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How do Urban African Americans and Latinos View the Influence of Diet on Hypertension?

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Abstract

Uncontrolled hypertension and its complications continue to be major health problems that disproportionately affect poor minority communities. Although dietary modification is an effective treatment for hypertension, it is not clear how hypertensive minority patients view diet as part of their treatment, and what barriers affect their abilities to eat healthy diets. We conducted nine focus groups with 88 African American and Latino patients treated for hypertension to assess their knowledge, attitudes, behaviors, and beliefs concerning hypertension. Participants generally agreed that certain foods and food additives play an important role in the cause and treatment of hypertension. However, they found clinician-recommended diets difficult to follow in the context of their family lives, social situations, and cultures. These diets were often considered expensive, an unwelcome departure from traditional and preferred diets, socially isolating, and not effective enough to obviate the need for medications. These findings suggest the importance of culturally sensitive approaches to dietary improvements.

Keywords

diet; hypertension; focus groups; African American; black; Latino; Hispanic; culture; knowledge; beliefs

In reducing disparities in health-related outcomes between minority and nonminority groups, better control of hypertension is an important goal. People of color in the United States experience higher rates of stroke, heart disease, and renal disease than whites; these conditions are associated with younger onset, greater prevalence, greater severity, and lower rates of hypertension control in minority populations than among whites.^{1–3} Although measures proven to be effective in controlling hypertension have been available for some time, only 53% of treated patients in the United States in 1999–2000 had controlled blood pressure.^{4,5} The rates of control for non-Hispanic black and Mexican-American patients under treatment (44.6% and 44.0%, respectively) were significantly lower than the rates for non-Hispanic whites (55.6%).⁴ Evidence supports the view that dietary modifications that result in weight loss or reduction of sodium intake lead to significant decreases in blood pressure.^{5–9} Reducing fat intake is also important for people with hypertension and elevated

low-density lipoprotein cholesterol, because high cholesterol puts hypertensive people at even higher risk for cardiovascular disease. Changing people's diets is challenging, however; certain foods and eating behaviors may be an integral part of their cultures and lifestyles.

Several studies have demonstrated a connection between ethnicity and both obesity and dietary patterns. African Americans and Latinos are more likely than whites to be obese.¹⁰ Both groups eat fewer fruits and vegetables than whites, and Latinos eat foods higher in fat than whites.^{11–14} In one study, Latino ethnicity was the strongest predictor of the frequency with which various foods were consumed.¹⁵ Many factors may lead African Americans and Latinos to make different food choices. Qualitative studies reveal that food preference is not simply a matter of taste, but that various aspects of racial and ethnic culture and history play an important part in food preferences. Some Latinos in one study, for example, identified whole milk as a symbol of prosperity.¹⁶ African Americans in other studies stated that their food preferences are shaped by the impact that slavery had on the diets of their ancestors.^{17,18} Although diet is an important method of controlling blood pressure and ethnic groups differ in their diets, little is known about the perceived connection between diet and hypertension in minority populations.

As part of projects to improve blood pressure control among minority populations, we sought to develop interventions to improve the ability of minority group members with hypertension to manage their condition, including their ability to adhere to dietary restrictions. We focused our efforts on two communities of predominantly African American and Latino people in East and Central Harlem in New York City. East Harlem (also called *Spanish Harlem*) and Central Harlem are home primarily to low-income people of color, with 55% Hispanic (predominantly Puerto Rican) and 33% non-Hispanic black in East Harlem, and 17% Hispanic and 78% non-Hispanic black in Central Harlem.¹⁹ Although these communities are served by four hospitals and many community health clinics, their residents have one of the highest proportions of households in poverty, and the highest rates of preventable admissions to hospitals, the highest all-cause mortality rate,²⁰ and the highest prevalence of obesity in New York City.²¹

We aimed to develop tailored interventions that take into account minority patients' knowledge, attitudes, and beliefs concerning lifestyle changes and barriers to adhering to lifestyle changes, including dietary modifications. As a first step, we conducted focus groups to explore patients' perceptions of their condition, and the role of certain factors, including diet, in causing and controlling hypertension. This paper presents the major themes concerning diet and hypertension from these focus groups.

Methods

We chose to conduct qualitative assessments rather than to survey patients because we wanted to explore features of patients' knowledge, attitudes, motivations, and concerns that might have been overlooked in previous research. Instead of testing familiar hypotheses, we aimed to generate new hypotheses that would further understanding and action.²² Qualitative data can help practitioners and researchers learn directly from patients the

barriers they face to receiving health care. Focus group research in particular may help provide insight into patient issues that individuals may not readily speak of independently with their health care providers or others.²³ Homogeneous focus groups, such as those we conducted, consisting of patients with a common disease and a common ethnicity, promote the sharing of sensitive, private ideas and inquiries.²⁴ These ideas may be especially important when learning from residents of communities that historically have been underserved and underevaluated.

To conduct the research, we had participation from all four hospitals in East and Central Harlem, and within these hospitals, all the clinics that primarily treat hypertension (general medicine, cardiology, hypertension, and geriatrics). The hospitals included two municipal hospitals, one private community hospital, and one tertiary-care academic medical center.

To identify African American and Latino adults who had been diagnosed and treated for hypertension, we reviewed individuals' medical records on the days they had scheduled appointments. We identified other eligible patients through direct physician referral. We included people with both controlled and uncontrolled blood pressure on the grounds that we might be able to learn about a wider range of problems and ways to address them than if we only included one group or the other. After clinicians granted us permission to recruit their patients for focus groups, a bilingual recruiter telephoned the patients. In total, 88 people across the four hospitals agreed to participate. We reviewed the response rate for the four focus groups where response data were available. In these groups, 102 were reached by phone, 58 agreed to participate, and 44 either refused, stated they did not have hypertension, were seriously ill or hospitalized, or could not come at a time convenient for other focus group members. Of those who agreed, 46 attended the four focus groups. The Institutional Review Board at each hospital approved the project. Each participant gave written informed consent, and received \$50 for attending a 1.5-hour focus group session. Groups were held between May 2001 and April 2002 in private meeting rooms at the hospitals where patients received care.

One investigator trained in qualitative research methods developed a structured interview guide in consultation with national hypertension experts. We pilot tested the guide with three hypertensive patients, and revised it accordingly. The guide was designed to explore patients' knowledge and attitudes about blood pressure, attitudes toward clinicians and health care providers, behaviors concerning and barriers to controlling blood pressure, and access to care. Two trained moderators, one of whom is Latina and the other of whom is white, conducted one English-language focus group for African American patients and one Spanish-language group for Latinos at each of the four hospitals. We held a third group in English for Latino patients at the large academic medical center. At the end of each group, we asked the participants to complete a brief survey to gather sociodemographic information.

We audiotaped and transcribed each English-language group verbatim, translated the Spanish audiotapes into English, and changed participants' names for confidentiality on all transcripts. Two investigators independently read an initial set of two transcripts, and noted distinct comments to develop a coding scheme to assess relationships among food, nutrition,

and hypertension. Investigators coded two additional focus group transcripts to validate and further refine the codes, and to compare the reliability of the codes they independently assigned. Finally, two investigators coded all the transcripts using a final scheme with 46 codes, including items such as adherence, barriers, cause and treatment of hypertension, communication, cost, diet, and racism. Comments could be assigned to more than one code, and were tallied to assess the frequency of dominant codes. Once all transcripts were coded, investigators studied the transcripts and codes to develop a list of dominant themes that emerged from the analysis, as well as important outlying themes. The investigators merged the codes into these overriding themes, which are described in the Results section.

Results

The nine focus groups (four African-American groups and five Latino groups) contained a total of 88 participants, with an average of 10 per group (range 4–16); 77% of the participants were women, 53% were African American, 47% were Latino, and 34% were aged 65 or greater (Table 1). Each person participated in only one group. Eighty-two participants (93%) lived in East or Central Harlem. Compared with the adult population in East and Central Harlem, a similar percentage of our participants were African American; more were Hispanic (we excluded non-Hispanic whites), elderly, and poor; and a similar percentage were uninsured, had not graduated from high school, and were born outside the United States. The 86 people (98%) who completed the survey reported that they had had hypertension for an average of 13 years (range 2 months–42 years). Fifty-five percent reported having Medicaid coverage, 30% Medicare, and 5% no health insurance; 75% reported annual household incomes less than \$15,000. Based on either clinician determination or recent blood pressures recorded in patients' charts, we had data on the blood pressure of 64 of the 88 patients who participated (73%). Of these patients, 23 (36%) had uncontrolled hypertension.²⁵

Participants described how they viewed the relationship between food/nutrition and the etiology of hypertension, the control of hypertension, and the benefits of and problems in communicating with their providers about healthy eating (Table 2).

Perceived Etiology of Hypertension

People in all but one focus group stated that food or food additives cause hypertension. Commonly cited nutritional causes included salt (6/9 groups, and 4/4 African-American groups); pork (4/9); and preservatives, additives, or chemicals (3/9). A minority of participants also mentioned red meat, seasonings, fat, alcohol, sugar, and caffeine. In four groups, patients thought overeating in general causes hypertension. In each of the Latino focus groups, some members also stated they saw overeating as a part of their Latino culture. One man stated, "Yes, but remember that Spanish people, we eat more and gain more weight than the Americans." While some Latino participants stated they did appreciate a connection between their diets and their health, one Latino man explained, " ... we are accustomed to eating to eat, not eating to live."

Many participants did not agree there was a causal relationship between food and hypertension. Participants in three of the nine groups stated that food was not related to

hypertension. Several participants, however, did connect food to other illnesses. One African American woman said, " ... my blood pressure is what it is, and my diabetes is because I eat." Some groups did discuss the possibility that excesses in diet cause hypertension, but participants in two groups noted that they did not have hypertension when they ate traditional African-American or Latino diets laden in salt, but once they began eating what some described as Caucasian diets, they developed hypertension. One African-American man expressed his doubt that salt raised blood pressure. "I was thinking so much about how you salted your meat and stuff back then. I don't think that [salt] plays no part in your blood pressure. Matter of fact, that [salt] might have been helping you, because you didn't have it [high blood pressure] back then." Another African American man wondered why hospitals continue to serve pork to patients if it causes hypertension. He asked:

Well ... they used to tell you that pork caused it [high blood pressure], but I work right here in this [hospital] kitchen, and they serve pork to people with heart trouble and high blood pressure. It's considered the other white meat now. It's not supposed to be dangerous to you and stuff. So, I really don't know.

In contrast, other group members confidently attributed the cause of their hypertension to their typical diet. One African American woman associated race and particular foods as she described her diet:

No, I agree that the food has a lot to do with it because being brought up as a child not eating lettuce and tomatoes which I do—I hate to do this, I call white people food, lettuce and tomatoes and cucumbers. I was brought up on pork and greens and cornbread and in the mornings we had biscuits and syrup and ham and eggs. So this is part of my culture ... you know, if you came from the South ... if you came from the West Indies, we all have an inherited way of cooking. It's, you know, that deal with pork and fried foods, very low vegetable. I think the only time we had a fruit was usually Christmas, we would have it in the stockings. Even today I don't care that much for fruit and because it was something we didn't have ...

Perceived Control of Hypertension

Every focus group discussed dietary modification as a means of controlling hypertension. All groups spoke extensively of avoiding salt in their diets. Some participants viewed salt as a substance to regulate according to level of activity or time of day. One 77-year-old Hispanic man stated,

... But I take a little salt in the afternoon, by dinner—not during the day but in the afternoon, I take—I use a little salt. Maybe I should stop altogether, but I said at my age, I don't want to eat something that doesn't taste like anything.

Participants also frequently reported avoiding fatty foods (6/9 groups), pork (6/9), Chinese food (3/9), and alcohol (3/9). A 69-year-old Hispanic woman explained how she eliminates these foods from her diet, "I haven't cut salt out completely. I cook with salt, but ... if you are a salt eater, you will have to add salt I don't cook with pork any more; I have cut that out." Another woman added, "We Latina, we love pork, but I don't use it unless my relatives is coming...."

A few other focus group participants avoided pasta, sweets, red meats, fast food, condiments, preservatives, canned food, and coffee. Some chose to exercise to compensate after eating foods that they considered unhealthy, rather than to avoid them completely. Members of three of the nine groups also avoided caffeine, grapefruit juice, and alcohol because of drug interactions. Other participants in three of the nine groups reduced the amount of food they ate to lose weight and treat hypertension. A Hispanic woman even claimed that her blood pressure dictated the food she ate. "I control myself and in days that I have it very high, I change my diet, I eat little and stuff, because I feel very uncomfortable."

Although most group members treated their disease by avoiding particular foods and eating less, some participants (3/9 groups) felt that dietary modifications were unimportant in treating hypertension. In these groups, participants felt that dieting would not obviate the need for medications, and therefore it was not worth sacrificing quality of life. One African American man explained,

I saw that when I lost weight, my blood pressure didn't go down, so I said I'm not sacrificing my life, all that time I was dieting. I'm still dieting, but not like I was in the beginning to avoid taking pills. But now that I take pills, I said I'm going to eat more, like the lady said, because either way I have to take these pills ...

All groups also discussed increasing their intake of particular foods or drinks to treat hypertension. Participants spoke especially of eating more garlic (7/9 groups) and more fruits and vegetables (5/9) and drinking more water (4/9). A Hispanic man explained,

I took many things to not have to start taking pills. I took garlic cloves that [in] Santo Domingo they recommended. I drank tea with parsley, I drank eggplant verengena water, I drank everything that people recommended. I tried, but every way it stayed high, and I had to start taking pills.

A few mentioned eating jalapeño peppers, fish, turkey, and natural foods as other forms of treatment. Participants believed that these foods either helped reduce blood pressure directly, or helped to reduce side effects of medications. An example was eating bananas to replenish potassium that was lost from taking certain blood pressure medications. Other groups (2/9) reasoned that the act of eating caused relaxation, which helped to control hypertension.

Although participants in all groups expressed the belief that controlling diet helps maintain good blood pressure, many expressed concerns about and difficulties in changing their lifestyles, including foregoing familiar ethnic foods. A majority of the groups (5/9) discussed the sacrifice in quality of life that they made to change their diets. Many group members spoke of how difficult their diets made it to eat with and cook for friends and family. Several pointed out that it is difficult to cook a special meal for oneself when cooking for a large family. A Hispanic woman said,

I made chicken in the oven ... I had to prepare theirs different than mine ... but let's say that I, eh ... like my son-in-law, my son-in-law likes red meat ... I can't eat red meat, so when he come over, I had to cook two different kind chicken for me and beef stew for them ... Do you understand? And it was a mix up there because he likes everything salty everything ... I can't eat like that ...

It not only is logistically difficult to cook a separate healthy meal, but also can be expensive to cook foods different from those one cooks for one's family. Another Hispanic woman pointed out,

Excuse me, maybe it would be difficult because if a person doesn't have money, for them to keep a diet, for them to buy differently for the rest of the family, maybe it would be difficult ...

Other participants, who depended on family or outsiders (such as senior center staff) to provide them with food, felt they had to eat what was given to them. One African American woman explained,

So yes, I have to wait for my daughter to send me the food, because my daughter has three children, ... and I don't demand, ... and the boy [her son] too, he has his wife and his son and I have to eat what they give me. I can't say no.

Some participants were in a bind; it was not reasonable to refuse foods one's own family members cook, but they were equally uncomfortable eating those foods. One woman said,

... as a Latina, it's been very hard to stop eating, like I mentioned before, stop eating a lot of stuff. You grew up eating all kind of stuff and then if you visit your family, you're scared to eat. I be scared to eat thinking that they put all kind of salt and all kind of stuff ...

In the end, participants described having to decide whether it was worth making sacrifices to follow a diet that they believed might, but might not control hypertension. Some participants thought that it was. One Hispanic woman said,

I feel that the diet helps [more] than the medicine. I take three pills for the heart and high blood pressure. But I noticed that the diet helps more, that you have control over that diet. Because, you can take the pills, but if you do not control your diet, the pressure does not work.

Others did not. An African American man said, "We have to have the soul food."

We also explored whether those with controlled hypertension (either by chart review or by their clinicians' indication) differed from those with uncontrolled hypertension in terms of beliefs that diet in part causes and/or helps to control hypertension. Of the 64 participants for whom we had information about blood pressure control, we eliminated 9 from this analysis, because they were included in the two focus groups where it was not possible to determine which participants were responsible for specific statements. Of the remaining 56 participants, 38 were controlled and 18 uncontrolled. The majority of controlled patients (n = 28, 74%) stated that their hypertension was either caused by poor diet, or that it could be controlled by diet, versus a minority (n = 4, 22%) of those with uncontrolled hypertension. In both groups, a minority of participants stated that diet was not related to blood pressure (n = 1, 3% [controlled] versus n = 4 [22%] uncontrolled), and many patients chose not to comment on diet in their discussions (n = 9, 23% [controlled] versus n = 10 [56%] uncontrolled).

Communication With Providers

Most group members stated that they had discussed the importance of diet with a health professional. Several, however, found the information that they received too indirect or hard to follow. One Hispanic woman who had grown used to the health care system of her native country felt that her U.S. doctors passed the responsibility of discussing diet to nutritionists.

Because here doctors don't tell you what diet you have to keep when they send you to a dietician. But for example, [those of us] who come from tropical countries, [know that] when one goes to a doctor, one is not sent to a dietician ... They [the doctors] tell you, you can't eat meat, and you can't eat, you can't eat salt, you, you can't eat fat, ...

Another Hispanic man felt that he could not keep the diet his doctor recommended, and had to negotiate between following medical advice and feeling full.

Anyway, I don't keep a diet ... I eat my food because I told my doctor I can't be without my rice, and he said you can eat rice but a little bit. So I eat a little bit and that way I feel full, because if I don't eat some rice, my stomach feels empty. That's all I have to say about my blood pressure.

In fact, some participants stated that doctors were either not trained to give advice on food, or that doctors chose an easier route by prescribing pills rather than counseling their patients on diet. One African American woman said,

They could tell you, "Well, you eat so and so and so and so and so and so and so out and stuff." They could help you get this a little more under control ... But they look at you. "You got high blood pressure. Take this here once a day or twice a day." You know?

Discussion

These focus groups illustrate how primarily low-income African American and Latino adults in East and Central Harlem view the connection between diet and high blood pressure. Nearly all focus groups had members who expressed the belief that certain foods, particularly salt, pork, and food additives, cause hypertension. Some participants thought that overeating and neglecting to eat healthy foods were connected to cultural factors, including the comfort and joy of eating traditional foods despite nutritional pitfalls. Some Latino participants felt that Latinos eat more, gain more weight, and traditionally eat for pleasure, but did not recognize a link between diet and health. Personal experiences of developing hypertension well after improving their diets weakened some participants' perceptions of the link between food and hypertension. Despite the emphasis on controlling hypertension through dietary changes, especially limiting salt, fat, and pork and eating more garlic, fruits, and vegetables, not everyone considered dietary changes to be an effective strategy. Although many participants had tried to change their diets, they often did so unevenly, finding that doing so meant sacrificing taste and causing isolation by eating meals different from those of their families and friends. They reported that when health professionals raised the issue of diet, the discussions varied in depth, clarity, and relevance to individuals' experiences.

This study had certain limitations. It focused on people diagnosed and treated for hypertension in two inner-city neighborhoods. We did not recruit persons from the community because we would not have been able to verify whether they had hypertension and, if so, whether it was controlled. However, our results may have differed if we had included people with hypertension who were not receiving medical care for it. Our sample size is too small to conclude that persons with controlled hypertension differ in their knowledge and attitudes from those with uncontrolled hypertension; larger studies would have to confirm this preliminary finding. In the spirit of qualitative research, the results are meant to generate hypotheses and offer new ideas rather than to provide information that can

be generalized. In addition, these data represent participants' self-reports of their behaviors, but do not capture their actual dietary patterns. Other studies have found that African Americans with and without hypertension recognize a link between diet and high blood pressure. Hypertensive African Americans in focus groups divided into those who reported adherence and those who reported nonadherence to their medications mentioned that food items exacerbate high blood pressure, including seasonings, pork, and fatty food. Those in the nonadherent focus groups more commonly mentioned herbs, garlic, and vinegar as methods of controlling blood pressure.²⁶ Similarly, in a study in which fewer than half of the participants had hypertension, many believed that

in a study in which fewer than half of the participants had hypertension, many believed that salt, fat, and pork contributed to hypertension, and that garlic can treat hypertension.²⁷ African Americans have described low awareness of serving sizes and nutritional recommendations.²⁸ Others have stated that barriers to changing diet include food availability, lack of knowledge of how to cook healthy foods, lack of convenience, and lack of willpower.¹⁸ Some of these barriers may be especially strong among persons with hypertension because they are asked to make lifestyle changes, such as dieting and taking multiple, expensive medications, for a condition that is largely asymptomatic.

Our focus group participants manifested a high degree of awareness that diet may play an important role in hypertension management. The focus group results indicate problems that an intervention might address, such as misconceptions about the effects of certain foods on hypertension and the difficulty of making dietary changes in the context of one's family and culture. For example, clinicians who ask patients of different cultures to make dietary changes should be aware that these changes are complex and demanding. A patient may best be reached with a clear message of why these changes are important, a messenger (e.g., a clinician) whom he/she trusts and feels understands his/her lifestyle, and social support to carry out and maintain changes.²⁹ Some African American and Latino participants in our focus groups told us that clinician-recommended dietary modifications for hypertensive patients are impractical for their lifestyles and cultures, or are presented in a way that is difficult to understand.

Programs designed to improve health in minority communities often intend to take into consideration cultural differences that create conflicts and misunderstandings and result in substandard health care.³⁰ Unfortunately, well-meaning researchers and advocates may fall short in serving a population they do not understand.³¹ Based on the results of the focus groups, we recommend that clinicians and community leaders design and test approaches for dietary counseling for patients with hypertension that solicit, acknowledge, and directly

address patient-centered barriers to healthy diets. These may include employing community health workers or peer educators from the target community or retraining local clinicians (nutritionists, nurses, or physicians) to deliver healthy eating messages sensitive to the cultural, economic, and social realities of their patients. We applied the insights gained from the focus groups to design an intervention using bilingual nurses and peer educators from the Harlem communities to work with individual patients to better control their hypertension. These nurses and educators will provide practical advice about food procurement and preparation, support for problem solving, and reinforcement of positive changes. Our goal is to promote healthy diets that are consistent with people's cultures so that they willingly adopt and maintain these diets over time.

Although effective treatments are available, disparities in health outcomes related to the sequelae of hypertension exist between white and non-white populations. Minority hypertensive patients continue to suffer higher rates of complications. Perhaps the asymptomatic nature of hypertension makes treatments that require significant lifestyle adaptations, such as changing diet, seem particularly unreasonable to patients. Lifestyle changes may depend on how reasonable and effective patients consider recommendations. Our findings suggest that clinicians should consider the challenges and barriers that some people of color and with limited financial resources face when trying to adhere to a healthy diet and incorporate dietary messages that are culturally sensitive, motivating, and practical. Further research should explore these factors in larger populations, and develop and test interventions to identify effective strategies to improve healthy eating patterns among low-income individuals and minority group members with chronic illnesses.

Low-income, inner-city African American and Latino people with hypertension may benefit from culturally sensitive approaches to dietary change. Our focus group participants were generally aware that diet may play an important role in hypertension management, but had misconceptions about certain foods and faced difficulties in communicating with clinicians and in accommodating dietary change because of family, finances, and culture. Clinicians are reminded that food is not only a vehicle for good nutrition and good health, but also central to family life and culture, and perceived by some to reduce stress and improve wellbeing.

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Notes

- Burt VL, Whelton P, Roccella EJ, et al. Prevalence of hypertension in the U.S. adult population. Results from the Third National Health and Nutrition Examination Survey, 1988–1991. Hypertension. 1995 Mar; 25(3):305–313. [PubMed: 7875754]
- Gillum RF, Mussolino ME, Madans JH. Coronary heart disease risk factors and attributable risks in African-American women and men: NHANES I epidemiologic follow-up study. Am J Public Health. 1998; 88(6):913–917. [PubMed: 9618619]

- 3. U.S. Department of Health and Human Services, National Center for Health Statistics. Health, United States. 2001. Available at www.cdc.gov/nchs/hus.htm
- 4. Hajjar I, Kotchen TA. Trends in prevalence, awareness, treatment, and control of hypertension in the United States, 1988–2000. JAMA. 2003 Jul 9; 290(2):199–206. [PubMed: 12851274]
- 5. U.S. Department of Health and Human Services, National Institutes of Health, National Health, Lung, and Blood Institute. The sixth report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. (DHHS Pub. no [NIH] 98-4080.). Bethesda, MD: U.S Department of Health and Human Services, National Institutes of Health, National Health, Lung, and Blood Institute; 1997.
- Appel LJ, Moore TJ, Obarzanek E, et al. A clinical trial of the effects of dietary patterns on blood pressure. N Engl J Med. 1997 Apr 17; 336(16):1117–1124. [PubMed: 9099655]
- Ebrahim S, Smith GD. Lowering blood pressure: a systematic review of sustained effects of nonpharmacological interventions. J Public Health Med. 1998 Dec; 20(4):441–448. [PubMed: 9923952]
- Mulrow CD, Chiquette, Angel L, et al. Dieting to reduce body weight for controlling hypertension in adults. Cochrane Database Syst Rev. 2000; (2):CD000484. [PubMed: 10796721]
- 9. Whelton PK, Appel LJ, Espeland MA, et al. Sodium reduction and weight loss in the treatment of hypertension in older persons: a randomized controlled trial of nonpharmacologic interventions in the elderly (TONE). JAMA. 1998 Mar 18; 279(11):839–846. [PubMed: 9515998]
- McTigue KM, Garrett JM, Popkin BM. The natural history of obesity in a cohort of young U.S. adults between 1981 and 1998. Ann Intern Med. 2002 Jun 18; 136(12):857–864. [PubMed: 12069559]
- Loria CM, Bush TL, Carroll MD, et al. Macronutrient intakes among Hispanics: a comparison of Mexican Americans, Cuban Americans, and mainland Puerto Ricans. Am J Public Health. 1995 May; 85(5):684–689. [PubMed: 7733429]
- Thomson FE, Sowers MF, Frongillo EA Jr, et al. Sources of fiber and fat in diets of US Women Aged 19–50: implications for nutrition education and policy. Am J Public Health. 1992 May; 82(5):695–702. [PubMed: 1314519]
- Agricultural Research Service Food Surveys Research Group. Food and nutrient intakes by race, 1994–96. Washington, DC: U.S. Department of Agriculture; 1998. (*Note*: Data table on "products" page at http://www.barc.usda.gov/bhnrc/foodsurvey/home.htm)
- Campbell MK, Demark-Wahnefried W, Symons M, et al. Fruit and vegetable consumption and prevention of cancer: the black churches united for better health project. Am J Public Health. 1999 Sep; 89(9):1390–1396. [PubMed: 10474558]
- Bartholomew AM, Young EA, Martin HW, et al. Food frequency intakes and sociodemographic factors of elderly Mexican Americans and non-Hispanic whites. J Am Diet Assoc. 1990 Dec; 90(12):1693–1696. [PubMed: 2131339]
- Wechsler H, Wernick SM. A social marketing campaign to promote low-fat milk consumption in an inner-city Latino community. Public Health Rep. 1992 Mar-Apr;107(2):202–207. [PubMed: 1561304]
- 17. Airhihenbuwa CO, Kumanyika S, Agurs TD, et al. Cultural aspects of African American eating patterns. Ethn Health. 1996 Sep; 1(3):245–260. [PubMed: 9395569]
- Carter-Edwards L, Bynoe MJ, Svetkey LP. Knowledge of diet and blood pressure among African Americans: use of focus groups for questionnaire development. Ethn Dis. 1998; 8(2):184–197. [PubMed: 9681284]
- U.S. Census Bureau. Census of population and housing, demographic profile: technical documentation, 2002. Washington, DC: U.S. Census Bureau; 2000. (Note: Summary file 1, Table p4 generated using American FactFinder; http://factfinder.census.gov/servlet/BasicFactsServlet)
- 20. United Hospital Fund Staff. New York City Community Health Atlas. New York: United Hospital Fund Staff; 2002. www.uhfnyc.org/homepage3219/index.htm
- 21. Thorpe LE, Mostashari F, Berger DK, et al. Diabetes is epidemic. NYC Vital Signs. 2003 Jan.2:1– 4.
- 22. Lincoln, YS.; Guba, EG. Naturalistic inquiry. Beverly Hills, CA: Sage; 1985.

- 23. Eriksson CG. Focus groups and other methods for increased effectiveness of community intervention—a review. Scand J Prim Health Care Suppl. 1988; 1:73–80. [PubMed: 3067291]
- 24. Folch-Lyon E, Trost JF. Conducting focus group sessions. Stud Fam Plann. 1981 Dec; 12(12 Pt 1): 443–449. [PubMed: 7348965]
- 25. Chobanian AV, Bakris GL, Black HR, et al. the National High Blood Pressure Education Program Coordinating Committee. Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. Hypertension. 2003 Dec; 42(6): 1206–1252. Epub 2003 Dec 1. [PubMed: 14656957]
- 26. Lukoschek P. African Americans' beliefs and attitudes regarding hypertension and its treatment: a qualitative study. J Health Care Poor Underserved. 2003 Nov; 14(4):566–587. [PubMed: 14619556]
- Wilson RP, Freeman A, Kazda MJ, et al. Lay beliefs about high blood pressure in a low- to middle-income urban African-American community: an opportunity for improving hypertension control. Am J Med. 2002 Jan; 112(1):26–30. [PubMed: 11812403]
- 28. Resnicow K, Jackson A, Wang T, et al. A motivational interviewing intervention to increase fruit and vegetable intake through black churches: results of the Eat for Life trial. Am J Public Health. 2001 Oct; 91(10):1686–1693. [PubMed: 11574336]
- Williams CA, Beresford SA, James SA, et al. The Edgecombe County high blood pressure control program: III. Social support, social stressors, and treatment dropout. Am J Public Health. 1985 May; 75(5):483–486. [PubMed: 3872605]
- 30. Galanti, G-A. Caring for patients from different cultures: case studies from American hospitals. Philadelphia: University of Pennsylvania Press; 1991.
- 31. Horowitz CR, Davis MH, Palermo AG, et al. Approaches to eliminating sociocultural disparities in health. Health Care Financ Rev. 2000 Summer;21(4):57–74. [PubMed: 11481745]

Table 1

Characteristics of Focus Group Participants

Characteristic	Focus Group $(n = 88)^a$ (%)	East and Central Harlem $(n = 216,519)$ (%)
Adults 65 years of age	34	16
Race/ethnicity		
African American	53	56
Latino	47	35
Female	77	53
Uninsured	5	7
Education < high school	50	46
Born outside the United States	25	20
Low income	75	37
	(Household income under 15,000)	(Households in poverty)

 $^a\mathrm{Based}$ on completed surveys from 86 of the 88 participants.

Table 2

Dominant Themes Regarding Hypertension and Diet

Cause of hypertension

- · Food and food additives that cause hypertension include salt, pork, preservatives, chemicals, as well as overeating in general.
- Relationship may not exist between diet and hypertension.
 - Traditional foods considered unhealthy were eaten more often when participants did not have hypertension.

Control of hypertension

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- Changing diet helps control hypertension.
 - Avoid fat, pork, Chinese food, alcohol, and large quantities of foods.
 - Eat more garlic, fruits, and vegetables, and drink more water.
 - Foods can lower blood pressure through lowering stress, but stress-lowering foods are considered unhealthy by clinicians.
- Changing diet may not be beneficial.
 - Following recommended diet does not obviate the need for medications.
- It is difficult to follow clinician-recommended diets.
 - Information is not always practical and actionable.
 - Clinicians are either not skilled in or do not offer dietary counseling.
 - It is difficult to forego traditional and preferred foods.
 - Healthy foods are expensive.
 - Following recommended diet necessitates preparing or eating foods different from those eaten by other family members.