DR LENETTE M. JONES (Orcid ID : 0000-0003-0994-5687) DR KATHY DENISE WRIGHT (Orcid ID : 0000-0001-7346-1981)

Article type : Special Issue

Title: Challenges to Dietary Hypertension Self-Management as Described by a Sample of African American Older Adults

Running head: Diet and Hypertension Self-Management

Author information:

Lenette M. Jones (corresponding author), PhD, RN, Assistant Professor, University of Michigan, School of Nursing, Department of Health Behavior and Biological Sciences, 400 N. Ingalls, Room 2180, Ann Arbor, Michigan 48109, USA; <u>lenettew@umich.edu</u>

Karen O. Moss, PhD, RN, CNL, Assistant Professor, The Ohio State University College of Nursing Center for Healthy Aging, Self-Management and Complex Care, Columbus, Ohio, USA

Jamie Mitchell, PhD, MSW, Assistant Professor, University of Michigan, School of Social Work, Ann Arbor, Michigan, USA

Carolyn Still, PhD, MSM, APRN, AGPCNP-BC, CCRP, Assistant Professor, Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, Ohio, USA

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the <u>Version of Record</u>. Please cite this article as <u>doi:</u> 10.1111/WVN.12555

Jaclynn Hawkins, PhD, MSW, Assistant Professor, University of Michigan, School of Social Work, Ann Arbor, Michigan, USA

Emily Tang, graduate, University of Michigan, School of Public Health, Ann Arbor, Michigan, USA

Kathy D. Wright, PhD, RN, PMHCNS-BC, Assistant Professor, The Ohio State University College of Nursing Center for Healthy Aging, Self-Management and Complex Care, Columbus, Ohio, USA

Accepted19 November 2021 Copyright ©2022, Sigma Theta Tau International

Abstract

Background: Hypertension rates are disproportionately higher among Black or African Americans (Black/African American) compared to other racial and ethnic groups in the United States. However, research on self-management strategies to control hypertension through healthy eating such as the Dietary Approaches to Stop Hypertension (DASH) and ketogenic diets has underexplored the use of dietary strategies among older Black/African American adults. In reporting contemporary challenges with implementing dietary strategies targeting blood pressure control among Black/African American older adults living with hypertension, this study addresses a clear need.

Aims: Because prior research only partially addressed the challenges older Black/African Americans face in implementing and maintaining dietary strategies to control hypertension, the current study aims to address this gap by reporting contemporary challenges, as reported by a sample of Black/African American older adults living with hypertension.

Methods: Nineteen Black/African American older adults living with hypertension participated in a focus group. An interview guide with open-ended questions on dietary approaches to self-management hypertension was used to guide data collection. Responses were audio-recorded,

transcribed verbatim, and interpreted using qualitative thematic analysis.

Results: Study participants were 71.6 years (SD = 8.3), 87.1% were women, and all selfidentified as Black/African American. Overall, participants shared that they were interested in improving their hypertension self-management skills. They expressed uncertainty about dietary strategies related in part to a lack of knowledge about incorporating or excluding certain foods and adhering to complex dietary recommendations. Participants also related financial concerns about accessing the recommended foods to control hypertension and expressed confusion about how to manage hypertension alongside other co-morbidities.

Linking Evidence to Action: This study highlights several barriers that Black/African American older adults face (lack of dietary knowledge, lack of financial resources, and unique barriers to managing multiple comorbid health conditions), which often pose simultaneous and intersecting barriers to managing hypertension using existing evidence-based dietary strategies.

Keywords: health disparities, chronic illness/chronic disease, gerontology, cardiovascular, qualitative methodology/qualitative research, nutrition, health of specific populations, health promotion/health education

Introduction

In 2018, approximately 48% of adults in the United States were diagnosed with hypertension or had blood pressure levels above 130/80 mmHg (Whelton et al., 2017). In terms of age, older adults (aged ≤ 60 years) are at the highest risk for hypertension, and many individuals in this age range will endure the burden of its associated cardiovascular complications (Oliveros et al., 2020). In terms of race, Black or African Americans (Black/African Americans) have among the highest rates of hypertension among racial and ethnic groups in the U.S. (Virani et al., 2020). This high prevalence is linked to a high risk of comorbidities (Still, Ferdinand, Ogedegbe, & Wright, 2015).

Self-management behaviors, including adherence to recommended medications, routine self-monitoring of blood pressure, and lifestyle changes such as exercise, tobacco cessation, and eating a healthy diet can control hypertension (Chan, Stamler, & Elliott, 2015; Chobanian et al., 2003; James et al., 2014). However, a range of sociobehavioral and structural factors pose challenges to compliance with these management strategies (James, 2004; Winham, Knoblauch, Heer, Thompson, & Der Ananian, 2020). These factors may contribute to health disparities that

This article is protected by copyright. All rights reserved

Commented [HAD1]: Au: The keywords added were pulled from the initial manuscript submission. Please confirm that they are correct.

negatively impact Black/African Americans (Flynn et al., 2013; Jones, Rosemberg, & Wright, 2017; Spikes et al., 2019).

Dietary Strategies as a Method of Hypertension Self-Management

Dietary patterns are strongly associated with the onset and severity of hypertension (James et al., 2014). Dietary protocols with a proven salutary impact on blood pressure include the Dietary Approaches to Stop Hypertension (DASH diet), the ketogenic (keto) diet, and the Mediterranean diet (Appel et al., 2003; Basile & Bloch, 2015; Batch, Lamsal, Adkins, Sultan, & Ramirez, 2020; Castellana et al., 2020; Epstein et al., 2012; Hite, Berkowitz, & Berkowitz, 2011; Nunez-Cordoba, Valencia-Serrano, Toledo, Alonso, & Martínez-González, 2009; Schwingshackl, Bogensberger, & Hoffmann, 2018; see Table 1). A person's ability to adapt and maintain any of these recommended dietary changes depends on factors such as, but not limited to, their ability to understand and adopt the diet, their comorbidities, and their ability to access certain necessary food items.

Challenges to Implementing Dietary Interventions

Empirical research reveals several challenges to implementing dietary changes, some of which are specific to Black/African American older adults living with hypertension. Barriers that may influence patient acceptance and retention of dietary interventions include difficulty understanding diet recommendations, multiple sources of dietary information, and recommendations for managing co-morbid conditions and geographic barriers, among others (Espejo et al., 2019; Flynn et al., 2013; Odedosu, Schoenthaler, Vieira, Agyemang, & Ogedegbe, 2012). Resources such as nutritional counseling help patients better understand dietary approaches, identify and access the tools needed to follow a specific approach, and find the motivation to make sustainable dietary changes to support hypertension management. But such resources are often inaccessible to individuals of lower socioeconomic status, those with less comprehensive health insurance, and Black/African American communities (Spencer, Jablonski, & Loeb, 2012).

Difficulty understanding dietary recommendations. The quantity, variance, and frequency of dietary recommendations touted by a variety of sources may also hamper efforts to enact hypertension dietary interventions. For example, in a study conducted in Australia with people with cardiovascular disease, participants reported feeling overloaded by information, which caused them to avoid new information (Meyer, Coveney, & Ward, 2014). Large volumes

of information and lack of consistency across sources of information made it difficult for participants to identify relevant details to make informed food-related choices (Meyer et al., 2014). Further, individuals living with multiple chronic illnesses, including hypertension, may find it discouraging or difficult to select healthy foods that are best suited to their complex medical needs. Despite these challenges, studies have identified a strong interest in learning about the benefits of preparing and eating healthy foods as well as confidence in their ability to maintain healthy behaviors they had already mastered among older Black/African American women (Lucan, Barg, Karasz, Palmer, & Long, 2012; Nassim, Redmond, Ofei-Dodoo, Benton, & Lu, 2020).

Difficulty managing multiple comorbid conditions. Patients living with hypertension may be managing multiple co-morbid conditions, such as diabetes or cardiovascular disease (Basile & Bloch, 2015). Studies link diabetes among hypertensive individuals to a doubling of the risk of an adverse cardiovascular event (Lago, Singh, & Nesto, 2007; Petrie, Guzik, & Touyz, 2018). Prior studies indicate that the DASH diet is not only associated with improvements in hypertension, but also improvements in cardiovascular disease, diabetes, and obesity (Hinderliter, Babyak, Sherwood, & Blumenthal, 2011; Rifai, Pisano, Hayden, Sulo, & Silver, 2015; Shirani, Salehi-Abargouei, & Azadbakht, 2013). There are currently no established dietary guidelines for individuals living with multiple co-morbid conditions, such as those with metabolic syndrome (hypertension, diabetes, and obesity). There is evidence that these individuals tend to have difficulty with selecting foods that comply with multiple diseasespecific restrictions (Bratzke et al., 2015; Sevick et al., 2007), particularly if dietary recommendations for different conditions are perceived as incompatible or contradictory (Fix et al., 2014).

Difficulty accessing food and related resources. Geography plays a substantial role in individuals' access to food, health information, and other resources necessary to manage hypertension using dietary interventions. Many regions in the U.S. are designated as food deserts, i.e., areas with limited access to nutritious, affordable foods (Dubowitz et al., 2015; Walker, Keane, & Burke, 2010). Black/African Americans living in both rural and urban communities have faced barriers to acquiring healthy food due to factors like fewer socioeconomic resources and less reliable public transportation. Lack of access to full-service grocery stores is also associated with lower quality diet and obesity (Dubowitz et al., 2015).

Barriers to accessible and affordable healthy foods impede management of hypertension with dietary interventions (Spencer et al., 2012; Young, Batch, & Svetkey, 2008).

Taken together, prior research partially addresses the challenges older Black/African Americans face in implementing and maintaining dietary strategies to control hypertension. The current study aims to address this gap by reporting contemporary challenges, as reported by a sample of Black/African American older adults living with hypertension.

Methods

The current study was part of a parent study (N = 31) to co-create an intervention to improve self-care behaviors for Black/African American older adults living with hypertension (Wright et al., 2018). The parent study was approved by the institutional review board. The first step of the parent study was to conduct four focus groups to co-create an intervention to help patients manage their hypertension (Moss, Still, Jones, Blackshire, & Wright, 2018; Wright et al., 2018). Although larger focus groups are unconventional, to accommodate participants already invested in the research, we included 13–19 participants per focus group. This allowed us to accommodate all the participants from the parent study who were interested in participating. Due to the larger size, each focus group was led by one primary facilitator and three cofacilitators (Wright et al., 2021). Study design and rationale are fully reported elsewhere (Wright et al., 2018).

In the parent study, participants discussed self-management strategies to improve health behaviors such as sleep, exercise, and nutrition, with a goal of co-creating a self-management intervention (Moss et al., 2019; Still et al., 2018; Wright et al., 2018; Wright et al., 2021). During the development of the intervention, participants could identify topics that they were interested in learning more about. One theme that emerged was how to better manage one's diet. The participants were interested in discussing multiple approaches. Since they mentioned lowcarbohydrate diets, an amendment was submitted to the IRB to include probing questions on this subject. With approval, this topic was included in the focus groups.

Participants

Participants were recruited from a senior housing community in an urban area of a Midwestern state and by using an established participant registry of prior research participants maintained by the principal investigator (PI). Participants were included if they (a) were community-dwelling, (b) identified as Black/African American, (c) were 60 years or older, (d)

had been diagnosed with hypertension, and (e) could provide informed consent in English. A signed informed consent was obtained from all participants included in the study. Participants were excluded if they were non-English speaking or had a diagnosis of severe cognitive impairment (Moss et al., 2019; Wright et al., 2018). Each participant was provided a \$50 gift card honorarium as well as an equivalent bus pass, taxicab, or gas card to defray travel costs (Wright et al., 2018).

Data Collection

An interview guide with four open-ended questions was used to guide data collection: (1) Tell me what you know about diets used to manage blood pressure. What can you eat? What do you have to eliminate from your diet? (2) Have you tried following the DASH diet? A ketogenic or low-carb diet? The Mediterranean diet? Overall, do you think it would take a little, moderate, or significant effort to follow these diets? (3) What do you think would be helpful (facilitate) you in following one of these diets? and (4) What do you think might make it difficult (barriers) to follow one of these diets?

The focus group was held in a private conference room at a community center and lasted approximately 120 minutes. Due to the number of participants present for the focus group (n = 19), four research team members were present to facilitate optimal processes and procedures for conducting the session. The session was audio recorded. Research team members collected fieldnotes during the focus group sessions to ensure various perspectives, such as nonverbal cues observed during the session. All study data were stored on an encrypted server.

Data Analysis

Audio recordings were transcribed verbatim by an IRB-approved vendor, then checked for accuracy by the PI. Final transcripts were deidentified. Qualitative descriptive content analysis as described by Sandelowski (2000) was used. Initial themes, categories, and codes were identified independently by two research assistants (Auerbach & Silverstein, 2003). Their work was reviewed by two researchers who further refined the themes, categories, and codes (Saldaña, 2015) to ensure deep exploration and description of barriers to dietary management of hypertension among the sample was completed. All members of the research team met to resolve outstanding coding conflicts, finalize the broader themes involved, and determine how codes could be systematically grouped together to address overlapping components. The initial themes and all data therein were subsequently reviewed by the expert qualitative researcher on the

This article is protected by copyright. All rights reserved

Commented [HAD2]: Au: The Sandelowski citation is not listed in the reference section. Please add using APA 6 formatting.

research team, who then further refined the themes. All perspectives of the research team members were captured through this iterative process.

Results

Of participants who decided to join the dietary strategies focus group (n = 19), 87.1% were women and the mean age was 71.6 (SD = 8.3, range = 62-91 years). In 2017, the median household income in this geographic area was \$27,854 (United States Census Bureau, 2019). All participants self-identified as Black/African American; the majority (74.2%) did not identify as Hispanic or Latino (Moss et al., 2019).

Theme 1 - General Concerns About Hypertension Self-Management

Participants expressed concerns about self-managing their blood pressure. One participant shared, "My blood pressure stays up, so I know I need to [make a] change." Several participants specifically mentioned having used dietary methods to lose weight and reduce their blood pressure. One participant said that she was following a keto diet for weight loss and to lower blood pressure and that "I [have] high cholesterol, so I must keep away from the cheese and the bacon and the egg yolk."

Other participants expressed concerns about external risk factors impacting their blood pressure levels. For example, one participant stated:

[In the past] I could maintain [blood pressure control] on what medications I was taking, but then, I don't know why. I had chemotherapy . . . for breast cancer, and I don't know if the chemo had that effect on my body that now it's just that everything I seem like I try to do, my blood pressure still stays elevated.

This quote suggests the complications of managing multiple conditions. As she recalled, she had been able to manage hypertension more easily before her cancer. In fact, she also had an overactive thyroid. As she went on to say:

I go on these diets, well, the lifestyle changes, and then I lose weight. I can't afford to. I don't need to lose any weight. I just want to at least gain 10 to 12 pounds and keep my blood pressure [maintained] . . . I've been having problems with my blood pressure elevating, and it wasn't like that, but then I have an overactive thyroid, and I found an overactive thyroid contributes to hypertension.

This participant revealed the complications of using diet to manage hypertension in older adults with multiple conditions. Her effort to follow the recommended diet plans caused her to lose weight, and she was concerned that this was not healthy for her.

Theme 2 - Knowledge of Dietary Strategies

Lack of knowledge of dietary strategies. Some participants expressed a lack of knowledge regarding diet programs. For instance, regarding the keto diet, one participant stated that she was "not particularly aware of [what] 'low carb' [means]." This participant was unfamiliar with the keto diet and lacked understanding of its role in blood pressure self-management. Another participant asked the facilitator, "Could you possibly be doing it and not know that you're doing it?" Another explained, "Well, when I hear 'carb,' I immediately think of starches . . . things that we all like—potatoes, you know pasta and fries, rice. So, that's my connection."

Another participant said she had been confused by dietary recommendations she received from their primary care provider. She stated:

I saw somewhere that eggs are not what they make them out to be, like they're bad for us—like eating eggs. In fact, my doctor I went to the other day, he told me [that] he wants me to eat two eggs a day, four times a week, but you know I looked at the DASH diet and that's the one thing. I [have] seen that before, but I looked at it because, you know, low sodium, but I need something that'll help me with my hypertension but will not cause me to lose weight.

Here, the participant described experiencing confusion after receiving dietary recommendations from her doctor that seemed to contradict what she knew about the DASH diet, which she was attempting to follow. Also, like the previously mentioned participant, she expressed concern about losing body weight.

Successful implementation of dietary strategies. Some participants had successfully implemented and followed a diet plan to manage their hypertension. For those that were successful in adopting low-carb diets, strategies mentioned included increasing vegetable consumption or replacing starchy food items, such as potatoes, with options such as cauliflower. For example, one participant said, "I've had potato salad made out of cauliflower, which was very, very good." Another successful strategy mentioned by a participant adopting the DASH diet was cutting out salty and processed foods. For example, one participant stated:

I would prefer to [get back to my blood pressure baseline] naturally, and you know changing my lifestyle, my eating habits, and I don't use salt, add any additional salt, eat processed foods and things like that, 'cause I know that it contributes to your hypertension.

When the focus group facilitator asked participants about trying the DASH diet to reduce blood pressure and promote weight loss, one participant stated, "I eat more vegetables now more than before."

Negative reactions to dietary strategies. Other participants were critical of dietary strategies for health. One participant said, "I'm not a dieting person. I will not stay on a diet to save my life." Another participant expressed a preference for consuming foods that she enjoyed eating, rather than consuming foods that were required as part of a diet plan. She stated:

I'm scared to try [a special diet] 'cause I don't believe in healthy [or unhealthy] food . . . That's just me, y'all. When I first took [my new] job, I had to tell all of them that I don't do healthy, so I don't know what healthy is. All I know is what I like. That's what I eat. Another participant focused on particular substitutions and her sense of losing something with a low-carb diet. When asked about the keto diet, she stated:

When I went to the hospital and [healthcare providers] had me on that low-carb diet and you had to count your carbs . . . I like the whole wheat noodles. They [were] OK. I like the rice noodles, but they ain't got no rice potato.

Several of the participants laughed, and she went on to describe how she did not want to exclude potatoes and rice from her diet. When asked about replacing carbohydrates with foods that have similar textures and tastes, this participant was enthusiastic. She said delightedly, "Oh yeah, I'll try that. I've tried the mashed cauliflower." She added, "It's OK, if it's prepared right."

Theme 3 – Dietary Questions and Concerns

Some participants expressed uncertainty about food items regarding palatability and ingredients. For example, during a discussion about a food item that one participant felt was "healthy," another participant asked, "How did it taste, though?" Some participants asked questions about specific food items, for example asking what a healthy consumption of eggs is, or the nutritional value of frozen foods as compared to fresh ingredients. For example, one participant asked, "How many eggs can you eat a week and it's not bad for you?" Another participant asked, "What about frozen food?"

Some participants expressed concerns about consuming "good" or healthy food items. Participants wanted to know if certain foods were part of a healthy diet. For example, they asked questions such as, "Hummus would be good?" "How about the low-fat milk?" and "[T]he bananas is alright?" Another participant asked, "What is your comment or thought on turmeric . . . 'cause I take a [supplements] and I use turmeric in cooking. I don't use salt."

Some participants had questions about "bad" or unhealthy food items. One concern articulated by more than one participant centered on the formaldehyde content in French fries. Other participants had concerns about cholesterol content in certain foods. Others expressed concerns about the carbohydrate content in rice and noodles. For example, one participant stated, "I'm not a big bread eater, so that's one carb—they can have that, but now my potato and my rice and my noodles [that's different]." These concerns about specific foods and larger food groups indicated a knowledge gap.

Theme 4 – Economic Concerns About Diet

Cost of food items. Most of the economic concerns statements were related to the unaffordability of healthy foods. For example, the facilitator talked about replacing noodles with squash and cashews, and one participant objected, "That's too expensive." Another participant asked, "So how does one go looking for all of this?" She was not sure how to find some of the ingredients recommended. A third stated, "And we're [going to] talk about price, too." Another mentioned concerns about accessing healthy foods because she relies on a food bank for groceries. When discussing the topic of nut milks, the participant expressed concern about the availability of these food items at food banks, her current source for groceries. Another participant mentioned cost concerns about preparing a specific meal. She stated:

Lasagna is an expensive meal. I don't care if you do it healthy, unhealthy, or however you do it. It's an expensive meal. Whenever I wanna cook lasagna [I plan ahead]. I know I'm a want some lasagna somewhere down the line. I don't buy everything at one time.

This strategy suggests another complication in achieving a salutary diet: Cooking with more expensive ingredients might involve planning ahead and strategizing to make a food budget stretch.

Discussion

The purpose of this study was to report contemporary challenges associated with implementing and maintaining dietary strategies to control blood pressure as described by

Black/African American older adults living with hypertension. Participants expressed concerns about understanding dietary strategies, including uncertainty about specific food items and food groups, as well as the economic feasibility of implementing dietary changes. Results suggest that barriers faced by older Black/African Americans living with hypertension include managing comorbidities, sorting through different sources of dietary information, and affording the high cost of healthy food items.

Some study participants felt that they needed to change their current dietary patterns. Some also experienced difficulties in finding a diet that would help them to manage multiple conditions and discussed how consuming more vegetables is one potential strategy to do so. In contrast, some participants acknowledged that aspects of the keto diet that could have a positive impact on weight loss and hypertension were incompatible with efforts to control other chronic conditions, such as high cholesterol. This was indicative of the confusion many older Black/African Americans may face when attempting to select a diet that help them achieve their health-related goals (Flynn et al., 2013). Participants with multiple comorbid conditions such as hypertension, obesity, and cancer struggled to determine which dietary strategy was most appropriate for their health goals. Given that hypertension frequently co-occurs with other chronic conditions (Basile & Bloch, 2015; Lago et al., 2007; Petrie et al., 2018), healthcare providers should consider this issue when making dietary recommendations. Additional studies are needed to explore dietary strategies for Black/African American patients living with multiple comorbid conditions.

Beyond comorbidities, the way in which healthcare providers convey dietary information to patients living with hypertension may impact their patients' understanding of and adherence to a prescribed diet (Fix et al., 2014; Jones et al., 2017), as suggested by the participant who was recommended to eat eggs frequently after years of avoiding them. Healthcare providers should also pay attention to multiple goals that patients might have, as the example of participants who wanted to avoid losing body weight suggests. Previous research has shown that patients often feel that dietary advice from primary care providers can be indirect or confusing. Many individuals living with hypertension depend on their healthcare providers for dietary information. Effective and consistent patient-provider communication is crucial (Odedosu et al., 2012). Dietary advice is more effectively communicated and retained during follow-up meetings where patients have the opportunity to ask questions and discuss progress (Spencer et al., 2012).

Further research is needed to determine best practices for physician and nurse practitioner follow-up on dietary recommendations, specifically for Black/African American older adults.

Other challenges and frustrations Black/African American older adults living with hypertension experience may be a product of the large amount of complex dietary recommendations they have received. These dietary recommendations originate from various sources and may partially explain the participants' confusion regarding many food items such as hummus, low-fat milk, bananas, and dietary supplements. Black/African Americans, as well as individuals from other under-represented racial and ethnic groups, have previously reported difficulties in making diet-related choices (Meyer et al., 2014). By considering factors beyond dietary knowledge, such as accessibility to resources, researchers can better understand the mechanisms that hinder or facilitate Black/African American older adults in making lifestyle modifications towards improving hypertension self-management.

While cultural barriers were not explicitly discussed during this study, they were implicitly divulged through conversations with participants. As previously mentioned, participants were often unfamiliar with certain dietary recommendations and subsequently felt discouraged to continue with a diet program. For example, some participants in this study expressed disappointment about not being able to consume certain foods and shared that they preferred to eat foods they considered enjoyable. If there are drastic differences between an individual's typical diet and the recommended diet protocol, this is likely to result in resistance toward diet plans that do not consider the patient's existing daily dietary intake (Meyer et al., 2014). Additional studies should investigate variations of existing diet strategies that are more aligned with foods that patients may be more familiar with consuming, particularly from a cultural perspective.

Some participants mentioned concerns about their financial ability to switch to a healthier recommended diet. Several questions about food replacements and substitutions were shared. Previous research indicated that availability and affordability affected decisions to adopt a healthy diet strategy (Young et al., 2008). These beliefs may align with the participants in this study, as they expressed concerns related to high costs associated with healthier ingredients. Previous research suggests that individuals with lower incomes may be unable to make financial changes required to comply with a diet that may or may not result in controlling blood pressure

(Lucan et al., 2012; Meyer et al., 2014; Odedosu et al., 2012). This uncertainty may explain some patients' unwillingness to purchase food substitutes that they perceive to be more costly.

There are various external factors that may prevent African American older adults from following evidence-based dietary recommendations. In this study, some participants were not sure where to purchase these alternatives. This concern demonstrates the importance of access to food in order to comply with dietary recommendations, such as the DASH, Mediterranean, or keto diet. Many individuals in the U.S. currently struggle to follow dietary interventions when they reside in food deserts (Dubowitz et al., 2015; Walker et al., 2010). If individuals are unable to access supermarkets, grocery stores, or food banks with high quality, fresh foods, they may be unable to manage their hypertension (Dubowitz et al., 2015; Walker et al., 2010). Availability of fresh produce and other nutrient-rich foods is a key component for adherence to the DASH diet or any other dietary intervention. Healthcare providers must consider these external factors when providing dietary guidance.

Clinical Practice

Nurses can help patients increase their knowledge of dietary strategies to address hypertension and confidence in knowledge and ability to implement these strategies. Previous studies have shown that adherence to the DASH diet results in reduced blood pressure and improvement in cardiovascular risk factors (Appel et al., 2003; Epstein et al., 2012). Research has also shown lower adherence to DASH recommendations among Black/African Americans than white Americans (Epstein et al., 2012). What is missing from previous work is why patients may be less adherent, especially when considering the complexity of dietary management for hypertension in older Black/African Americans. The findings from our study extend what is known about the adoption of healthy eating by providing insight on successes and negative reactions for Black/African American older adults. Nurses are well positioned to assist patients in adhering to a dietary strategy.

Nurses can assess a patient's knowledge about a specific dietary approach and assist with dispelling myths. For example, nurses can educate patients who believe that a keto diet largely consists of bacon and eggs, a concern that was highlighted in this study. Another finding in this study was that participants were using diet strategies to address multiple chronic conditions. Being aware of this challenge, nurses can assist in navigating complex dietary recommendations that may arise when attempting to manage diet, hypertension, and other comorbidities. Cost was

another barrier that the participants in this study shared as a concern. Nurses should be aware of economical choices for healthy foods, just as they are aware of the cost of medications. In fact, the American Heart Association provides a list of healthy foods that are under \$1 that nurses can share as a resource for patients who need additional recommendations for foods that are in line with the diet strategy they are working to adhere to (American Heart Association, 2018).

Previous research shows that, for some Black/African American older adults, the adoption of eating healthy may be seen as giving up part of their cultural heritage and that healthy foods are too bland in comparison to foods they are accustomed to eating (James, 2004; Winham et al., 2020). The finding that some participants reported success in replacing potatoes in potato salad with cauliflower suggests the importance of culture in food choices. Endorsing success stories can promote confidence in patients who are working to implement new dietary strategies (Nassim et al., 2020). Older adults require time and opportunity to explore alternative and favorable options that maintain culture and health, and nurses should assist them in identifying and exploring new options.

Limitations

This work had limitations that should be considered when interpreting the results. For example, the size of the focus group (19 participants) may have inhibited full participation by some group members or allowed more dominant voices to shape the direction of discussion. However, the use of three co-facilitators helped to manage the group interaction and ensure that all perspectives were captured. Another limitation to consider is that the sample was homogeneous. Participants who were residents at a senior housing community may not most accurately reflect the experiences of older adults living in a community, given that their senior housing community offers some supports. Research that extends this work should diversify the recruitment of participants beyond a single enclosed community.

For example, younger Black/African Americans with hypertension living in different geographic regions in the United States may have different experiences and opinions than the participants included in this sample. Additional studies are needed to examine perspectives on hypertension self-management among Black/African American individuals of different age groups, socioeconomic status, and who may be living individually or in a family unit without a cohesive community network of similarly situated individuals. The themes identified in this

study provide important context for illuminating the experiences of an underserved population and merit further exploration with other, potentially more diverse samples.

Linking Evidence to Action

- Healthcare providers should account for the sometimes-conflicting dietary
 recommendations Black/African American older adults with hypertension and
 comorbid health conditions receive. These recommendations for diet must consider a
 range of health conditions to avoid giving incompatible dietary guidance.
- Aside from an initial appointment with their primary care providers, Black/African American older adults may benefit from a series of consistent follow-up appointments to ask additional questions and discuss progress regarding diet.
- Healthcare professionals must consider accessibility and affordability of dietary recommendations for Black/African American older adults.
- Dietary recommendations should include variations of existing diet strategies that are more in line with foods that patients may be more familiar with consuming, particularly from a cultural perspective.

Conclusion

This study focused on contemporary dietary challenges as described by Black/African American older adults living with hypertension. Additional research is necessary to examine the ability of other vulnerable populations to maintain healthy dietary strategies over time. There is an overarching need for further research on management of comorbidities, improved patientprovider communication, culturally competent dietary recommendations, the role of sociobehavioral factors, and interventions to enhance patients' ability to retain dietary strategies over time.

References

American Heart Association. (2018, April 16, 2018). *Healthy foods for under a \$1.00*. Retrieved from https://www.heart.org/idc/groups/heart-

public/@wcm/@global/documents/downloadable/ucm 321929.pdf

Appel, L. J., Champagne, C. M., Harsha, D. W., Cooper, L. S., Obarzanek, E., Elmer, P. J., ...

Writing Group of the P. C. R. G. (2003). Effects of comprehensive lifestyle modification on blood pressure control: Main results of the PREMIER clinical trial. *JAMA*, *289*(16), 2083–2093. https://doi.org/10.1001/jama.289.16.2083

Auerbach, C., & Silverstein, L. B. (2003). *Qualitative data: An introduction to coding and analysis*. New York, NY: NYU press.

Basile, J., & Bloch, M. J. (2015). *Overview of hypertension in adults*. Waltham, MA: UpToDate. Retrieved from https://www.uptodate.com/contents/overview-of-hypertension-in-adults/print Batch, J. T., Lamsal, S. P., Adkins, M., Sultan, S., & Ramirez, M. N. (2020). Advantages and disadvantages of the ketogenic diet: A review article. *Cureus*, *12*(8), e9639. https://dx.doi.org/10.7759%2Fcureus.9639

Bratzke, L. C., Muehrer, R. J., Kehl, K. A., Lee, K. S., Ward, E. C., & Kwekkeboom, K. L. (2015). Self-management priority setting and decision-making in adults with multimorbidity: A narrative review of literature. *International Journal of Nursing Studies*, *52*(3), 744–755.

Castellana, M., Conte, E., Cignarelli, A., Perrini, S., Giustina, A., Giovanella, L., ... Trimboli, P. (2020). Efficacy and safety of very low calorie ketogenic diet (VLCKD) in patients with overweight and obesity: A systematic review and meta-analysis. *Reviews in Endocrine and Metabolic Disorders*, *21*(1), 5–16.

Chan, Q., Stamler, J., & Elliott, P. (2015). Dietary factors and higher blood pressure in African-Americans. *Current Hypertension Reports*, *17*(2), 10.

Chobanian, A. V., Bakris, G. L., Black, H. R., Cushman, W. C., Green, L. A., Izzo, J. L., Jr., ...
Roccella, E. J. (2003). The seventh report of the Joint National Committee on Prevention,
Detection, Evaluation, and Treatment of High Blood Pressure: The JNC 7 report. *JAMA*,
289(19), 2560–2572. https://doi.org/10.1001/jama.289.19.2560

Dubowitz, T., Zenk, S. N., Ghosh-Dastidar, B., Cohen, D. A., Beckman, R., Hunter, G., ... Collins, R. L. (2015). Healthy food access for urban food desert residents: examination of the food environment, food purchasing practices, diet and BMI. *Public Health Nutrition*, *18*(12), 2220–2230.

Epstein, D. E., Sherwood, A., Smith, P. J., Craighead, L., Caccia, C., Lin, P. H., ... Blumenthal, J. A. (2012). Determinants and consequences of adherence to the dietary approaches to stop hypertension diet in African-American and white adults with high blood pressure: Results from the ENCORE trial. *Journal of the Academy Nutrition and Dietetics*, *112*(11), 1763–1773. https://doi.org/10.1016/j.jand.2012.07.007

Espejo, M., Magabo, S., Rivera-Castro, A., Faiz, M., Ramirez, L., Robles, C., Shabarek, T., Shariff, M. A., & Kanna, B. (2019). Qualitative study of knowledge, perception, and behavior related to hypertension and cardiovascular disease risk reduction among hypertensive African-Americans in urban inner city of south Bronx, New York. *Journal of Racial and Ethnic Health Disparities*, *6*(1), 197–206.

Fix, G. M., Cohn, E. S., Solomon, J. L., Cortés, D. E., Mueller, N., Kressin, N. R., ... Bokhour,
B. G. (2014). The role of comorbidities in patients' hypertension self-management. *Chronic illness*, *10*(2), 81–92.

Flynn, S. J., Ameling, J. M., Hill-Briggs, F., Wolff, J. L., Bone, L. R., Levine, D. M., ... Purnell,L. (2013). Facilitators and barriers to hypertension self-management in urban African

Americans: perspectives of patients and family members. Patient Prefer Adherence, 7, 741.

Hinderliter, A. L., Babyak, M. A., Sherwood, A., & Blumenthal, J. A. (2011). The DASH diet and insulin sensitivity. *Current Hypertension Reports*, *13*(1), 67–73.

Hite, A. H., Berkowitz, V. G., & Berkowitz, K. (2011). Low-carbohydrate diet review: Shifting the paradigm. *Nutrition in Clinical Practice*, *26*(3), 300–308.

James, D. (2004). Factors influencing food choices, dietary intake, and nutrition-related attitudes among African Americans: application of a culturally sensitive model. *Ethnicity and Health*, *9*(4), 349–367.

James, P. A., Oparil, S., Carter, B. L., Cushman, W. C., Dennison-Himmelfarb, C., Handler, J., ... Ortiz, E. (2014). 2014 evidence-based guideline for the management of high blood pressure in adults: Report from the panel members appointed to the Eighth Joint National Committee (JNC 8). *JAMA*, *311*(5), 507–520. https://doi.org/10.1001/jama.2013.284427

Jones, L. M., Rosemberg, M.-A. S., & Wright, K. D. (2017). Opportunities for the advanced practice nurse to enhance hypertension knowledge and self-management among African American women. *Clinical Nurse Specialist*, *31*(6), 311–318.

Lago, R. M., Singh, P. P., & Nesto, R. W. (2007). Diabetes and hypertension. *Nature Clinical Practice Endocrinology & Metabolism*, *3*(10), 667–667.

Lucan, S. C., Barg, F. K., Karasz, A., Palmer, C. S., & Long, J. A. (2012). Concepts of healthy diet among urban, low-income, African Americans. *Journal of Community Health*, *37*(4), 754–762.

Meyer, S. B., Coveney, J., & Ward, P. R. (2014). A qualitative study of CVD management and dietary changes: Problems of 'too much'and 'contradictory'information. *BMC Family Practice*, *15*(1), 1–4.

Moss, K. O., Still, C. H., Jones, L. M., Blackshire, G., & Wright, K. D. (2019). Hypertension self-management perspectives from African American older adults. *Western Journal of Nursing Research*, *41*(5), 667–684.

Nassim, G., Redmond, M. L., Ofei-Dodoo, S., Benton, M., & Lu, K. (2020). Nutrition selfefficacy and dietary patterns among older African American women in Kansas. *Kansas Journal of Medicine*, 13, 209.

Nunez-Cordoba, J. M., Valencia-Serrano, F., Toledo, E., Alonso, A., & Martínez-González, M. A. (2009). The Mediterranean diet and incidence of hypertension: The Seguimiento Universidad de Navarra (SUN) study. *American Journal of Epidemiology*, *169*(3), 339–346.

Odedosu, T., Schoenthaler, A., Vieira, D. L., Agyemang, C., & Ogedegbe, G. (2012).

Overcoming barriers to hypertension control in African Americans. *Cleveland Clinic Journal of Medicine*, 79(1), 46–56.

Oliveros, E., Patel, H., Kyung, S., Fugar, S., Goldberg, A., Madan, N., & Williams, K. A. (2020). Hypertension in older adults: Assessment, management, and challenges. *Clinical Cardiology*, *43*(2), 99–107.

Petrie, J. R., Guzik, T. J., & Touyz, R. M. (2018). Diabetes, hypertension, and cardiovascular disease: Clinical insights and vascular mechanisms. *Canadian Journal of Cardiology*, *34*(5), 575–584.

Rifai, L., Pisano, C., Hayden, J., Sulo, S., & Silver, M. A. (2015). Impact of the DASH diet on endothelial function, exercise capacity, and quality of life in patients with heart failure.

Proceedings (Baylor University Medical Center), 28(2), 151-156.

https://dx.doi.org/10.1080%2F08998280.2015.11929216

Saldaña, J. (2015). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Schwingshackl, L., Bogensberger, B., & Hoffmann, G. (2018). Diet quality as assessed by the healthy eating index, alternate healthy eating index, dietary approaches to stop hypertension score, and health outcomes: An updated systematic review and meta-analysis of cohort studies. *Journal of the Academy Nutrition and Dietetics*, *118*(1), 74–100. e111.

Sevick, M. A., Trauth, J. M., Ling, B. S., Anderson, R. T., Piatt, G. A., Kilbourne, A. M., & Goodman, R. M. (2007). Patients with complex chronic diseases: Perspectives on supporting self-management. *Journal of General Internal Medicine*, *22*(3), 438–444.

Shirani, F., Salehi-Abargouei, A., & Azadbakht, L. (2013). Effects of Dietary Approaches to

Stop Hypertension (DASH) diet on some risk for developing type 2 diabetes: A systematic

review and meta-analysis on controlled clinical trials. *Nutrition*, 29(7–8), 939–947.

Spencer, A., Jablonski, R., & Loeb, S. J. (2012). Hypertensive African American women and the DASH diet. *The Nurse Practitioner*, *37*(2), 41–46.

Spikes, T., Higgins, M., Quyyumi, A., Reilly, C., Pemu, P., & Dunbar, S. (2019). The relationship among health beliefs, depressive symptoms, medication adherence, and social support in African Americans with hypertension. *Journal of Cardiovascular Nursing*, *34*(1), 44–51.

Still, C. H., Ferdinand, K. C., Ogedegbe, G., & Wright, J. T., Jr. (2015). Recognition and management of hypertension in older persons: Focus on African Americans. *Journal of the American Geriatrics Society*, 63(10), 2130–2138. https://doi.org/10.1111/jgs.13672
United States Census Bureau. (2019). *US census bureau quickfacts: United States*. Retrieved from https://www.census.gov/quickfacts/fact/table/US/PST045219

Virani, S. S., Alonso, A., Benjamin, E. J., Bittencourt, M. S., Callaway, C. W., Carson, A. P., ... Delling, F. N. (2020). Heart disease and stroke statistics—2020 update: A report from the American Heart Association. *Circulation*, *141*(9), e139–e596.

Walker, R. E., Keane, C. R., & Burke, J. G. (2010). Disparities and access to healthy food in the

United States: A review of food deserts literature. Health & Place, 16(5), 876-884.

Whelton, P. K., Carey, R. M., Aronow, W. S., Casey, D. E., Jr, Collins, K. J., Dennison

Himmelfarb, C., ... Wright, J. T., Jr (2018). 2017

ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the

This article is protected by copyright. All rights reserved

Commented [HAD3]: Au: The retrieved from link was added to complete the reference, please confirm its accuracy

prevention, detection, evaluation, and management of high blood pressure in adults: A report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Journal of the American College of Cardiology*, *71*(19), e127–e248. https://doi.org/10.1016/j.jacc.2017.11.006

Winham, D. M., Knoblauch, S. T., Heer, M. M., Thompson, S. V., & Der Ananian, C. (2020). African-American views of food choices and use of traditional foods. *American Journal of Health Behavior*, *44*(6), 848–863.

Wright, K. D., Still, C. H., Jones, L. M., & Moss, K. O. (2018). Designing a cocreated intervention with African American older adults for hypertension self-management. *International Journal of Hypertension, 2018*, 7591289. https://doi.org/10.1155/2018/7591289
Young, C. M., Batch, B. C., & Svetkey, L. P. (2008). Effect of socioeconomic status on food availability and cost of the Dietary Approaches to Stop Hypertension (DASH) dietary pattern. The Journal of Clinical Hypertension, 10(8), 603–611.

Diet	Brief description	Blood pressure
		reduction
DASH diet (Appel et al., 2003; Basile	Rigorously tested	4–9 mmHg decrease in
& Bloch, 2015; Epstein et al., 2012;	• Considered a gold standard	systolic blood pressure
Schwingshackl et al., 2018)	dietary intervention to address	may be seen after 2 weeks
	hypertension in adults	
Ketogenic diet (Castellana et al.,	Restriction of carbohydrates	5–6 mmHg decrease in
2020; Hite et al., 2015)	• Consists mainly of dietary fat	systolic blood pressure
	and a reduced proportion of	noted after 48–52 weeks
	dietary protein	
Mediterranean diet (Batch et al.,	Consists of plant-based foods	3–6 mmHg decrease in
2015; Nunez-Cordoba et al., 2009)	such as vegetables, fruits,	systolic blood pressure
	legumes, nuts and seeds, and	after 52 weeks
	olive oil	
	• Minimizes consumption of	
	sugar and dairy products	

Table 1. Expected Changes in Blood Pressure by Diet