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The Impact of Conventional Dietary Intake Data Coding Methods on Snacks Typically Consumed by Socioeconomically Diverse African American and White Urban Population: A Comparison of Coding Methods

M Fanelli Kuczmarski[a]*, MA Mason[b], D Allegro[a], AB Zonderman[b], MK Evans[b]

a Department of Behavioral Health and Nutrition, University of Delaware, Newark, DE, 19716 USA
b Laboratory of Epidemiology and Population Sciences, National Institute on Aging, NIH, Baltimore, MD, 21224 USA

Abstract

This study assessed the significance of implementing combination codes generated by USDA's Automated Multiple Pass Method and the impact on the assessment of snacking using the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study. African American and White participants (n=2177) completed two 24-hour dietary recalls. All self-reported snacks were assigned a food group code, while snacks eaten in combination (e.g. cereal with milk) were additionally assigned a combination code and associated with a food group based on primary component (e.g. cereal). Combination codes produced significant variation in snack lists by race, providing a better depiction of snacking patterns.

1. Introduction

There is limited knowledge of foods as typically consumed by urban African American and White populations[1-5]. Perhaps the health disparities that exist in the United States may be associated with not only the food choices, but also eating practices. For example, a baked potato could be consumed with no toppings or it could be eaten topped with butter, sour cream, and cheese. Analyses of dietary intake data that includes codes to identify foods consumed simultaneously as one item can reveal more insight into how populations eat. With a better understanding of eating practices of populations, nutrition educators, health professionals, and public health policymakers may be able to translate nutrition goals into practical, culturally relevant, and sex-specific diet recommendations[6, 7].The public-use dietary datasets for the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study and the What We Eat in America, National Health and Nutrition Examination Surveys contain coded foods which

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*Corresponding author. Tel:1+302-831-8765; fax+1-302-831-4261
E-mail address:mfk@udel.edu

are used to explore the relationships between diet and health[8-11]. The assignment of a code for each food and beverage reported in United States Department of Agriculture's (USDA) Automated Multiple-Pass Method (AMPM) is required to link that item to an appropriate nutrient profile within USDA's Food and Nutrient Database for Dietary Studies. The assignment of a food code is completed one of two ways: 1) automatically through the Post Interview Processing System, a computer program separate from the AMPM or 2) manually by a coder using Survey Net, a computer-assisted coding system. In addition to the food code assigned to food/beverage reported, foods or beverages may also be given combination codes to identify items consumed together as combinations. The AMPM assigns combination codes, and Survey Net as well provides the ability for a coder to assign combination codes.

A combination code identifies foods that were consumed simultaneously as one item such as coffee with milk and sugar, and foods with separate ingredients, such as salads and sandwiches. These combination codes allow researchers the ability to create a composite food and assign this item (such as a sandwich) one code. Use of the combination codes has been shown to be critical for accurate identification of beverages when estimating energy density[12] and when estimating the sodium from sandwiches[13].

To create a picture of how foods are actually consumed, the use of these combination codes in analyses is essential. Similar to the selection of a dietary intake collection method, the coding variables used in dietary data analysis must match the purpose of the study. Unfortunately, our review of the literature revealed either a lack of detailed description as to use of food combination codes[14] or exclusion of food combinations in analysis[15, 16] when researchers were determining food patterns. The main objective of this study was to compare two coding methods to illustrate the importance of using the combination codes to provide the best depiction of how foods were typically consumed as snacks by the participants in the HANDLS study.

Nomenclature

AMPM	Automated Multiple Pass Method
FNDDS	Food and Nutrient Database for Dietary Studies
HANDLS	Healthy Aging in Neighborhoods of Diversity across the Life Span
PIR	Poverty Income Ratio
USDA	United States Department of Agriculture