. Nevertheless, what was contended by Krehl and Hodges thirty years ago (1), it is still true today, i.e., that " . . . it is evident that we are still a long way from having nutritional surveys which provide completely accurate and reliable information regarding nutritional status of human subjects.

Whether malnutrition arises from a deficiency or from an excess is immaterial -- the need for more and better information about the quantities and/or kinds of food eaten in modern contemporary urban settings is indicated. This presentation will attempt to illustrate selected issues relative to this complex topic in the context of US Hispanic/Latino families, particularly because this author feels that better understanding of social and cultural roots of any ethnic group will lead to better understanding of their rationale for healthy food choices.

Specific objectives of this paper will be:

- To provide a socio-demographic profile of US Hispanics
- To discuss the key role played by ethnicity in patterning food behavior
- To further recognize that lack of economic resources and institutional neglect may also explain differential health outcomes among ethnic groups
- To discuss issues relative to data collection and data analysis among US Hispanic/Latino groups, and lastly,
- To emphasize the need for a national nutrient data bank on ethnic foods.

Identifying the Hispanic/Latino Population

Historically, the US Census has had difficulty with the racial classification of Hispanics, and there has been continuing debate over how to count Hispanics. Hispanics/Latinos may be correctly classified as White, Black, American Indian, or Asian. Even within a single Hispanic group there may be much variation. This diversity also includes substantial variations not only in the racial composition, but also in the socioeconomic and health profiles.

With dramatic shifts in the US population in recent years, nutrition programs need to take into account sociodemographic and cultural determinants of food choices. No demographic change is greater than that represented by the Hispanic/Latino groups. By some estimates, Hispanics will make up one-third of the US population by the end of the century. In March 1991, the estimate of the Hispanic origin population in the United States was about 21.4 million, or about 8.6 percent of the total population. The Hispanic/Latino population consisted of the following groups (2): Mexican, 62 percent; Puerto Rican, 12 percent; Cuban origin, 5 percent; Central and South American, 12 percent, and Other Hispanic, 9 percent [Figure 2]. In New York State, by the end of the 1990s, it is estimated that the Hispanic population will increase to 30 percent of the population, compared to approximately 10 percent at present. Currently in New York State, there are more than 2 million documented Hispanics and an unknown but large number of undocumented Hispanics. In New York City, 25 percent of the adults and one-third of the children are Hispanic (3).

Understanding Food Choices and Ethnicity

Although it has been noted that indigenous food habits of any population group are deeply rooted in the local environment as well as local culture, food habits constantly change and are influenced by many factors. Ethnicity is an important factor in patterning and modifying dietary intake. Most definitions of ethnic groups stress the "distinct sense of culture which is fostered by an individuals' participation in or identification with a specified group." *The sense of sharing is the ethnic identity.* The importance for health practitioners to understand the overlap between culture, diet intake, and health was highlighted in the national report, *Healthy People 2000,* which contends that improving the health of all Americans depends on improving the health of certain groups that are at high risk, namely, people with low incomes, people belonging to certain ethnic groups, and people with disabilities.

The overlap between food habits and ethnicity is so pervasive that food habits are viewed by many as cultural markers of ethnicity. Researchers argue that foodways in subcultural groups "bind individuals together, define the limits of identity, and celebrate cultural cohesion" (4). Although it has been stated earlier that culture has a profound effect on the way nutrition and health is defined and experienced by certain ethnic groups, it is equally important, however, to recognize that not all members of a cultural or ethnic group share the same values, beliefs, and food choices. A person's cultural identity is dynamic, changing as a result of contact with different groups. The process of change, or *acculturation*, occurs naturally over time. Some Hispanic immigrants to the United States have maintained their original language, religion, and food customs, while also acquiring some of the values, practices, and language of the new culture needed to function in the new society. People have become bilingual and bicultural, identifying and blending with a new culture without discarding elements of the old culture (5).

The Process of Collecting Dietary Data

Undertaking dietary surveys as part of community nutrition research helps practitioners learn more about the diets of clients and about the community at large. Combining nutrition research and action programs is an invaluable and productive strategy, with tangible benefits for all participants. In a multicultural society such as urban America, dietary data collection among people of various backgrounds becomes a challenging and complex task. When conducting dietary surveys among US ethnic groups, the following three questions arise:

1. How well were dietary intakes assessed?
2. How well were the diets and nutrient intakes estimated, given that nutrient databases for indigenous, ethnic foods are often lacking?
3. Did dietary intakes reflect ethnicity, or given that many ethnic groups have low incomes, did intakes more likely reflect a low socioeconomic status?

On this issue, Cassidy (6) notes that culturally sensitive dietary research recognizes different values and the primacy of the respondent, while acknowledging that data accuracy is a function both of how well researchers know the people they want to understand and of how much respondents trust researchers. She suggests two additional questions:

1. How do the ways people perceive food affect their reporting of intake? And,
2. How do the ways people relate to the interviewer, the setting, or the assessment instrument affect their reporting of intake?

The following section addresses issues relative to assessing food intake in general, and in particular among Hispanic families. Emphasis will be placed on discussing issues that may lead to improving data quality, basically because this author believes that no matter how sophisticated the subsequent statistical analysis is, it cannot make up for poor earlier diet assessments. Some of the most common issues in dietary data collection include choosing the appropriate dietary method and research setting, selection and training of indigenous interviewers, use of bilingual, bicultural interviewers and interpreters, unfamiliarity with ethnic foods and lastly assessing portion sizes and composition of mixed dishes. A few comments relative to some of these issues follow.

Choosing the Appropriate Method

No method of dietary assessment is free of technical errors or reflects for any length of time the true biological variation of dietary intakes of free living individuals. Because no method is consistently best, nutrition researchers have to make tradeoffs and decide which method will best accomplish their objectives. Results from a study by Reese (7) among low-income people indicated that recording food intake for three-days was difficult to accomplish. Asking respondents to mail in their records was unsatisfactory because it placed too much burden on them. Also, people living in rural areas were more responsive than residents of central cities. In general, adult males had the lowest response rates, whereas women over 50 years of age had the highest response rates.

Bilingual Interviewers and Use of Interpreters

When field interviewers use interpreters they must be prepared to expect that some interpreters filter the data through their own personality and status. In addition, speaking the language is not enough. Methodological issues go beyond the language barrier. The wide range of food names and brands and their associated symbolic and cultural meanings must be considered in the training. A nutrition supervisor who hires bilingual Spanish interviewers must make sure to build in the study cross-checking validation techniques to ensure quality control of the data.

Unfamiliarity with Ethnic Foods

Detailed glossaries of the foods most commonly consumed by specific Hispanic/Latino subgroups are available. These glossaries provide serving portions, weight in grams, and energy values for selected foods. In addition the same foods often have different names and associations for different groups of people. For example, for an American nutritionist, starchy vegetables are just that; for a Puerto Rican mother they are *viandas,* for a Dominican they are *víveres*; and for a Panamanian they are *verduras*. Rice and beans are just that for a health practitioner. Yet for a Puerto Rican mother, they carry a strong symbolic meaning and are called *arroz manposteado;* in the Dominican Republic they are called *moros y cristianos*; in Cuba they are called *congrí,* and in Costa Rica they are called *gallo pinto.* Bananas are called guineos in El Salvador, in Mexico they are called plátanos.

One does not expect American nutritionists or dietary interviewers to learn all the Spanish names at this level of specificity, but recognizing that they exist and acknowledging their diversity among different Hispanic subgroups may help create sympathetic, friendly, and cooperative Spanish-speaking audiences, which ultimately will result in more and better quality of the dietary data being collected.

Assessing Portion Sizes and Mixed Dishes

Very little data exist on whether standard portion sizes vary among different ethnic groups or according to age or gender within particular groups. Investigations into this possible effect are needed to improve the accuracy of data.

Issues in Dietary Data Analysis

Analysis and interpretation of diets are central steps in the research process. The goal of analysis is to summarize the collected data in order to answer the questions that initiated the research. Interpretation refers to the search for the significance and implications of these answers within the framework of existing knowledge. Issues such as uses and limitations of nutrient data bank bases, including missing data on ethnic foods, use and limitations of Latin American and Caribbean food composition tables, the need for developing extended glossaries of selected Latino foods, and issues of validity and reliability of Hispanic/Latino diets are among the most important ones to consider in diet analysis. Following will be a brief discussion relative to selected issues in dietary data analysis.

Uses and Limitations of Food Composition Tables

Tables of food composition, useful for large-scale or epidemiological studies, are available for various Latin American and Caribbean countries. Such tables could certainly be employed to create a nutrient data bank of Hispanic/Latino foods for use in the United States. The ethnic or traditional Hispanic foods available to many individuals in urban America are already included in these tables.

Creating Your Own Nutrient Data Bank

Nutrient intakes can also be assessed and created by analyzing the caloric content of representative meals, single foods, or prepared "composites" of foods, either by the expensive chemical composition method, or from existing food composition tables. On a more practical level, many academic institutions or nutrition research institutes have available data that could be shared. One useful strategy to compensate for limited data on Hispanic foods is to substitute data on similar foods for which food compositions are available. Respondents are asked to name ingredients used in any mixed dishes. Then researchers can obtain nutrient data for these known components, even though nutrient data for a mixed dish are unavailable. Although the appropriateness of this strategy is also questionable, there are also problems associated with solely relying on national nutrient data bases for Hispanic/Latino foods.

The Need for a National Nutrient Database for Ethnic Foods

Computers are recognized for allowing fast, efficient, accurate, and uniform handling of dietary data through the use of nutrient data banks. However, nutrient data banks are only as complete as the nutrient composition data entered into them.

Loria et al. (8) maintain that the nutrient data for Mexican foods in the USDA databases are based on analysis of commercially prepared, Americanized versions of these foods, rather than on foods as they are prepared by Mexican-Americans at home. For example, Americanized tacos usually consist of a fried tortilla, filling, and shredded lettuce, whereas Mexican tacos most often consist of a tortilla cooked without fat, which is wrapped around a filling and eaten without lettuce. Tamales (filled dough steamed in cornhusks) may also have very different nutrient profiles, depending on whether traditional or Americanized versions are prepared. Mexican tamales are made with *masa harina,* a flour made from lime-treated corn, commercially prepared tamales, such as those in the USDA databases, are prepared with cornmeal. A tamale made with masa harina contains 47 mg of calcium per l00 g (9), whereas one made with degermed cornmeal contains only 11 mg of calcium per 100 g (10).

Conclusion

In view of the aforementioned issues, the need to develop nutrient databases for Hispanic/Latino foods through cross-sectional studies or other means, again, cannot be overemphasized. This is not a job for a community nutrition researcher but for governmental institutions charged with monitoring our food supply and its nutrients. Questions about the true dietary intake of Hispanic groups is of legitimate concern, given the limited nutrient data available for foods they commonly consume.

Celebrating cultural diversity is fine, but more information is needed to unravel the nutritional adequacy or inadequacy of these ethnic diets.

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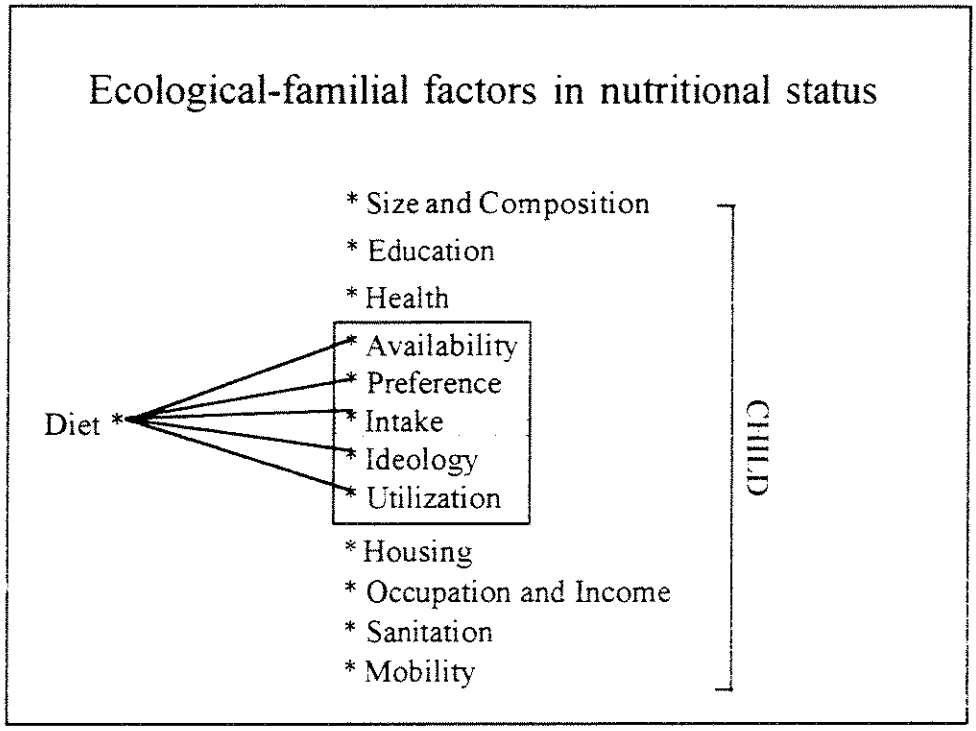

Figure 1

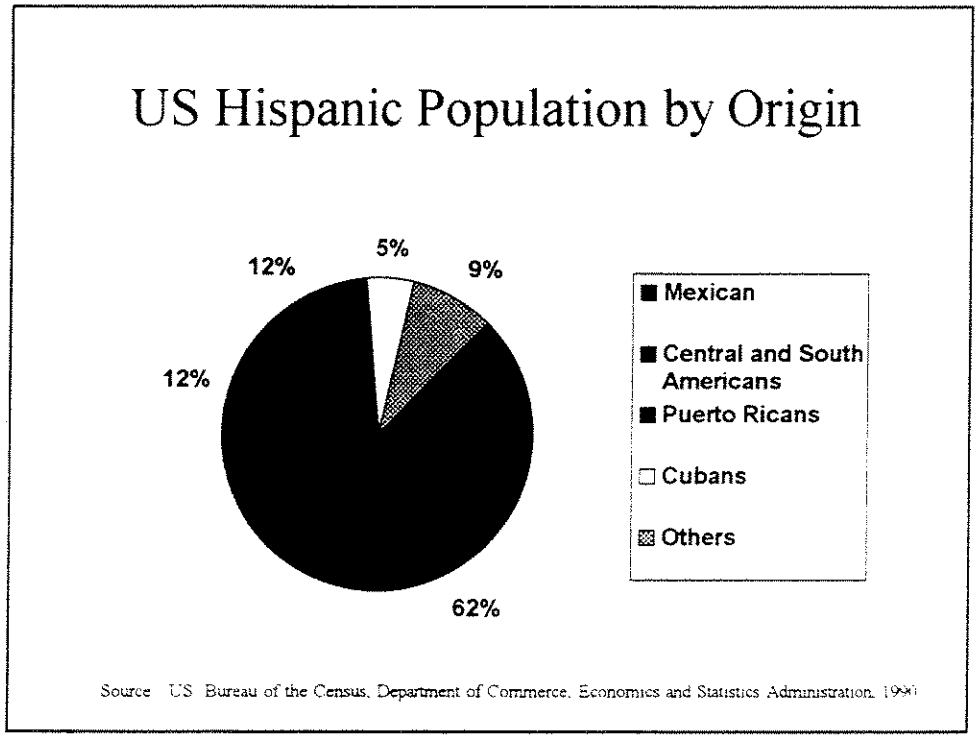

Figure 2