Factors Influencing Food Choices, Dietary Intake, and Nutrition-Related Attitudes among African Americans: Application of a Culturally Sensitive Model

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Objectives. The goals of the project were: (1) to explore how culture and community impact on the nutrition attitudes, food choices, and dietary intake of a select group of African Americans in north central Florida; and (2) to identify segments of the population and community that should be targeted for education programs, desirable components of nutrition education programs, topics of interest, and health promotion channels to reach the target group.

Design. Six focus groups were conducted with African American males and females. The data were analyzed using the PEN-3 model, a theoretical model that centralizes culture as the primary reason for health behavior and the primary consideration for health promotion and disease prevention programs.

Results. There was a general perception that 'eating healthfully' meant giving up part of their cultural heritage and trying to conform to the dominant culture. Friends and relatives usually are not supportive of dietary changes. Barriers to eating a healthful diet also included no sense of urgency, the social and cultural symbolism of certain foods, the poor taste of 'healthy' foods, the expense of 'healthy' foods, and lack of information. Segments of the population that potentially could be motivated to make dietary changes included women, men with health problems, young adults, the elderly, and those diagnosed with a severe, life-threatening disease.
Conclusion. The findings suggest that the PEN-3 model is an appropriate framework for assessing how community and culture impact dietary habits of African Americans. African Americans still need information on basic nutrition topics such as serving sizes and reading food labels. The findings also suggest that programs and materials should be specifically developed for churches, neighborhood grocery stores, and local restaurants.

Keywords: PEN-3; Diet; African Americans

According to the United States (US) 2000 census, African Americans represent 13% of the US population and are the second largest ethnic minority group in the country. Before the 2000 census, they were the largest ethnic minority group for more than a century (McKinnon 2001). There are many health disparities between African Americans compared to the general American population. For example, African Americans have a higher prevalence of obesity and weight-related diseases such as cardiovascular diseases (40% vs 22%) and diabetes (11% vs 8%) than the general US population (Florida Department of Health 2000; US Department of Health and Human Services [DHHS] 2000; Centers for Disease Control and Prevention 2003; American Heart Association 2004).

The prevalence of obesity in the USA has increased significantly in recent years, from 24% during 1976–80 to 35% during 1988–94 (Flegal et al. 1998). More than half of the adults in the USA are now estimated to be overweight or obese. African Americans have a higher prevalence of obesity than the general US population (DHHS 2000). The majority of adult Floridians (57%) are overweight and 19% of these adults are obese. From 1986 to 1996, there has been a significant increase in obesity among Florida adults of all age groups. Twenty-four percent of non-Hispanic black male and 35% of non-Hispanic black female Floridians are obese (Florida Department of Health 2000). A study of non-Hispanic blacks in north central Florida found 65% of males and 53% of females to be overweight or obese (James 2003).

Poor eating habits are a major contributor to obesity and other chronic diseases (DHHS 2000; Surgeon General 2001; Food and Nutrition Board 2002). Dietary habits among African Americans such as high fat diets; high calorie diets; low intake of fruits, vegetables, fiber, and grains; high sodium intake; and high intake of salt-cured, smoked, and nitrite-cured foods contribute to the burden of these chronic diseases (DHHS 2000). The US Department of Agriculture’s Healthy Eating Index (HEI) is a national measure of dietary quality for Americans (Basiotis et al. 2002). According to the latest HEI, most Americans need to improve their diets. A score on the HEI above 80 suggests a good diet; between 51 and 80 suggests a diet needs to be improved; and less than 51 suggests a poor diet. Only 10% of the total population had a good diet; 74% needed to improve their diet; and 16% had a poor diet. Twenty-eight percent of African Americans had a poor diet compared to 16% of whites and 14% of other racial/ethnic groups. The average score for African Americans was 61.1, indicating a need for improvement. No subgroup of the
American population had an average HEI score greater than 80 (Basiotis et al. 2002). African Americans also lagged behind other Americans in modifying their diets in line with national recommendations (James 1998; DHHS 2000, 2002). Dietary modifications can greatly reduce the risk of many chronic diseases (DHHS 2000; Surgeon General 2001; Food and Nutrition Board 2002).

Official guidelines for healthy eating are outlined in the Food Guide Pyramid and the Dietary Guidelines for Americans. Individuals are encouraged to build a healthy diet by choosing a diet that is low in total fat, saturated fat, and cholesterol; choosing beverages and foods low in sugar; preparing foods with less salt; eating a variety of grains daily; and eating a variety of fruits and vegetables daily (US Department of Agriculture 2000). Data from the Continuing Survey of Food Intakes by Individuals (1994–96 and 1998) indicated that few Floridians met the recommendations from the Food Guide Pyramid (US Department of Agriculture 2002). State data on compliance with the Food Guide Pyramid by ethnic group are not available, but nationally few African Americans met the Food Guide Pyramid recommendations for the grain group (18%), vegetable group (29%), fruit group (16%), milk group (15%), and meat group (35%). In addition African Americans consumed higher amounts of sodium and cholesterol than other groups (Basiotis et al. 2002). Similar findings were reported in a study of African Americans in north central Florida (James 1998).

Many historical and cultural factors influence the current dietary intake and food choices of African Americans. The dietary habits, food choices, and cooking methods of African Americans evolved from a long history of slavery, persecution, and segregation. Slaves who were brought to the USA combined their West African cooking methods with British, Spanish, and Native American (American Indian) techniques with whatever foods were available to produce a distinctive African American cuisine called ‘soul food’ (Kittler & Sucher 2001). Soul food emphasizes fried, roasted, and boiled food dishes using primarily chicken, pork, pork fat, organ meats, sweet potatoes, corn, and green leafy vegetables (Kittler & Sucher 2001).

Nutrition-related attitudes and behaviors usually are established early in life and are primarily determined by cultural, psychosocial, and socioeconomic factors (Hochbaum 1981; Crockett & Sims 1995). In addition, many aspects of food purchasing, preparation, and eating are culturally defined and individuals may consciously or unconsciously participate in these activities to preserve traditions and maintain group identity (Kittler & Sucher 2001). Attitudes and beliefs regarding food and values placed on foods cannot be effectively measured and quantified solely with a survey instrument (Crockett et al. 1990). Thus, qualitative research methods like focus groups can provide other valuable data (Morse & Field 1995). However, the purpose of focus groups is not to generalize. Focus groups allow participants to critique, comment, explain, and share their experiences, opinions, and attitudes on the issues in question (Kreuger 1994; Kreuger & Morgan 1999). This type of research also allows respondents to qualify, clarify, and build upon each other’s responses, thus providing more thoughtful and in-depth information (Stewart & Shamdasani 1990; Kreuger 1994; Kreuger & Morgan 1999). Focus group data can be further used
to generate theory and explain or confirm findings from other research (Stewart & Shamdasani 1990; Kreuger 1994). Focus groups have been used in nutrition and health education research to assess beliefs and attitudes, design educational materials and programs, and evaluate educational programs (James et al. 1996; James 1998; Hargreaves et al. 2002).

Nutrition researchers are increasingly using theoretical models and frameworks to guide program development (Glanz & Eriksen 1993). Although several health education and health promotion models/frameworks exist to plan, implement, and evaluate programs, none centralizes community and culture as the primary reasons for health behavior. The PEN-3 health education theoretical model incorporates existing theories and frameworks, while drawing on theory and application in cultural studies (Airhihenbuwa 1995; Airhihenbuwa & Obregon 2000). It takes into account the multiple factors that determine health status and helps program planners develop comprehensive health education and health promotion programs. The model is influenced by the health belief model (Rosenstock 1974), theory of reasoned action (Fishbein & Ajzen 1975), and PRECEDE-PROCEED framework (Green & Kreuter 1991, 1999). However, the uniqueness of the PEN-3 model is that it establishes culture as the core of health promotion and disease prevention programs (Airhihenbuwa 1995). The PEN-3 model has been used to assess cultural eating patterns among African Americans (Airhihenbuwa & Kumanyika 1996), develop AIDS prevention programs in Africa (Airhihenbuwa & Obregon 2000), and assess motivators to exercise and weight loss among African Americans (Young et al. 2001), and determine eating behaviors among African Americans.

The PEN-3 model consists of three dimensions of health beliefs and behavior that are interrelated and interdependent: health education diagnosis, educational diagnosis of health behavior, and cultural appropriateness of health behavior (Airhihenbuwa 1995).

1. The health education diagnosis identifies the persons, extended family, and neighborhoods that should be targeted. These individuals should be educated and empowered to make informed health decisions appropriate to their roles in the family and community. It also identifies appropriate health education and health promotion channels to reach the target group.

2. The educational diagnosis explores the target groups' perceptions of health information and the factors that enable and nurture their health behaviors.

3. The cultural appropriateness of health behavior explores the positive, existential, and negative health behaviors of the target group.

The goals of the project were: (1) to explore how culture and community impact on the nutrition attitudes, food choices, and dietary intake of a select group of African Americans in north central Florida; and (2) to identify segments of the population and community that should be targeted for education programs, desirable components of nutrition education programs, topics of interest, and health promotion channels to reach the target group.
Methods

Participants

Six focus groups were conducted in north central Florida. This region of the state has a high prevalence of obesity and weight-related diseases such as diabetes, heart disease, and hypertension. Participants were recruited from beauty salons, churches, private social clubs (fraternities and sororities), university, and county public health unit. Recruitment was done from these places to obtain participants from different socioeconomic groups. The researcher visited all of these places and asked for volunteers. Focus groups were conducted at community centers, on campus, and at churches. Each participant was paid $10. Written consent was obtained from participants. Each group consisted of six to eight individuals; there were a total of 19 women and 21 men. It is recommended that a series of focus groups be done with different segments of the population (Kreuger 1994; Kreuger & Morgan 1999) and the researcher recruited volunteers to represent different socioeconomic groups. The groups were as follows: six women on public assistance (ages 22–46); eight employed men who earned minimum or slightly above minimum wage (ages 21–55); six employed, college-educated men (ages 27–69); six employed, college-educated women (29–58); six undergraduate students (three males and three females, ages 18–23); and eight students in graduate and professional (medical, law) schools (four males and four females, ages 22–28). Each group was homogeneous with respect to socioeconomic status, but with sufficient variation in life experience to allow for contrasting opinions (Stewart & Shamdasani 1990; Kreuger 1994; Kreuger & Morgan 1999).

Procedures

A focus group discussion guide (Table 1) was developed based on a literature review in the areas of focus group research, food behaviors, food consumption surveys, and eating patterns of African Americans. Developing a focus group guide is necessary to ensure the specific study objectives are met (Stewart & Shamdasani 1990; Kreuger 1994). Questions in the focus group guide were organized around topics such as ‘concept of healthy eating’, ‘barriers and motivators to healthful eating’, and ‘nutrition education channels’. Questions were developed for each concept. The author, who is a registered dietitian and a health education specialist with formal training in conducting focus groups, moderated the discussions. The interviews were audio taped and notes were typed in on a portable computer by a research assistant. The tape was used to fill in areas that might have been missed by the typist and also satisfied requirements of the Institutional Review Board. The interviews lasted an average of one and a half hours. The focus groups were conducted in churches, community centers, and on campus.
Table 1 Focus Group Guide

**Concepts of healthful eating**
1. What comes to mind when you think of eating healthy? (Probe: What makes a food healthy or unhealthy?)
2. What comes to mind when you hear the words ‘eating habits of blacks/African Americans’? (Probe: Do most blacks/African Americans eat a healthy or unhealthy diet? Are they interested in eating a healthier diet?)

**Barriers and motivators to healthy eating**
3. What factors in your life make it difficult for you to eat a healthy diet? (Probe: What about when you eat out?)
4. Which foods are the most difficult to limit or give up from your diet? (Probe: Do these foods have any special meanings to you?)
5. Which foods do you think would be the most difficult for most blacks/African Americans to limit or give up? (Probe: Do these foods have any special meanings?)
6. Which foods or food groups would be the most difficult to add to your diet? (Probe: Why?)
7. What are the main reasons that prevent many blacks/African Americans from eating healthier foods?
8. What would motivate you to improve your eating habits? (Probe: Why?)
9. What factors would motivate most blacks/African Americans to change their eating habits?
10. (Probe: Why?)

**Nutrition education channels**
11. Where do you get most of your nutrition information? (Probe: What type of information do you usually get? How do you use the information?)
12. What groups in the African American community would be receptive to changing their eating habits? (Probe: Why? Where should we start?)
13. What type of information do you need to help change your eating habits?
14. Where do you think other blacks/African Americans get their nutrition information? (Probe: What would be the best way to educate African Americans about health issues?)

**Data Analysis**

Thematic analysis was used to search and identify the data for common trends, themes, and pattern threads throughout the data (Morgan 1988; Morse & Field 1995). The analysis was done around the PEN-3 conceptual framework. The author and a graduate student analyzed the data (both trained in qualitative research). Inter-coder reliability was 0.86. This study used deductive theory, which draws from previous knowledge and research, to deduce potential relationships. Deductive theory is most valuable when the researcher has clearly identified constructs and concepts with which to work (PEN-3 framework). Data were analyzed with QSR NUD IST software (version 4, Sage Publications, Inc., Thousand Oaks, CA). This software is also helpful for generating theory. Selected verbatim quotes that captured participants’ sentiments, views, and opinions are included in the text. The results of the study are presented within the theoretical model and connections between the two are done wherever possible.
### Table 2 Health Education Application

<table>
<thead>
<tr>
<th>Persons (likely to be motivated)</th>
<th>Extended family</th>
<th>Neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Women (married, mothers, those who want to lose weight) (+)</td>
<td>• Partner and children not receptive to changes (−)</td>
<td>• Neighborhood stores do not carry low-fat alternatives, certain items (−)</td>
</tr>
<tr>
<td>• Men with health problems</td>
<td>• Friends and relatives not receptive to dietary changes (−)</td>
<td>• Local restaurants do not carry low-fat alternatives (−)</td>
</tr>
<tr>
<td>• Elderly with health problems (+)</td>
<td>• Family and friends expect certain foods (−)</td>
<td>• Churches are sources of social support and can be used to deliver programs (+)</td>
</tr>
<tr>
<td>• High-income individuals can afford health club memberships and buy health foods (+)</td>
<td>• Neighborhood stores do not carry low-fat alternatives, certain items (−)</td>
<td>• Schools serve fast foods and have vending machines (−)</td>
</tr>
<tr>
<td>• Young adults who are into the 'fitness craze' (+)</td>
<td>• Friends and relatives not receptive to dietary changes (−)</td>
<td>• Local restaurants do not carry low-fat alternatives (−)</td>
</tr>
</tbody>
</table>

### Results

**Health Education Diagnosis**

Health educators must determine who will be the target for health education messages and programs—individuals (persons), extended family members, or the neighborhood (community). The educational message and strategies will vary depending on the group. The health education diagnosis from the data is presented in Table 2.

**Persons**

Some individuals are more likely to be motivated to adopt positive lifestyle habits. These individuals should be targeted for nutrition education programs. Participants were asked to identify factors that would motivate most African Americans to make changes in their eating and health habits. During the discussion they identified specific groups of African Americans who potentially could be motivated to make changes. They included women, men with specific health problems, young adults (18–30), elderly people with a specific health problem, and college-educated or higher income individuals.

Women were said to be good targets for educational programs because they were primarily responsible for food shopping and preparation. Female friends and relatives also were said to be significant sources of health and nutrition information. Married men said they relied on their wives to make nutrition and health decisions for the family. 'I wouldn’t go to the doctor if my wife didn’t nag me.' ‘My wife keeps telling me to watch my salt intake and eat more vegetables.’ ‘You can’t change a family’s eating habits without starting with the woman.’

African American women usually were said to be more interested than their male counterparts in improving their health habits. Most women expressed some interest
in eating more healthily but said it was hard to do so regularly. ‘It is hard to eat right when you are balancing a family and a job.’ ‘I do not have time to cook when I get home from work. I’m just too tired.’ However, it was generally believed that women were interested in eating healthily mainly because they wanted to lose weight. ‘I tend to eat more salads when I feel like I’m getting big or if there is a certain guy that catches my eye.’ ‘I eat a lot better when I am trying to lose weight.’ The majority of women expressed concerns about their weight. They didn’t want to lose weight and ‘look like white women’, but they wanted to be ‘muscular and shapely’. Losing weight around the abdomen or maintaining a flat abdomen was their biggest concern.

Women with children were the least concerned about their weight. Some of these women said that they had made peace with their bodies and had gotten off the ‘dieting rollercoaster’. ‘After you have a baby, your body matures and it just looks different.’ ‘I’m doing the best I can. Because a woman is thin doesn’t mean she’s eating healthy.’ However, these mothers said they would be willing to make some dietary and lifestyle changes to positively influence their children.

Most men did not express an interest in changing their eating habits. ‘If you aren’t sick, why worry about it?’ ‘We weren’t really taught how to eat healthy. In school only girls took home economics so they knew more about health and things like that.’ Most men did not shop for food and did not cook. A few men, who were already diagnosed with health problems, were concerned about their health. It was commented that men rarely talk about their health, and if they did they would not do so with other men. ‘Men do not say, “hey brother, I am worried about getting high blood pressure,” but women talk to each other about their bodies and their weight all of the time.’ Most men said they were concerned about hypertension and heart attacks but not enough to make any real changes. Male participants equated ‘staying healthy’ with ‘exercising and staying fit’.

Young adults (18–30 years old) were said to be more knowledgeable about nutrition and health than older adults. ‘They now teach kids a lot about eating right and staying healthy in schools and colleges.’ Some believed that young adults do not engage in healthy behaviors solely for the health benefits. ‘The young generation is into a healthier lifestyle because of the fitness craze.’

Older adults and the elderly tend to make changes in their diets only after they have been diagnosed with a disease. ‘I think that as African-Americans get older, we become more aware that we need to eat healthier because some of the diseases like diabetes and heart disease are tied to diet.’ ‘I think many elderly feel that if what they’re eating hasn’t killed them yet, it’s good.’

Extended family
Nutrition education programs should go beyond the individual and target the immediate and extended families. African Americans tend to gather together with extended families and friends on a regular basis. Food usually is a large part of that gathering. Extended families help to keep tradition alive and influence individual
behaviors (Kittler & Sucher 2001). The desire to be considered a good host or hostess may prevent the serving of, and social graces may prevent guests from asking, for foods that are considered healthy. Participants said friends and relatives usually are not supportive of dietary change.

I tried to tell my dad that if we have beans and rice, we don’t need to eat meat because the beans already have the protein. He didn’t like that and I still had to get up and fix him some meat.

Neighborhood
Nutrition education should also target the neighborhoods and communities where clients live, work, and play. Participants emphasized the need for the clergy and churches to be included in any community effort. ‘In our community, the church or the pulpit is the loudest voice that we have. To make a difference with any health problem in our community we must use the vehicle that we know.’ Historically, the African American church has been an institution for social and political change (Frazier 1996).

The best places to start would be the churches. Many churches serve dinners after service. Someone needs to show the cooks how to prepare the same things in a healthier way. You can also do classes while the members eat.

Several participants also said they would be more inclined to attend education programs at neighborhood churches and community centers than at health departments or hospitals because of their proximity.

Local grocery stores, soul food restaurants, and schools also should be community partners in the effort for change. A few women noted that certain products such as lean cuts of meat, egg substitutes, and lactose-free products were not always available at their local grocery store and that they had to ‘drive way across town’ to purchase them. Some parents felt schools negated their efforts by serving fast foods and having vending machines. ‘They serve our kids a lot of junk at school and now they have fast food restaurants doing the meals.’

Educational Diagnosis of Health Behavior
An educational diagnosis is used to assess factors that determine health behaviors. It determines the target group’s perception of health issues and identifies factors that enable and nurture the attitudes and behaviors to continue (Table 3).

Perceptions
Perceptions include knowledge, attitudes, values, and beliefs that may motivate or hinder behavioral changes. A common attitude among participants was that anything and everything can cause diseases and ‘you have to die of something’. Several perceived ‘eating healthfully’ as giving up part of their cultural heritage and trying to conform to the dominant culture. ‘The Food Guide Pyramid doesn’t show the
Table 3 Educational Diagnosis of Health Behavior

<table>
<thead>
<tr>
<th>Perceptions</th>
<th>Enablers</th>
<th>Nurturers</th>
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<tbody>
<tr>
<td><strong>Knowledge needs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Information on portion sizes, basic nutrition, food labels, modifying recipes, dining out, eating healthy on a budget</td>
<td>- Physicians and dietitians are credible (+)</td>
<td>- Interested in modifying some recipes (+)</td>
</tr>
<tr>
<td>• Reliable information on weight control and dieting</td>
<td>- TV carries reliable reports (+)</td>
<td>- Willing to provide some low-fat alternatives at family gathering (+)</td>
</tr>
<tr>
<td><strong>Attitudes, beliefs, values</strong></td>
<td>- Educational videos in waiting rooms are appropriate (+)</td>
<td>- Would attend programs if 'free' food is provided (+)</td>
</tr>
<tr>
<td>• Food keeps tradition alive (+)</td>
<td>- Churches should have educational programs (+)</td>
<td>- Current programs are not culturally relevant (-)</td>
</tr>
<tr>
<td>• Positive attitude toward body image (+)</td>
<td>- Clergy is well respected (+)</td>
<td>- Nutrition education programs do not emphasize traditional foods (-)</td>
</tr>
<tr>
<td>• Health is not a major life priority (-)</td>
<td>- Fashion magazines sometimes carry credible information (+, -)</td>
<td>- Commercial vendors and vending machines at schools (-)</td>
</tr>
<tr>
<td>• Taste overrides nutritional value (-)</td>
<td>- Physicians do not address diet and weight (-)</td>
<td>- Cost of joining a fitness center or commercial weight loss program (-)</td>
</tr>
<tr>
<td>• Healthful eating means giving up culture (-)</td>
<td>- Busy lifestyle (-)</td>
<td>- Family and friends do not support changes (-)</td>
</tr>
<tr>
<td>• Fatalism—have to die of something (-)</td>
<td>- Unreliable childcare (-)</td>
<td>- Not having a 'buddy' participating in exercise and weight control programs (-)</td>
</tr>
<tr>
<td>• Distrust of food technology (-, +)</td>
<td></td>
<td></td>
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<tr>
<td>• Starchy foods cause diabetes (-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The body will not adapt to a change in diet (-)</td>
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</table>

Types of food we [African Americans] usually eat. 'I know that some of our traditional foods are not full of nutrients but they bring back good memories of childhood and I'm not giving them up just because some researcher says they are bad.' 'Our food and our music are two things that we have to pass on to our children, and nobody is going to take them away from us.' 'The elders love to cook these foods for us and refusing to eat them is a sign of disrespect.' Researchers suggest that culturally based foods are often one of the last traditions people change when they move or assimilate into a new culture (Kittler & Sucher 2001). In fact, some may resent changing their food habits (Dewey et al. 1984). One individual remarked that all ethnic groups [including whites] have poor eating habits but 'they are always picking on us.' 'Food is an important part of all cultural groups and it distinguishes one group from another.' Other participants remarked that their mothers and grandmothers taught them how to cook traditional foods and it was a tradition they hoped to pass on to their children. Most men agreed that having a woman who cooks traditional foods was a great asset. 'We expect our wives and girlfriends to be able to cook those foods. If not her mom needs to give her a crash course [laughter].'
Most participants were distrustful of food technology. ‘Fake fat and fake sugar, how are those healthy?’ ‘They do so much to the food with all that technology that it can’t be good for you.’ Participants believed that genetic engineering and other food technology were responsible for many health problems. ‘They put a lot of hormones in the meat and use a lot of pesticides and that’s what’s giving us all that cancer.’

Several participants identified specific aspects of their diets that could be improved, ‘I need to drink more water and less soda [pop]’, ‘I need to eat more vegetables’, and ‘we need to stop eating so much fried foods’. These perceptions were in line with national recommendations (US Department of Agriculture 2000).

Participants believed most African Americans lack the information to consistently make healthful food choices. ‘If you don’t have the knowledge, you can’t make intelligent choices.’ For example, some participants remarked that they tried to watch their fat intake, but a follow-up question revealed that only three participants took the skin off of the chicken or trimmed the visible fat from meats. ‘I usually take the skin off of baked chicken, but not fried chicken. I like the crispiness of the skin.’ The participants were interested in learning about the following topics: appropriate serving sizes of foods from the different food groups, eating healthfully on a low budget, making healthful choices when dining out, modifying traditional recipes to make them healthier, using dietary supplements, evaluating health claims, and how to read and use food labels to make wise choices.

**Enablers**

Enablers include cultural, societal, and structural influences that hinder or facilitate change. Participants relied on television news programs, talk shows, and ethnically specific magazines such as *Essence* and *Ebony* for nutrition information. Physicians and dietitians were considered reliable sources but only one person had ever spoken with a dietitian or nutritionist and few reported actually receiving any nutrition-related information from a physician. ‘My doctor told me I was too fat and he gave me a diet sheet. He didn’t explain it or nothing.’ Some remarked that health and nutrition materials and messages presented at clinics and hospitals were too general or were not culturally relevant and specific to African Americans. ‘The recipes they gave out are for things I would never eat.’ ‘They need to have people in the pamphlets that look like us.’ Childcare and transportation to workshops and seminars were cited as problems and participants suggested that childcare, transportation, and ‘free food’ should be used as incentives to attend health fairs, educational seminars, workshops, and other programs and events. Participants were receptive to educational videos in waiting rooms.

Several participants said the cost of food, especially fruits, vegetables, meats, and cereals, prevents many African Americans from eating healthfully. ‘A box of cereal costs almost $4.’ ‘We tend to buy foods that fill us up even if they aren’t healthy.’ ‘For most people, cost is a bigger factor than nutrition.’ One woman remarked that sodas are cheaper than juices and others agreed. Some participants felt that poverty should not be an excuse for poor eating habits. A few participants remarked that
poor people could eat healthfully if they know what to buy. 'We grew up poor but still ate good, healthy foods from the farm.' 'Beans and rice is a healthy meal, regardless of how much money you make. You don’t need a lot of meat to eat healthy.'

Almost all participants said their busy lives did not allow them a lot of time to cook and prepare healthful meals. College-educated individuals noted that their higher incomes did not necessarily translate into healthier choices because they were so busy. 'Money is not an issue for my family, but our problem is that we eat out at fast food restaurants a lot.' 'I usually grab fast foods on the way home from work or just order a pizza when I get home from work.' 'I buy a lot of frozen foods and then cook them in the microwave.' 'Most of us are so busy we only have a sit-down dinner on Sundays.' Many low-income individuals and college students said they also relied heavily on frozen foods and fast foods. 'It is just too time consuming to make your own food.'

**Nurturers**

Extended family, friends, and the community also impact on health behaviors, attitudes, and beliefs. Friends and relatives usually are not supportive of changes in the diet. Women said male partners and children were barriers to healthful eating and were concerned with the waste and cost of introducing new foods that may be rejected by their families. 'I tried to substitute veggie burgers for hamburgers and my kids just refused to eat them.' 'My husband works all day and he feels like he is entitled to eat whatever he wants. He won't budge on what he eats.' Participants agreed that certain foods were expected at gatherings and 'low fat' and 'diet foods' would not be well received. 'You can be banned from a family reunion for bringing a salad [laughter].'

**Cultural Appropriateness of Health Behaviors**

This component of the PEN-3 model is critical since educational programs, materials, and messages developed for the general population may not be culturally relevant or specific to African Americans. Positive, existential, and negative behaviors are identified and used to determine program goals and objectives (Table 4).

**Positive behaviors**

Participants’ positive beliefs and actions, no matter how small, need to be acknowledged, encouraged, and affirmed. Likewise, traditional and cultural practices with positive health outcomes need to be identified and reintroduced, thus affirming the culture’s contribution to the universal development of knowledge and meaning. Participants believed many African Americans continue to eat the way they do to stay connected to the African tradition and culture. Individuals have a need to belong to a social group and eating certain foods from one’s cultural group is a way to stay connected to that group. In addition, certain cultural foods represent comfort.
and happiness for many people (Kittler & Sucher 2001). The 400-year-old African American cuisine is called ‘soul food’ because the foods of the ancestors nourish the body, nurture the spirit, and comfort the soul. College students remarked that when they went home for weekends they expected their mothers to have traditional foods available. 'These are my comfort foods.' 'After a week of studying, these foods hit the spot.' One woman acknowledged that she did not know how to cook these foods so she often visits 'soul food' restaurants to stay ‘connected’. Another remarked, 'My family is poor but when we cook and get together to eat it reminds me of my rich heritage.' Traditional dishes include fried chicken, chitterlings (pig intestines), hog maws (pig stomach), barbecued (smoked) meats and poultry, collard greens, macaroni and cheese, cornbread, fruit pies, and cobblers (fruit pies without a bottom crust). 'Our ancestors did not let anything go to waste.' ‘Soul food came out of the need to survive.’

The traditional African American cuisine tends to be low in fiber, high in sodium, nitrates, sugar, fat, and/or cholesterol and contributes to the high prevalence of chronic diseases such as obesity, heart disease, and non-insulin dependent diabetes that is observed in this population (DHHS 2000). Researchers acknowledge that the cooking methods of the foods, rather than the foods themselves contribute to the health problems (James 1998; US Department of Agriculture 2000). Some participants defended traditional foods from that perspective. 'The foods we eat are not bad. We need to focus on the way the foods are cooked and prepared.' These traditional foods were not eaten daily by the participants in the study, but usually were reserved for weekends and special occasions. Other positive behaviors identified during the focus groups included regular consumption of green leafy vegetables and cruciferous vegetables (cabbage, broccoli, turnip greens, and collard greens). These vegetables are believed to enhance overall health and to have chemical properties that may reduce the risk of some types of cancer (US Department of Agriculture 2000).

### Table 4 Cultural Appropriateness of Health Behaviors

<table>
<thead>
<tr>
<th>Positive behaviors</th>
<th>Existential behaviors (not harmful)</th>
<th>Negative behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Foods used to celebrate and affirm culture</td>
<td>• Cooked vegetables are preferred over raw ones</td>
<td>• Being overweight is 'healthy'</td>
</tr>
<tr>
<td>• High intake of cruciferous vegetables (cabbage, broccoli, collard greens, etc.)</td>
<td>• 'Soul foods' especially those high in fat and sodium are eaten only on holidays and special occasions</td>
<td>• Not concerned with the health consequences of being overweight or obese</td>
</tr>
<tr>
<td>• 'Soul foods' especially those high in fat and sodium are eaten only on holidays and special occasions</td>
<td></td>
<td>• High intake of deep fried foods</td>
</tr>
<tr>
<td>• Not obsessed with weight or thinness</td>
<td></td>
<td>• Chicken eaten with skin</td>
</tr>
</tbody>
</table>

- Visible fat not trimmed from meats
- Vegetables are overcooked
- Milk is for children
- Meals must contain meat
Existential behaviors

Existential behaviors are those cultural beliefs and behaviors that are endemic to a particular group or community and have no harmful health consequences. They may have no scientific merit and be poorly understood by outsiders, but should not be targeted for change nor blamed for program failure. Existential behaviors identified during the focus groups included preferring cooked vegetables to raw ones, not eating certain foods (usually fruits) after dusk since they may cause indigestion, and considering certain foods inappropriate at certain meals (e.g. cereal is not appropriate for dinner).

Negative behaviors

Negative behaviors are beliefs and actions that are known to be harmful to health. These need to be understood within their cultural, historical, and political contexts. Negative behaviors identified during focus groups included a high intake of fried foods, eating chicken with the skin, not trimming fats from meat, seasoning vegetables with fat and meat, and reusing oils, fats, and grease to flavor foods and to save money. Myths identified during the discussions included starchy foods cause [sugar] diabetes and the body cannot adapt to a new diet. The most prevailing negative attitude was 'you have to die of something'.

If the data from the current project were actually used to develop and implement programs based on the PEN-3 framework, beliefs, attitudes, and health behaviors would further need to be classified as 'long term' and historically rooted in tradition and culture, or 'short term' and more recent. What is considered 'long term' or 'short term' may vary from one location to another or from one community group to another. Long-term beliefs, attitudes, and behaviors are those that have been around for a few generations and are harder to change. Examples include:

- Healthful eating means giving up tradition and culture
- Fatalistic attitude (have to die of something)
- Elderly people are entitled to eat whatever they choose
- Meat is an integral part of a meal
- Eating chicken with the skin
- Drinking whole milk, rather than skim milk or low-fat milk
- It is OK for women with children to be heavier than those without children
- Men only go for healthcare if they are seriously ill.

Short-term beliefs, attitudes, and behaviors are those that have been in existence for a generation or less. Examples include:

- Eating fast foods
- Dining away from home
- Too busy to cook or prepare healthy meals
- Healthy foods do not taste good.
Appropriate strategies to reinforce or change long-term and short-term beliefs, attitudes, and behaviors need to be further determined. These strategies are beyond the scope of this paper.

Discussion and Applications

The high prevalence of diet-related diseases among African Americans strongly suggests a need for dietary changes at the individual, family, and community levels (DHHS 2000). African Americans in this study, like the general population, usually are not motivated to change their dietary intake and prevention of chronic diseases usually is not perceived as a priority or as important as the immediate issues of daily living (James 1998). Food purchasing, preparation, nutrition-related attitudes and behaviors require great efforts to change and changes may be modest at best (Hochbaum 1981). Since diet and other lifestyle factors are strongly affected by individual, social, cultural, and community factors, the PEN-3 theoretical model provides health educators with a comprehensive approach to health promotion and disease prevention. In this research, the PEN-3 model provided a good fit for the data. It identified cultural factors that affected dietary intake, knowledge and attitude towards nutrition, groups to target, and appropriate nutritional information channels.

Program planners must determine whom to target—the individual, extended family, or neighborhood—realizing that they are not mutually exclusive. This study indicates nutrition education programs for this population should primarily target women because they usually are concerned with the family’s health, are responsible for the food preparation, set standards for healthful or unhealthful eating, and provide access to other family members (James et al. 1996). A dietary trends survey done in 2002 indicated that women were more likely than men to be aware of the health benefits of foods and nutrients. Women also were more likely than men to follow health news in the media (American Dietetic Association 2002a). However, the process of making food choices in a family setting is complex. This study supports other research that reports male partners and children were not receptive to dietary changes (Bradford et al. 1997).

Program planners who target families and communities should highlight the positive aspects of the diet. Some participants felt they were being asked to conform to the dominant culture’s eating habits. Registered dietitians advocate that all foods can fit into a healthy diet and that foods should not be thought of as being ‘good’ or ‘bad’ (American Dietetic Association 2002b). Because of the cultural value of traditional African American foods, they should not be eliminated from the diet, but rather should be eaten less frequently, in smaller amounts, or recipes may be modified with respect to sodium, fat, saturated fat, cholesterol, and sugar. The current study found that traditional foods were reserved for weekends and special occasions and some participants had modified recipes to make them healthier. For example, two participants remarked that they now use smoked turkey as a healthier alternative to salt pork and pork fat to season vegetables. These trends are consistent with those found in other research (James 1998; Kittler & Sucher 2001).
Physicians and dietitians were considered credible sources of nutrition and health information. Yet, physicians rarely discussed diet and nutrition, and the information provided was very limited. One study found that only 6% of physicians included nutrition counseling with their patients and an average of 55 seconds was spent doing so (Eaton et al. 2002). This suggests that physicians should routinely refer overweight and obese individuals for medical nutrition therapy (MNT) by a registered dietitian. MNT can improve the quality of life for most individuals and MNT for obesity, diabetes, and other chronic disorders is covered by most insurance plans in the USA (American Diabetes Association 2002; American Dietetic Association 2002b).

The church has always played a central role in the African American community (Frazier 1996; Patillo-McCoy 1998). Considering its role in the community, health education and health promotion programs are increasingly being implemented in African American churches (Resnicow et al. 2001; Young et al. 2001; Markens et al. 2002). The clergy is well respected and serves as gatekeepers. Thus, any successful programs targeted at African American communities should endeavor to have the support of the clergy. Empirical research is needed to determine how certain church structures and clergy may help or impede community-based health programs.

Programs also must make concerted efforts to target environmental influences such as neighborhood grocery stores. The affordability of food has been documented as a factor influencing people’s diets (James 1998; Morland et al. 2002b). People with low incomes and members of ethnic minority groups spend less money on food than their counterparts, but a higher proportion of their income is spent on food (Select Committee on Hunger 1987; Lang 1992; Morland et al. 2002b). Many supermarkets have migrated to the suburbs leaving low-income shoppers at the mercy of high priced convenience stores and local grocery stores. Convenience stores and grocery stores have limited inventories and usually do not stock large amounts of perishable foods. Thus, foods recommended by health authorities, such as fruits and vegetables, are more expensive and less available in predominantly African American neighborhoods (Morland et al. 2002a). One study found that African Americans’ fruit and vegetable intake increased by 32% for each additional supermarket in the neighborhoods where they lived (Morland et al. 2002a). After controlling for income and education, the researchers concluded that neighborhood differences may account in part for health disparities that have a dietary component. Strategies for working with low-income neighborhoods or predominantly African American neighborhoods with few supermarkets include establishing farmers’ markets, changing zoning regulations to allow fruit and vegetable stands, and lobbying supermarket chains to establish stores in underserved areas. Individuals should also be counseled on the nutritional value of canned and frozen fruits and vegetables.

Many food myths and inaccurate information were expressed during the focus groups. African Americans in this study still need information on basic nutrition topics such as serving sizes, reading food labels, eating healthfully on a low budget, healthful eating when dining out, and food safety. They also need to learn how to discriminate between reliable and unreliable nutrition information. Like their other
American counterparts, they also need to understand how culture and media influence their food choices, decision making, and overall health (American Dietetic Association 2002b). The positive aspects of traditional African and African American diets should be stressed, even while stressing the need for modifying or reducing certain elements of the diet (James 1998).

Nutrition educators need to consider the information clients need to make informed food choices as well as how the information will be delivered and received. Likewise, African Americans must see themselves as customers and consumers, not merely as passive recipients of services (Rose et al. 2000; Joffe et al. 2003). While clients cannot control some factors that impact on their health, they can still play active roles in taking care of their health by questioning health professionals, making healthier food choices, and following therapeutic recommendations (Douglas et al. 2002).

Programs and materials targeted at this population must be culturally relevant and sensitive to their lifestyles and should reflect a positive image of them as consumers (Rossman 1994). Individuals must believe nutrition education and health messages are relevant to them and their loved ones for them to want to make changes. Ways to make programs and materials more culturally relevant include hiring more African American health professionals, providing training in diversity and cultural competence to existing staff, using more graphics and images with African American characters, and creating national Food Guide Pyramids that use traditional foods from different cultural groups. The latter suggestion is an important one since many participants in the study said the Food Guide Pyramid emphasized and graphically displayed foods that were used primarily by 'white' Americans. Many health organizations have developed food guides for the major ethnic majority groups, but the government has not officially endorsed any.

Nutrition educators also must recognize that health disparities exist in all socioeconomic groups within the African American community. In the USA health messages and programs usually are targeted at socioeconomically disadvantaged African Americans, while ignoring the middle and upper income groups (Rossman 1994). However, barriers to healthy eating, overweight, and obesity are found in all socioeconomic levels among African Americans (DHHS 2000; James 2003). Thus, different programs and media outlets need to be developed for those in different socioeconomic groups. Consideration of these factors is crucial to help African Americans establish more healthful eating patterns and lifestyle choices.

References


