Avoid the "*Southern* Diet"? What, *Really*, Do You Mean?

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As far as eating patterns go, the southern diet is often viewed as synonymous with poor food choices. But is it really? How do we know? When attempting to balance patient beliefs, habits, and cultural norms with best evidence, we must interpret and apply research evidence regarding dietary patterns such as the "Southern Diet." We address the complexities of interpreting dietary pattern–based research evidence and present the cases of 2 born and bred southern adults with potential to benefit from culturally appropriate nutrition and dietary counseling. Nutr Today 2020;55(4):143–156

INTRODUCTION

When providing dietary counseling specific to treating or preventing cardiac and other chronic disease, clinicians practicing patient-centered care are challenged to balance evidence-based therapies in the medical literature with patient, personal, and cultural preferences.[1] Most healthcare professionals, including physicians, acknowledge they have minimal training in nutrition and lack confidence in counseling patients, especially in regard to controversial diets or selected foods and nutrients popularized in the media.[2] The American College of Cardiology's Prevention of Cardiovascular Disease Council recently published 2 articles about diet and heart disease that "provide clinicians with accurate information for discussions in the clinical settings."[3,4] The "Southern Diet" pattern based on how it was defined in the REGARDS (Reasons for Geographic and Racial Differences in Stroke) study discussed later was singled out, along with coconut and palm oil, eggs, and juicing of fruits/vegetables with pulp removed, as having "evidence of harm" and best "limited or avoided." Another 6 foods were described as "lacking in evidence for harm or benefit." Twelve items were listed as having "evidence of benefit" and noted as "recommend."

In this article, we discuss the recommendation that the "Southern Diet" be avoided or limited and suggest that not only is there no single southern diet but also that it is possible to adapt diets with characteristics considered southern to make them both healthy and enjoyable. We present 2 cases from our primary care practice and highlight an individualized approach to improving the quality and healthfulness of the southern diet consumed. We also explore how registered dietitian nutritionists (RDNs), nurses, physicians, or health coaches who pride themselves on providing patient-centered, evidence-based nutrition counseling might advise patients who describe their diets as southern.

It is possible to adapt diets with features considered to be southern to make them both healthy and enjoyable

The reader will note that the authors of this article are RDNs (K.M.K., K.C.) and a nurse (G.F.) who are bona fide "Southerns." K.M.K. grew up in Michigan but has spent almost 40 years "down south," in North Carolina (NC) and Tennessee. She was surprised upon moving to eastern NC that the diet consumed by most everyone, regardless of race, gender, or socioeconomic status, was similar to the "soul food" in the African American community in Detroit. K.C. was raised in Alabama. While she finds some similarities in the foods of her birthplace and her adopted NC home, she shares that in *her* Alabama, most vegetables are fried along with meats. Sugar is added to vegetables, and white gravy and biscuits or cornbread are part of most all meals. Desserts and sweet tea are also included regularly at meals and gatherings. G.F., a native of eastern NC, who spent a few years away but returned home as soon as she could, does not see her eating pattern in the articles we reviewed about the southern diet. She does not eat

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catfish or drink mint juleps and only discovered shrimp and grits in the last decade, even though she was raised on the coast. She does recall eating macaroni and cheese almost daily and having fried chicken most Sundays. She remembers having sweet tea at her grandma's and at church functions, but there was no tea of any kind at her house diet (editor's note: for more about sweet tea, see Taft et al[5]). They were a Pepsi family, although she drank only water, as she hated and still hates carbonated beverages.

We asked several of our patients to describe their southern diet. One reply that was typical of others: "When I envision a traditional southern dinner, I think of a fried chicken drumstick (or fried catfish) served next to mashed potatoes; collard greens with bacon or other fat meat; and a glass of sugar-sweetened tea." Another patient described the Sunday lunch buffet at the local country club as containing fried chicken, barbeque (BBQ) ribs, fried chicken tenders, macaroni and cheese, broccoli with cheese sauce, collards with "meat," deviled eggs, potato salad, butter beans (seasoned with fat meat), corn, yams, garden salad, cornbread and biscuits, banana pudding, pecan pie, watermelon (in season), sweet tea, lemonade, and coffee. Another patient described southern food as "comfort" and as the type of food people brought to a funeral. A foodways scholar wrote, "We gather with food because food is the ultimate and final expression of how we love and of the culture of our community."[6] He included his description of southern food to include fried and oven-baked chicken, pork chops and gravy, Spanish rice, potato salad, slaw, sweet potato casserole, candied yams, hushpuppies, cornbread, chopped BBQ, collard greens, cakes (pound, coconut, pineapple, red velvet), Coca Cola or Pepsi, sweet iced tea, lemonade, fruit punch, wine including a really sweet version made from Scuppernong grapes, and moonshine.

Medical researchers such as those who carried out the REGARDS study have defined the "Southern Diet" as high in added fats, fried food, eggs, processed meats, and sugar-sweetened beverages and claim it is associated with increased heart disease risk.[7] The immense knowledge source used by so many people, Wikipedia, takes a less judgmental view and says this about southern dietary patterns (https://en.wikipedia.org/wiki/Cuisine_of_the_Southern_United_States):

> A traditional southern meal is pan-fried chicken, field peas (such as black-eyed peas), greens (such as collard greens, mustard greens, turnip greens, or poke salad), mashed potatoes, cornbread or corn pone, sweet tea, and dessert—typically a pie (sweet potato, chess, shoofly, pecan, and peach are the most common), or a cobbler (peach, blackberry, sometimes apple in Kentucky or Appalachia). Other southern foods include grits, country ham, hushpuppies, beignets, southern styles of succotash, chicken fried steak, buttermilk biscuits (may be served with butter, jelly, fruit preserves, honey, gravy, or sorghum molasses), pimento cheese, boiled or baked sweet potatoes, pit barbecue, fried catfish, fried green tomatoes, bread pudding, okra (principally dredged in cornmeal and fried, but also steamed, stewed, sautéed, or pickled), butter beans, and pinto beans.

Sounds tasty, but can it be reconciled with good health? It is an important question as there are wide differences in the burden of disease at the state level, with many southern states having lower life expectancy rates.[8] High body mass index (BMI) and high fasting plasma glucose, both affected by diet, are 2 of the most important risk factors identified. The authors of this study call for addressing key modifiable risk factors that include diet.

Case 1. Mrs A.B.: African American With Prediabetes Consuming a "Southern" Diet

Mrs A.B. is a 50-year-old African American with a BMI of 34.5 kg/m^2, who says she "cooks southern". She eats breakfast and dinner at home and carries her lunch to work where she is on the housekeeping staff. She describes herself as "very active" and always trying to lose some weight. Approximately 4 years ago, she was told by her primary care physician that she was "prediabetic" and was given a pamphlet to study. She takes no medicine. Her current fasting blood glucose runs 126 to 135 mg/dL and her 2-hour post prandial glucose runs 150 to 200 mg/dL. She told us in an interview that she was trying to make some healthy changes, but changing the type of food she was serving her family was unacceptable to them. They felt strong ties to the taste of her traditional southern food and did not find the new way of eating very satisfying. She provided a diet record for our review. She has been wearing a step counter and reported averaging 16 000 steps per day. She also reported drinking 104 oz of water per day

On analysis, it was found that she consumed 1 to 2 servings of red meat daily (smoked sausage, bacon, ham, lunch meat, cheese burgers, beef ribs), at least 1 serving of fried food a day (French fries, chicken, and biscuits with molasses), and approximately 4 servings of poultry (mostly fried chicken) a week. She also had a pastry or sweet (snack cakes, cakes, cookies) daily. While she consumed fewer than half the recommended daily servings for fruits, vegetables, and grains, she did eat beets, collard and mustard greens, spinach and cabbage (seasoned with pork fat), and whole-grain cereal and baked beans. She also ate white grits, cornbread, white bread, and macaroni and cheese. She had stopped eating sweet potatoes because she heard they were "bad for diabetes." She did not consume fish or nuts and ate almost no fruit aside from an occasional peach. She did eat eggs and yogurt. She drank orange soda (recently switching to "diet"), coffee, and herbal tea. She generally had breakfast around 5:00 AM, lunch (which she called

dinner) around 12:30 PM, and supper, which typically consisted of leftovers from lunch, around 6:00 PM.

Our analysis showed her average caloric intake to be approximately 1500 calories, with approximately 44% of her calories coming from total fat, much of it from saturated fat (14%). Her carbohydrate intake was approximately 140 g/d. The vegetables she was consuming were providing significant amounts of the B vitamins and vitamin C.

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Her potassium, vitamin D and calcium, dietary fiber, omega-3 fatty acids, and vitamin A intakes were low, and her sodium intake was high (5125 mg/d). Measurement of her Resting Energy Expenditure (REE) indicated that consuming between 1268 and 1584 cal/d, depending on her physical activity, would lead to weight loss.

The following Nutrition Diagnosis was made: Food and nutrition-related knowledge deficit (NB-1.1) related to the uncertainty of how to apply nutrition information for optimal weight and glycemic control as evidenced by BMI of 34.5 kg/m^2 (obesity, class I) and reported blood glucose levels above fasting and postprandial goals.

A structured meal plan tailored to her lifestyle was constructed (Table 1).

Case 2. Ms C.D.: White Southerner With Obesity Consuming a Southern Diet

Ms C.D. is a 64-year-old white woman who states she enjoys southern food and cooking and loves "her sweets." She works part-time as a nurse and often eats at a local restaurant with a 60-year history of "great southern food." During our interview, she said that like everybody else she loves southern food, but as she has moved up the socioeconomic ladder, she has made more of an effort to eat better because she has learned she should and because she had access to healthier foods. Even so, she said she continues to feel more comfortable shopping for food at the country store she went to growing up rather than the upper-end chain market near her current home. She remembers that growing up, they were poor but never hungry, eating from the garden: beans (lima, snap, and wax), okra, peas, squash, cucumbers, tomatoes, cabbage, lettuce, corn, cantaloupe, and watermelon. In addition to eating them fresh, they would freeze, stew, or otherwise preserve vegetables for the winter. Her family never did, but she knew others who salted, cured, or made sausage from every part of the pig to have meat for winter.

She has a BMI of 31.1 kg/m^2 and knows it would be good for her to lose a little weight, but she likes the way she cooks and eats. She has been told she has prehypertension but is not on medication. She clearly warned us that if we were going to tell her to stop eating southern, she did not want to hear it. She told us she enjoyed our article on sweet tea but is "addicted" and does not like it made with anything other than sugar.[5] She added that she knows how to eat healthy, she just does not. She is open to "some pointers on becoming a bit healthier of an eater."

On analysis of her 5-day food record, we found that she consumed 1 to 2 servings of meat daily (smoked sausage, bacon, ham, lunch meat, taco meat, country ham, deviled eggs, pimiento cheese) and at least 1 serving of fried food a day (shrimp, chicken). She also had biscuits, and a pastry or sweet (banana pudding, brownie) daily. She met her grain recommendation with white bread, cornbread, taco shells, biscuits, or macaroni and cheese. She met approximately 75% of her vegetable requirement as cabbage or collards seasoned with fat meat, coleslaw prepared with Duke's mayonnaise, and white or sweet potatoes. She reported trying to eat a banana or apple every day. She drank whole milk. She snacked on Lance Nabs, packaged crackers filled with processed cheese or peanut butter. She drank coffee with sweetener at breakfast; 16 oz of sweet

TABLE 1 Meal Plan for Case 1

Plan based on 1300 kcal/d, 45% CHO (146 g), 25% protein (81 g), 30% (43 g)
Favorite foods included cereal with milk, yogurt, cheese, oranges, apples, pears, collards, cabbage, green peas, string beans, tomatoes, cucumbers, broccoli, cauliflower, carrots, yellow squash, and zucchini. She likes to season vegetables with animal parts and fats but is willing to try low-sodium stock
Breakfast: starch (2), fat (1): fat include 1 tsp butter for grits, dairy (1): coffee with nonfat half and half and artificial sweetener
Lunch: fruit (1), meat (3 oz): lean meats baked or grilled without skin, vegetables (2)
Snack: fruit (1), yogurt (nonfat) 1
Supper: starch 3, meat (4 oz) lean meats baked or broiled without skin, vegetables (2): fat (1)

tea at lunch, and 2 to 3 diet Sundrop, a drink that is a regional favorite citrus-flavored yellow-green soda, throughout the day and at dinner. Our analysis showed her average caloric intake is approximately 2605 calories (estimated 1328–2071 to maintain weight); with approximately 45% of her calories coming from total fat, much of it from saturated fat (14%). Her carbohydrate intake was approximately 152 g or 40% of her calories per day. Her dietary fiber intake was good at 27 g/d. She ate in restaurants often and had few servings of fruits and vegetables when she did so, explaining her low intakes of vitamin A (50% of need), vitamin D (25%), folate (30%), calcium (60%), iron (70%), potassium (45%), and omega-3 fatty acids (45%). Her sodium intake was high (5100 mg/d).

She declined having a measurement of her REE because she preferred not to fast. She did not want a structured meal plan. Her diet routinely included taco meat, fried pork chops, dark meat and skin of chicken and turkey (fried), bacon, sausage, and country ham; vegetables were prepared with animal products such as fatback, bacon grease, and ham hocks. We agreed to give her tips on how to eat healthier.

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BACKGROUND

First, let us review some recent studies of the "Southern" diet and health (Table 2).[7,9–16]

The Prevention of Cardiology Disease Council's Guidance Articles and Relevant Findings From the REGARDS Study's Definition of the "Southern Diet."

In the 2017 article, "Trending Cardiovascular Nutrition Controversies" expressing the views of the American College of Cardiology's Prevention of Cardiovascular Disease Council, "Southern Diets" were listed in a column labeled "Evidence of harm; limit or avoid."[3] The REGARDS study, a national observational study focused on risk factors for stroke in adults 45 years or older, is cited as the evidence for that recommendation.[7]

Between 2003 and 2007, the REGARDS study enrolled 30 239 African American and white participants from the continental United States. As stated on the REGARDS' website and in more than 500 published studies, the purpose of the study is to understand why people in some parts of the country are more likely to have strokes and why African Americans are more likely to have strokes than white Americans. Details of the sample, methods, and findings are accessible at www.regardsstudy.org. In the team's 2013 report, they concluded that regional and racial differences in diet do exist and that the role of diet may be more important than some other traditional risk factors such as hypertension.[17] The self-reported data from participants suggested that adherence to a southern style diet may increase the risk of stroke. They found that the "Southern Dietary" pattern as defined mediates racial disparity in stroke by 63%. Previous work by the REGARDS group demonstrated that traditional risk factors such as hypertension and atrial fibrillation mediated only 50% of the excess stroke among African Americans. Based on these findings, it was suggested that discussion of nutrition patterns during risk screening of patients may be an important step in reducing stroke.

The 2015 study referenced in "Trending Cardiovascular Nutrition Controversies" concluded that a "Southern Dietary" pattern, characterized by added fats, fried food, eggs and egg dishes, organ meats, processed meats, and sugar-sweetened beverages, was associated with a 56% higher risk of acute coronary heart disease events over 6 years of follow-up among the REGARDS study's sociodemographically and regionally diverse sample of white and African American adults.[7] Other dietary patterns tested were not. The American Heart Association shared the news widely that the "Southern Diet" could raise the risk of heart attack" (https://newsarchive.heart.org/southern-diet-could-raise-the-risk-of-heart-attack/).

Subsequently, in a 2018 report, the "Southern Dietary" pattern was identified as the largest statistical mediator of the difference in hypertension incidence between African American and white male and female participants.[18] In the analyses performed, the "Southern Diet" accounted for 51.6% of the excess risk among African American men and 29.2% of the excess risk among African American women.[18(p1345)] The "Southern Dietary" pattern was associated with southern African American participants, conferring a 39% greater risk of stroke. In addition to the "Southern Diet," the researchers investigated alcohol intake, exercise, depression, stress, DASH diet score, Mediterranean diet score, and ratio of sodium to potassium in diet. The American Heart Association and other groups highlighted the study results saying, "'Southern Diet' could be deadly for people with heart disease" (https://www.heart.org/

en/news/2018/07/13/southern-diet-could-be-deadly-for-people-with-heart-disease).

In work presented at the American Heart Association Lifestyle Scientific sessions in March 2019, Judd et al[19] reported the characteristics most strongly associated with eating the "Southern Diet" as being African American, having less than a high school education, and being male, especially among those living in the "stroke belt" (thought to include Mississippi, Tennessee, Louisiana, Kentucky, Georgia, NC, Alabama, South Carolina, Arkansas, Indiana, and Virginia). Other factors assessed did not include weight or medical diagnoses.

The REGARDS study diet score data were derived from self-reported answers from 17 418 participants who completed the Block 98 Food Frequency Questionnaire (FFQ), which addresses consumption of 110 foods.[7] The researchers iteratively employed exploratory and confirmatory factor analyses on 56 different food groups and examined differences by race, region, and sex to determine the optimal factor solution in the sample group. In addition to the "Southern Diet," the following patterns emerged: (1) the "convenience" pattern characterized by mixed dishes; (2) the "plant-based" pattern by fruits, vegetables, and fish; (3) the "sweets/fats" pattern by sweet snacks, desserts, and fats and oils associated more with white southerners; and (4) the "alcohol and salads" pattern, which loaded heavily on beer, wine, liquor, and salad ingredients.[20] Only the "Southern Diet" pattern was associated with increased risk of stroke. Additional REGARDS studies show the "Southern Dietary" pattern is associated with increased risk of incident stroke, coronary heart disease, end-stage renal disease and chronic kidney disease, sepsis; cancer mortality; and cognitive decline (www.uab.edu/soph/regardsstudy).

A Word on Analytic Nutrition Epidemiology and Observational Data

Most RDNs, cultural anthropologists, and students of food folkways would say there is no one single southern diet. While dietary patterns derived from epidemiological studies have been informative in planning clinical trial research, observational studies do have limitations. Therefore, is it appropriate to translate them into clinical recommendations, as was done by the American College of Cardiology's Prevention of Cardiovascular Disease Council?

Data from nutritional epidemiology can inform guidelines or provide the basis for making dietary advice that is applicable to different groups of people but must be tailored for individuals.

Most nutrition experts believe that nutritional epidemiology has contributed positively to our understanding of the role of diet in long-term health and disease. According to Steffen,[21] "Observational studies attempt to develop evidence for risk (association) of dietary intake and nutritional status as they relate to health or disease outcomes." However, their role in translation and answering clinical practice questions has long been a contentious issue, as demonstrated in recent calls for improving the quality of dietary research to reduce consumer confusion, including media reports that describe results as causal when they clearly are not.[22–24]

The authors of the 2017 American College of Cardiology article on cardiovascular nutrition controversies, noting there were limited data, use these and other studies based on observational data to make specific dietary recommendation.[3] As it is accepted that data from nutritional epidemiologic work can inform guidelines or provide the basis for dietary advice different groups of people, but not individuals,[22,25] it might be tempting to base recommendations on the loading factors from the factor analyses, but is this appropriate? Judd and colleagues'[17] article provides the factor loadings for foods that fall in the 5 patterns. Foods most closely associated with the "Southern Dietary" pattern are fried foods (0.56), organ meats (0.47), processed meats (0.45), eggs and egg dishes (0.42), added fats (0.38), and avoiding low-fat milk (−0.42). Unfortunately, however, these data cannot be used to tell a patient that if she eliminates, for example, fast food, she would lower her risks for a stroke.

A Word on Dietary Assessment Methods

The assessment of dietary intake is complex, and no single standardized, validated approach to do so exists. Despite advances in biostatistical analysis relevant to dietary assessment, Van Horn[26] states that lingering questions remain regarding choice of approach. Food Frequency Questionnaires are often used in observational studies. An FFQ is a list of foods and the frequency in which these foods are consumed in a specific time frame. Results may be useful in examining dietary patterns and directional relationships between diet and chronic disease if they are validated for the population under investigation, but they are not necessarily valid for individuals. Food Frequency Questionnaires sacrifice precision for simplicity and convenience, yet even so, the results are thought to reflect conceptually important exposure to the development of disease or risk of disease.[26]

In a quick review of current, indexed literature, the most recent validation studies of the Block 98 FFQ we found were with samples of Canadian women[27] and pregnant women.[28] Most of these validations are, however, not against "true" intakes unbiased by respondents' reporting errors but rather concurrent validations against some other assessment measure that also involves subjective reporting. It is well known that underreporting and overreporting occur,

TABLE 2 Selected "Southern" and "Western/Standard American Diet" Descriptions in Research

Study/ Publication	Study Rationale	Population	Tool	Findings Including Food Loadings >0.30 if Provided (Models Differ Also)
The Southern Diet				
Liu et al (2013)[9]	Study the impact of dietary behavior on cardiovascular disease development among southern African Americans	1775 participants (AA, aged 21-94 y, AA, Mississippi, US) pulled from 5301 participants in the Jackson Heart Study	Short Food Frequency Questionnaire (FFQ) developed from longer one used in US Department of Agriculture Delta Nutritional Intervention Research Initiative (Delta-NIRI FFQ) and 24-h dietary recall	Three dietary patterns: **Southern pattern**: beans and legumes (0.593), bread (0.423), chicken and turkey (0.340), corn and corn products (0.529), eggs (0.468), fast food (0.320), margarine and butter (0.581), meat (0.446), miscellaneous fats (0.525), organ meats (0.458), vegetables (0.453), processed meat and poultry (0.473); rice and pasta (0.674), seafood (0.311), soups (0.361), potato (0.638) **Fast food pattern**: fast food (0.620), salty snacks (0.612) sugar and candy (0.600), baked desserts (0.483), meat (0.475), soda (0.427), fruit drinks (0.420), oils and salad dressings (0.395), processed meat and poultry (0.394), milk and dairy (0.355) **Prudent pattern**: fruit (0.632), hot cereal (0.492), cold cereal (0.477), dairy desserts (0.369), nuts and seeds (0.339), fruit juice (0.311); milk and dairy (0.307) **Findings**: Three major patterns identified as "Southern"; after adjustment for other factors, "southern" pattern scored was associated with increased odds ratio for high visceral adiposity, hypertension, diabetes, and metabolic syndrome as was the "fast food" pattern
Mechanic and Popkin (2010)[10]		3498 participants; Southerners 34.7% of the sample	CFSII using 24-h recall and FFQ	Southerners consumed more obesity promoting foods such as French fries, soda and fruit drinks, sweet tea, cheeseburgers, and fast food compared with nonsoutherners
Shikany et al (2015)[7]	Study the association between dietary patterns and risk of incident acute coronary heart disease	17 418 participants from the **REGARDS (Reasons for Geographic and Racial Differences in Stroke) study** (enrolled between 2003 and 2007, aged ≥45 y, 35% AA, 59% female, US with 56% residents of the stroke belt)	Block 98 FFQ	Five dietary patterns: **Southern pattern**: fried food (0.56), meat-organ (0.47), meat, processed (0.45), eggs/egg dishes (0.42), fats, added (0.38), sugar-sweetened beverages (0.37), bread (0.37); low-fat milk (negative 0.42) **Convenience pattern**: mixed dishes with meat (0.61), pasta dishes (0.59), Mexican food (0.48), red meat (0.45), pizza (0.45), Chinese food (0.44), soup (0.44), fried potatoes (0.37), potatoes (0.36), beans (0.36), salty snacks (0.32), refined grains (0.31) **Plant-based pattern**: fruits (0.58), beans (0.38), cereal (0.38), fish (0.38), poultry (0.31), whole grain bread (0.30), salad dressings/sauces (0.30) **Sweets pattern**: sugar misc. (0.54), desserts (0.53), bread (0.47), chocolate (0.46), candy (0.40), fats added (0.40), sweet breakfast foods (0.39), high-fat dairy (0.37), margarine (0.37), tea (0.31), salty snacks (0.30) **Alcohol and salads pattern**: salad dressings/sauces (0.55), butter (0.32), liquor (0.31), coffee (0.30) **Findings**: After adjustment for multiple variables, consumption consistent with Southern pattern was associated with greater risk of acute coronary heart disease event

(Continues)

TABLE 2 Selected "Southern" and "Western/Standard American Diet" Descriptions in Research, Continued

Study/ Publication	Study Rationale	Population	Tool	Findings Including Food Loadings >0.30 if Provided (Models Differ Also)
Sterling et al (2018)[11]	Examine dietary patterns among African American women in the rural south and role of nuts in their diet	Analyzed existing data from 383 of 409 participants (30-70 y of age, AA, female, overweight with BMI 25-29.9 kg/m^2 or obese BMI ≥30 kg/m^2) from a 2011-2013 weight loss study by Deep South Network for Cancer Control	Two baseline (1 weekend, 1 weekday) 24-h dietary recalls	Two dietary clusters identified: cluster 2 had lower BMI; both clusters included higher than recommended intake of sugar, sodium, and red meat **Cluster 1**: higher frequency of intake for cereals, fast food/fried foods, and desserts **Cluster 2**: higher frequency of intake for salads, water, whole grains, potatoes, added sugars, and alcohol and nuts
Yang et al (2013)[12]	Examine and describe food preferences of older adults living in the area of the Black Belt Region of the southern US	270 homebound participants (65 y of older, 40% AA, 79% female) residing in Alabama, US	Vailas Food Enjoyment Questionnaire	Top 10 favorite foods: (1) chicken (of any kind); (2) collard greens; (3) cornbread; (4) green or string beans; (5) fish (fried catfish is implied unless otherwise specified); (6) turnip greens; (7) potatoes; (8) apples; (9) tomatoes, fried chicken, and eggs tied; and (10) steak and ice cream tied
The Western Diet				
Deshmukh-Taskar et al (2009)[13]	Study the link between dietary patterns and metabolic syndrome, sociodemographic, and lifestyle factors among young adults in southern US. Western dietary pattern identified as 1 of 2 major dietary patterns among participants	995 participants in the Bogalusa Heart Study (aged 19-39 y, 20% AA, 61% female, southern US)	Youth Adolescent Questionnaire FFQ with 131 food items, self-administered	Two dietary patterns: **Western Dietary Pattern**: food loadings for refined grains (0.43), French fries (0.53), high-fat dairy foods (0.53), cheese dishes (0.58), red meats (0.50), processed meats (0.59), eggs (0.39), snacks (0.53), sweets/desserts (0.54), sweetened beverages (0.44) and condiments (0.40) (explained 19% of variability) **Prudent Dietary Pattern**: whole grains, legumes, vegetables, fruits, 100% fruit juice, low-fat dairy, poultry clear soups, low-fat salad dressings **Findings**: Several risk factors for heart disease, type 2 diabetes, and metabolic syndrome were inversely associated with adherence to the Prudent Dietary Pattern

(Continues)

TABLE 2 Selected "Southern" and "Western/Standard American Diet" Descriptions in Research, Continued

Study/ Publication	Study Rationale	Population	Tool	Findings Including Food Loadings >0.30 if Provided (Models Differ Also)
Esmaillzadeh and Azadbakht (2008)[14]	Study the link between dietary patterns and obesity and central adiposity among Iranian females. Western diet identified as one of three major dietary patterns among participants.	486 participants (aged 40-60 y, Middle Eastern, all female, Iran)	Usual dietary intake assessed by 168-item semiquantitative FFQ. Willett format with 168 food items/ standard serving sizes	Three patterns: **Western dietary pattern**: high in refined grains, red meat, butter, processed meat, high-fat dairy products, sweets and desserts, pizza, potatoes, eggs, hydrogenated fats, and soft drinks and low in other vegetables and low-fat dairy products **Iranian dietary pattern**: high in refined grains, potatoes, tea, whole-grains, hydrogenated fats, legumes, and broth **Healthy dietary pattern**: high in fruits, other vegetables, tomatoes, poultry, legumes, cruciferous and green leafy vegetables, tea, fruit juices, and whole grains **Findings**: Western dietary pattern positively associated with risk of obesity and central adiposity whereas healthy dietary pattern showed inverse association
Hsiao et al (2013)[15]	Study diet patterns and quality among older adults	416 participants in University of Alabama Study of Aging (71-77 y of age, 39% AA, 56% female, west central Alabama)	Three unannounced 24-h recalls with each participant; foods then aggregated into 13 groups and classified into dietary patterns	Three dietary patterns: **Western-like pattern**: (41.3%): relatively higher intake of fats and oils, refined grains, starch vegetables poultry and fish (usually fried) and relatively lower intake of dairy products compared to the others **Low produce, high sweets pattern** (40.4%): low intake of fruits and vegetables, highest intake of sweets **More healthful pattern**: (18.3%): relatively higher intake of fruits, vegetables, whole grains, other protein sources such as eggs, nuts, legumes, and dairy
Lopez-Garcia et al (2004)[16]	Study the link between dietary patterns and markers of inflammation and endothelial function	732 participants from the Nurses' Health Study I (aged 43-69 y, race not provided, all female, US)	Willett semiquantitative FFQ (1986, 1990)	Two dietary patterns: **Western pattern**: higher intakes of red and processed meats (0.61, 0.59), sweets and desserts (0.49), French fries (0.49), and refined grains (0.58) (explained variance not provided) **Prudent pattern**: higher intake of fruit (0.60), vegetables (green leafy 0.68, dark yellow 0.66, cruciferous 0.62, other 0.73), legumes (0.55), fish (0.55), poultry (0.44), whole grains (0.41) (explained variance not provided) **Findings**: Prudent pattern was inversely associated with blood plasma markers for inflammation (CRP) and endothelial dysfunction (E-selectin, sICAM-1, sVCAM-1)

especially with foods thought to be "healthy" or "unhealthy." Van Horn[26] concludes her chapter on dietary assessment methods and validation with a word to researchers that they "interpret dietary intake data cautiously and with considerable effort to identify measurement error and to offer well-documented diet and healthy hypotheses and associations." Tools other than FFQs may be more appropriate for assessment of diet in clinical settings (Table 3[29–34]). In our own clinic, we have modified the "Rate Your Plate" tool[31] to include foods typically reported by our patients.

In research for this article, we the authors found it curious that while the REGARDS study labeled the most concerning pattern identified as the "Southern Diet," other studies have produced similar patterns and referred to them as "Western" or "Standard American" (Table 2). In another study of food behaviors in the southern United States, the Jackson Heart Study from Mississippi, researchers found the southern dietary pattern correlated with visceral adipose tissue and cardiometabolic risk factors.[9] Other researchers have analyzed data from the US Department of Agriculture's Continuing Survey of Food Intake by Individuals (1994-1996) that had a sample size of 3498 adults. In unpublished work, Mechanic and Popkin[10] found those living in the south (37.4% of the sample) consumed more high-calorie, low-nutrient-density, "obesity-promoting" foods such as French fries, soda and fruit drinks, sweet tea, cheeseburgers, and fast food, than nonsoutherners.

Other studies have produced similar patterns to REGARDS but refer to them as "Western" or "Standard American."

Multiple investigators have conducted small surveys of foodways for food habits. For example, Yang et al[12] described the favorite foods of older white and African American adults living in Alabama to include chicken of any kind, collard greens, cornbread, green or string beans, fish (likely fried catfish), turnip greens, potatoes, apples, tomatoes, fried chicken, eggs, steak, and iced tea, milk, and soda/coke. And Sterling and colleagues[11] found that African American women living in the rural south had 2 dietary patterns: one more plant-based containing nuts and the other more traditional with more animal foods and fats. Although because of space constraints we will not provide an in-depth review of these studies, in general, the patterns were not considered to be healthful as they did not meet recognized, evidence-based dietary guidelines.

Food Is More Than Just Something to Eat—Especially in the South

If you dive into the literature and cookbooks of the south, you will find great diversity of cuisine as well as culture.

Twixt the Cup and the Lip (1952)

This book,[35] written in 1952, was among the first to describe the psychological and sociocultural factors affecting food habits based on field research in the rural south. The authors describe 4 prevailing values in southern culture and how food patterns reflect those values of respect for tradition, reverence for science, affability or southern hospitality, and approval of social distinctions. They conclude that food habits do change, and there are ways to speed up change for improved health behavior.

The Carolina Table (2016)

Unfortunately, the literature about southern foodways is not just about the food but also the unfortunate stereotyping of southerners. The editor of *The Carolina Table*,[6] a book by NC Writers on Food,[6] wrote, "certain of us sons and daughters of the South have a chip on our shoulders about stereotyping regarding the American South… South means backward, ill-educated, lazy, superstitious, unhygienic, and dumb." He acknowledges that many southerners adore fried chicken and have strong feelings about BBQ and sweet tea, but that does not mean that everything they eat is fried (or that they lack ambition, education, and reason!).

To understand the southern diet pattern and better counsel patients on healthy eating, it seems useful to explore some resources not usually consulted by healthcare professionals. Here are a few that share thoughts about the south and its foodways:

The Edible South (2014)

Marci Cohen Ferris'[36] book, *The Edible South*, chronicles the American South's history through food describing how white Americans, African Americans, and Native Americans struggled to nourish themselves and shaped the southern identity.

The Month of Their Ripening: NC Heritage Foods Through the Year (2018)

Eubanks and colleagues'[37] book has the stories of 12 NC heritage foods and their deep ties to the culture of the people in that state. The people in NC—as in much of the south—have a connection to the land. Many reminisce about how they were nourished by the fruits and vegetables grown in their gardens, preserved for winter and eaten year-round. In a story about a new restaurant in a historic African American neighborhood in Asheville, NC, the chef is quoted as saying, "I got to see the power in telling stories with food, in sharing your identity on the plate." There is a trend of elevating simple ingredients and dishes such as grits, collards, and macaroni and cheese to expensive dishes on fine dining menus.

TABLE 3 Dietary Screeners for Clinical and Community Practice[29]		
Habitual Beverage Intake (BevQ-15)	15 Items to quantify habitual beverage intake of adults (grams, energy); administered by practitioners in <2 min	Hedrick et al (2012)[29]
Mediterranean Diet Screener	14 Items designed to appraise adherence to Mediterranean diet	Martínez-González et al (2012)[30]
Rate Your Plate	10 Questions; can be modified to reflect local foods	Gans et al (2000)[31]
REAP (Rapid Eating and Activity Assessment for Participants)	16-Item dietary and eating behaviors, identifies patients who would benefit from referral to registered dietitian nutritionist	Segal-Isaacson et al (2004)[32]
WAVE	Reference card with questions on physical activity, weight, eating habits with suggestions on how to improve physical activity and eating habits	Gans et al (2003)[33]

Abbreviation: WAVE, weight, activity, variety Excess.

Deep Run Roots (2016), *A Chef's Life* (2013–2016), and *Somewhere South* (Coming in 2020)

Vivian Howard's[38–40] popular cook book and PBS shows have contributed to the revival of the southern diet.[41] Her new series *Somewhere South* is scheduled to air on PBS in 2020. The chef, restaurateur, author, and TV persona writes, "This is a Southern cookbook, but not one that treats the South like one big region where everybody eats the same fried chicken, ribs, shrimp and grits, collard greens, and gumbo… Instead, I interpret Southern cooking the way we understand French, Italian, and Chinese food: as a complex cuisine with abundant variations shaped by terrain, climate, and people." What you will not find, however, is a nutrient analysis of the recipes. In her new series, she will be challenging the oversimplified concepts about the South. She discovers "how breaking bread and sharing a meal can create a comfortable place to have meaningful, memorable conversations."

I interpret Southern cooking the way we understand French, Italian, and Chinese food: as a complex cuisine with abundant variations shaped by terrain, climate, and people." —Vivian Howard

Grits: A Cultural & Culinary Journey Through the South (2019)

In her review of Erin Byers Murray's[42] *Grits: A Cultural and Culinary Journey Through the South*," Hartke[43] recounts how the book describes humble ingredients like grits being elevated into expensive dishes. And how there are now small-batch artisanal grits from Southern millers. She also shares comments from other writers interviewed for the book about how food of the south was "born of poverty," associated with the south but not necessarily with a race or gender. She cites one source as saying, "the essence of soul food is preserving and evolving at the same time."

National Restaurant News

Foodies are discovering southern staples such as pimiento cheese (a spread made with sharp cheddar cheese, mayonnaise, and pimiento peppers) and finding it on menus or progressive fast-casual restaurants (https://www.nrn.com/food-trends/flavor-week-southern-staple-pimiento-cheese-draws-foodies, July 8, 2019).

Southern Foodways Alliance

Writers from the Alliance put foodways at the center of dialogues about race, class, gender, ethnicity, and religion (www.southernfoodway.org).

Southern Culinary History

This blog is by Michael Twitty, a culinary historian who focuses his writing on the foodways of Africa, enslaved African Americans, African Americans, and the African and Jewish diasporas. He blogs about "food's critical role in the development and definition of African American civilization and the politics of consumption and cultural ownership that surround it" (https://afroculinaria.com).

News and Observer

An NC newspaper story about a new airline lounge at the Raleigh-Durham International airport brags that with biscuits and gravy, barbecue and cornbread, and craft beer on tap you may hope for a delayed flight![44]

As seems to be happening in many other facets of American life, perhaps diets are simply becoming more homogeneous across the country. In previous articles, we have documented the spread of iced tea to other regions of the United States, not only home brewed but also craft sweet tea at a national coffee chain.[5] Perhaps the headline writer at our local newspaper described today's southern

diet the best when after a local election, he wrote that "there are 2 North Carolinas… one is at Cracker Barrel; the other is at Whole Foods"

Some healthcare professionals have observed that African Americans seem to lag behind other groups in modifying their diets to meet the Dietary Guidelines. James[45] explored how culture and community have an impact on the nutrition attitudes, food choices, and dietary intake of African American men and women. She analyzed the data from 6 focus groups made up of African American men and women from Florida using a theoretical model that centralizes culture as the primary reasons for health behavior. The guiding questions for the focus groups explored concepts of healthful eating and barriers and motivators to healthy eating and nutrition education channels. The author found a perception that healthful eating means giving up traditional ways of cooking and eating and that those who attempt to eat healthier only do so when faced with onset of disease. The participants believed a meal must have meat to be complete; chicken tastes better with the skin; and whole milk tastes better than skim or low fat. Because of the cultural value of the traditional foods, the researcher concluded that they should not be eliminated from the diet entirely, but rather eaten less frequently, in smaller amounts, and reserved for weekends and special occasions.

Although meat is considered a mainstay for many, a wide variety of vegetables are traditionally consumed by people in the south, either fresh or canned or frozen. Counselors can help these patients capitalize on the strength of their diet. That includes cabbage, greens, and salad. Preparation methods are not always designed to maximize nutritional value. Counselors should help their clients find ways to modify recipes used every day, for example by using smoked turkey rather than pork fat to season vegetables—retaining the taste and mouthfeel of the cooking the patients are accustomed to. Counselors might be even more creative and use roasted tomatoes for seasoning things such as collards. In addition to the smoky flavor they offer, roasted tomatoes partially disintegrate when further cooked in vegetables and somewhat mimic the appearance of chunks of meat while providing a meatless option.

In summary, the experts report that eating a southern diet leads to greater chance of stroke and a higher occurrence of hypertension or high blood pressure and type 2 diabetes. Additionally, researchers have reported that adults who consume a southern diet are more likely to have a higher BMI and larger waist size while also being less physically active. Studies using REGARDS study data in particular illustrate the complexity of identifying differences between and among the diets of African American and white adults living in the South while demonstrating the importance of diet as a factor in the occurrence of stroke. Clinicians can act on this understanding by ensuring their patients receive individualized nutrition care and support to implement and sustain food behavior changes that lessen their risk for stroke and other diet related chronic conditions.

Clinicians can act on this understanding by ensuring their patients receive individualized nutrition care and support to implement and sustain food behavior change.

Clinicians can feel confident that food-based dietary recommendations, such as the American College of Cardiology/ American Heart Association/ (ACC/AHA) Guideline on the Primary Prevention of Cardiovascular Disease[46] and the Nutrition Therapy for Adults with Diabetes or Prediabetes: A Consensus Report,[1] can be modified based on cultural/ ethnic and economic considerations. Healthcare professionals providing dietary advice should not focus on preconceived or stereotypical dietary patterns, be they Southern, Western, Hispanic, or Native American. Rather, they should assist patients in modifying actual food and beverage intake along the lines of healthy dietary patterns recognized in the Dietary Guidelines for Americans (https://health.gov/dietaryguidelines/2015/) or guidelines cited above, in ways that align with their personal chronic disease risks.

It also is reasonable for clinicians to question how well a specific diet assessment tool and analysis of the data collected actually represent the food patterns of their patient population. Based on our personal observations, Block 98 may not reflect our patient population very well. In our clinical experience conducting 24-hour dietary recalls and reviewing food records, we observe that African Americans eat large quantities of vegetables that may not be captured in the FFQ. A look at the list of vegetables offered at a local Cracker Barrel restaurant confirms this. A recent menu board listed 5 vegetables as the specials for a week: cornbread dressing, rice, lima beans, cabbage, and sweet potato casserole. Table 3 lists several dietary screeners that may be useful in community or clinical settings. The dietary assessment used by healthcare professionals should be tailored to the goals of the patient.[34]

CASE 1 REVISITED

Mrs A.B. was very receptive to making changes that would promote weight loss and overall health. We counseled her that she could still incorporate many of the foods she and her family enjoyed but with some changes in how these foods were prepared. Over the course of 5 visits over 6 weeks, Mrs A.B. lost a total of 10 lb and experienced a difference in the way her clothes fit. She was discouraged

at week 3 with weight regain but responded to the RDN's coaching.

Nutrition therapy provided to Mrs A.B. included measurement of her REE. It was determined that to lose weight she should eat between 1268 and 1584 cal/d, depending on the amount of exercise she included. She switched to diet drinks but declined to drink water as she hates the lack of flavor. Data regarding the health risks and benefits of drinking diet drinks rather than water remain mixed. Until the data are clear, there may be other more beneficial changes she can make. Mrs A.B. was able to make some change that retained the essence of the meals her family enjoyed. For example, they still had neck bones but now baked the chicken and now eat pork tenderloin instead of fried pork chops. She added fish, albeit fried, but in oil. Canadian bacon was used in place of sausage.

Her breakfast now included grits and Canadian bacon. Lunches were leftovers, such as 2 large broiled chicken drumsticks without the skin or 1 broiled chicken leg with a baked sweet potato and cabbage cooked with ham hocks. Dinners were meals such as a ground beef patty, brown gravy, rice, and garden peas or 2 pieces of slab fish fried in olive oil and baked beans. After dinner, snack was ginger chews.

She mentioned that gravy was not on the initial menu plan she was provided, and the RDN discussed the use of gravy packets that had a ¼ cup serving with 20 calories and no fat, as compared with gravy made from meat drippings. Mrs A.B. requested more frequent support to continue making these changes!

Although meat is considered a mainstay for many, a wide variety of vegetables are traditionally consumed by people in the south, either fresh or canned or frozen.

CASE 2 REVISITED

We shared with Ms C.D. the results of the dietary analysis of her 7-day record and informed her that to lose weight she would need to reduce her intake by approximately 600 cal/d. Using an FFQ that included traditional southern foods, we encouraged her to identify foods she could choose less often (processed and fatty meats and full fat dairy) and others she could consume larger amounts of (vegetables and fruit). We discussed alternatives such as using low-sodium broths to season vegetables, rather than fatback, bacon grease, and ham hocks. We suggested reducing the number of portions of fried foods and commercially prepared foods she selected, noting that her sodium intake was averaging 5100 mg/d. We also provided her with the American Heart Association's "How to Eat Better" from the AHA's Life's Simple 7.[47] She thanked us for the information and declined setting a follow-up appointment saying, "I know what to do; I just do not do it."

SUMMARY

The purpose of nutritional epidemiology is not to prove that one dietary factor or pattern causes disease but rather to inform us about dietary habits of groups of people. Its results, which are valid for populations and the directions of associations, should not be used in place of judgment with an individual patient who needs advice on amount and frequency of intake of foods they currently eat, and substitutions for others if indicated for health reasons. The goal is to personally tailor recommendations to maximize acceptance and maximize adherence. The REGARDS study demonstrates that African Americans (and others who follow a diet with added fats and oils, fried foods, eggs, organ and processed meat, and sugar-sweetened drinks) may have increased risk for stroke related to the "Southern Dietary" pattern they follow as compared with those who follow a Mediterranean diet pattern. While it is unrealistic to urge such individuals to eat a Mediterranean diet, it is sensible to try to modify their existing pattern of foods to maximize dietary intake of food components needed for good health and to lower components associated with ill health. Taking the time to ensure dietary recommendations are individualized for the patient is preferable to simply counseling to "limit or avoid" the "Southern Diet."

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REGISTERED DIETITIAN NUTRITIONIST LINDA T. FARR, RDN, CSOWM, LD, FAND, BECOMES 2020-2021 PRESIDENT OF ACADEMY OF NUTRITION AND DIETETICS

Registered dietitian nutritionist Linda T. Farr, RDN, CSOWM, LD, FAND, begins her 1-year term on June 1 as the 2020-2021 President of the Academy of Nutrition and Dietetics. As an entrepreneur and certified specialist in obesity and weight management, Farr provides personalized medical nutrition therapy to teenagers and adults. Farr is the owner of Nutrition Associates of San Antonio, doing business as Nutritious Table. Farr has more than 35 years of experience in medical, surgical, mental health, physical rehabilitation, and private practice settings. She is a past delegate and speaker of the Academy's House of Delegates, a founding member of the Academy's Weight Management dietetic practice group, and is a past president of the Academy's Texas, San Antonio and Dallas affiliates. Farr was named a 2005 San Antonio Healthcare Hero by the San Antonio Business Journal and was the Texas Academy's 2011 Distinguished Dietitian of the Year. She was instrumental in developing nutrition guidelines for diabetes-friendly restaurant choices and healthful vending machine criteria. Farr is a graduate of Iowa State University.

Congratulations, Linda!

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