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| Abstract: | 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". In this paper we address the complexities of interpreting dietary pattern based research evidence and present the cases of two born and bred southern adults with potential to benefit from culturally appropriate nutrition and dietary counseling. |

Dear Johanna and Randi

Thank you for the speedy turn around and acceptance of our paper on the Southern Diet.

We have accepted all the suggestions save 1, the suggestion on page 15 to revise the statement. We did that after consultation with you about would be the best way to present your ideas. Your ultimate suggestion was to leave it as it was stated.

We are not giving you a line by line of the changes, but they were all made.

If there is anything else you need from us, please don't hesitate to let us know.

I apologize for the delay in getting this manuscript to you.

Cordially,

Kathy

Abstract

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". In this paper we address the complexities of interpreting dietary pattern-based research evidence and present the cases of two born and bred southern adults with potential to benefit from culturally appropriate nutrition and dietary counseling.

Avoid the “Southern Diet”???? What, Really??

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Avoid the “Southern Diet”! What, Really, Do You Mean?

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Short title: southern diet

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Abstract

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 two born and bred southern adults with potential to benefit from culturally appropriate nutrition and dietary counseling.

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 health care 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 (PCDC) recently published two papers 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 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 six foods were described as “lacking in evidence for harm or benefit”. Twelve items were listed as having “evidence of benefit” and noted as “recommend”.

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4 In this article we discuss the recommendation that the “Southern Diet” be avoided or limited;
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6 and suggest that not only is there no single southern diet but that it is possible to adapt diets with
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8 characteristics considered southern to make them both healthy and enjoyable. We present two
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10 cases from our primary care practice and highlight an individualized approach to improving the
11
12 quality and healthfulness of the southern diet consumed. We also explore how registered
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14 dietitian nutritionists (RDNs), nurses, physicians, or health coaches who pride themselves on
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16 providing patient-centered, evidence-based nutrition counseling might advise patients who
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18 describe their diets as southern.
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24 Call out: It is possible to adapt diets with features considered to be southern to make them both
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26 health and enjoyable
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30 The reader will note that the authors of this paper are RDNs (KK, KC) and a nurse (GF) who are
31
32 bona fiide “Southerns”. KK grew up in Michigan but has spent almost 40 years “down south”,
33
34 in North Carolina (NC) and Tennessee. She was surprised upon moving to eastern NC that the
35
36 diet consumed by most everyone, regardless of race, gender, or socio-economic status, was
37
38 similar to the “soul food” in the African American community in Detroit. KC was raised in
39
40 Alabama. While she finds some similarities in the foods of her birthplace and her adopted NC
41
42 home, she shares that in *her* Alabama, most vegetables are fried along with meats. Sugar is
43
44 added to vegetables, and white gravy, and biscuits or cornbread are part of most all meals.
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49 Desserts and sweet tea are also included regularly at meals and gatherings. GF, a native of
50
51 eastern NC who spent a few years away but returned home as soon as she could, doesn’t see her
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53 eating pattern in the papers we reviewed about the southern. She doesn’t eat catfish or drink
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55 mint juleps, and only discovered shrimp and grits in the last decade even though she was raised
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57 on the coast. She does recall eating macaroni and cheese almost daily and having fried chicken
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4 most Sundays. She remembers having sweet tea at her grandma's and at church functions but
5 there was no tea of any kind at her house diet (Editor's note: for more about sweet tea, see
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Kolasa et al., Nutrition Today⁵). 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, porkchops 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

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4 source used by so many people, Wikipedia, takes a less judgmental view and says this about
5
6 southern dietary patterns

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9 (https://en.wikipedia.org/wiki/Cuisine_of_the_Southern_United_States):

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11 “A traditional southern meal is pan-fried chicken, field peas (such as black-eyed peas),
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13 greens (such as collard greens, mustard greens, turnip greens, or poke salad), mashed
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15 potatoes, cornbread or corn pone, sweet tea, and dessert—typically a pie (sweet potato,
16
17 chess, shoofly, pecan, and peach are the most common), or a cobbler (peach, blackberry,
18
19 sometimes apple in Kentucky or Appalachia). Other southern foods include grits, country
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21 ham, hushpuppies, beignets, southern styles of succotash, chicken fried steak, buttermilk
22
23 biscuits (may be served with butter, jelly, fruit preserves, honey, gravy or sorghum
24
25 molasses), pimento cheese, boiled or baked sweet potatoes, pit barbecue, fried catfish,
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27 fried green tomatoes, bread pudding, okra (principally dredged in cornmeal and fried, but
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29 also steamed, stewed, sautéed, or pickled), butter beans, and pinto beans.”

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32 Sounds tasty but can it be reconciled with good health? It is an important question as there are
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34 wide differences in the burden of disease at the state level, with many southern states having
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36 lower life expectancy rates.⁸ High body mass index (BMI) and high fasting plasma glucose, both
37
38 affected by diet, are two of the most important risk factors identified. The authors of this study
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40 call for addressing key modifiable risk factors that include diet.
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50 **CASE 1 Mrs. AB: African American with Prediabetes Consuming a “Southern” Diet**

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53 Mrs. AB. is a 50 year old African American with a BMI of 34.5, who says she cooks southern.
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55 She eats breakfast and dinner at home and carries her lunch to work where she is on the
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57 housekeeping staff. She describes herself as “very active” and always trying to lose some
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4 weight. About four years ago she was told by her primary care physician that she was “pre-
5 diabetic” and was given a pamphlet to study. She takes no medicine. Her current fasting blood
6 glucose run 126-135 mg/dL and her 2 hour post prandial glucose runs 150-200 mg/dL. She told
7 us in an interview that she was trying to make some healthy changes but changing the type of
8 food she was serving her family was unacceptable to them. They felt strong ties to the taste of
9 her traditional southern food and did not find the new way of eating very satisfying. She
10 provided a diet record for our review. She has been wearing a step counter and reported
11 averaging 16,000 steps per day. She also reported drinking 104 ounces of water per day
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24 On analysis it was found that she consumed 1-2 servings of red meat daily (smoked sausage,
25 bacon, ham, lunch meat, cheese burgers, beef ribs), at least 1 serving of fried food a day
26 (French fries, chicken and biscuits with molasses), and about 4 servings of poultry (mostly fried
27 chicken) a week. She also had a pastry or sweet (snack cakes, cakes, cookies) daily. While she
28 consumed fewer than half the recommended daily servings for fruits, vegetables and grains, she
29 did eat beets, collard and mustard greens, spinach and cabbage (seasoned with pork fat), and
30 whole grain cereal and baked beans. She also ate white grits, cornbread, white bread, and
31 macaroni and cheese. She had stopped eating sweet potatoes because she heard they were “bad
32 for diabetes”. She did not consume fish or nuts and ate almost no fruit aside from an occasional
33 peach. She did eat eggs and yogurt. She drank orange soda (recently switching to “diet”),
34 coffee, and herbal tea. She generally had breakfast around 5:00 am, lunch (which she called
35 dinner) around 12:30 pm, and supper, which typically consisted of leftovers from lunch, around
36 6:00 pm.
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57 Our analysis showed her average caloric intake to be around 1,500 calories, with about 44% of
58 her calories coming from total fat, much of it from saturated fat (14%). Her carbohydrate intake
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4 was about 140 grams per day. The vegetables she was consuming were providing significant
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6 amounts of the B vitamins and vitamin C.
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10 Call out: Our analysis showed her average caloric intake to be around 1,500 calories, with about
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12 44% of her calories coming from total fat, much of it from saturated fat (14%). Her
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14 carbohydrate intake was about 140 grams per day. The vegetables she was consuming were
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16 providing significant amounts of the B vitamins and vitamin C
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20 Her potassium, vitamin D and calcium, dietary fiber, omega 3 fatty acids, and vitamin A intakes
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22 were low, and her sodium intake high (5,125 mg/day). Measurement of her Resting Energy
23
24 Expenditure (REE) indicated that consuming between 1268-1584 calories/day, depending on her
25
26 physical activity, would lead to weight loss
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30 The following Nutrition Diagnosis was made: Food and nutrition-related knowledge deficit (NB-
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32 1.1) related to the uncertainty of how to apply nutrition information for optimal weight and
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34 glycemic control as evidenced by BMI of 34.5 (Obesity, Class I) and reported blood glucose
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36 levels above fasting and postprandial goals
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40 A structured meal plan tailored to her lifestyle was constructed (Table 1).
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43 44 **CASE 2. Ms. CD: Caucasian Southerner with Obesity Consuming a southern diet**

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47 Ms. CD is a 64-year-old Caucasian female who states she enjoys southern food and cooking and
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49 loves “her sweets”. She works part-time as a nurse and often eats at a local restaurant with a 60-
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51 year history of “great southern food”. During our interview she said that like everybody else she
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53 loves southern food but as she has moved up the socioeconomic ladder, she has made more of an
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55 effort to eat better because she has learned she should and because she had access to healthier
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57 foods. Even so, she said she continues to feel more comfortable shopping for food at the country
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4 store she went to growing up rather than the upper end chain market near her current home. She
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6 remembers that growing up they were poor but never hungry, eating from the garden: beans
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8 (lima, snap and wax), okra, peas, squash, cucumbers, tomatoes, cabbage, lettuce, corn,
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10 cantaloupe, and watermelon. In addition to eating them fresh, they would freeze, stew, or
11
12 otherwise preserve vegetables for the winter. Her family never did but she knew others who
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14 salted, cured, or made sausage from every part of the pig to have meat for winter.
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20 She has a BMI of 31.1 and knows it would be good for her to lose a little weight, but she likes
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22 the way she cooks and eats. She has been told she has pre-hypertension but is not on medication.
23
24 She clearly warned us that if we were going to tell her to stop eating southern, she didn't want to
25
26 hear it. She told us she enjoyed our article on sweet tea but is "addicted" and doesn't like it made
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28 with anything other than sugar.⁵ She added that she knows how to eat healthy, she just doesn't.
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30 She is open to "some pointers on becoming a bit healthier of an eater".
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35 On analysis of her 5 day food record, we found that she consumed 1-2 servings of meat daily
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37 (smoked sausage, bacon, ham, lunch meat, taco meat, country ham, deviled eggs, pimiento
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39 cheese), and at least 1 serving of fried food a day (shrimp, chicken). She also had biscuits, and a
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41 pastry or sweet (banana pudding, brownie) daily. She met her grain recommendation with white
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43 bread, cornbread, taco shells, biscuits, or macaroni and cheese. She met about 75% of her
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45 vegetable requirement as cabbage or collards seasoned with fat meat, coleslaw prepared with
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47 Duke's[®] mayonnaise, and white or sweet potatoes. She reported trying to eat a banana or apple
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49 every day. She drank whole milk. She snacked on Lance Nabs[®], packaged crackers filled with
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51 processed cheese or peanut butter. She drank coffee with sweetener at breakfast; 16 ounces of
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53 sweet tea at lunch, and two to three diet Sundrop[®], a drink that is a regional favorite citrus
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55 flavored yellow-green soda, throughout the day and at dinner. Our analysis showed her average
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4 caloric intake is around 2,605 calories (estimated 1328 - 2071 to maintain weight); with about
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6 45% of her calories coming from total fat, much of it from saturated fat (14%). Her
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8 carbohydrate intake was about 152 grams or 40% of her calories per day. Her dietary fiber intake
9
10 was good at 27 grams/day. She ate in restaurants often and had few servings of fruits and
11
12 vegetables when she did so, explaining her low intakes of: vitamin A (50% of need); vitamin D
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14 (25%); folate (30%); calcium (60%); iron (70%); potassium (45%); omega 3 fatty acids (45%).
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16 Her sodium intake was high (5,100 mg/day).
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22 She declined having a measurement of her REE because she preferred not to fast. She did not
23
24 want a structured meal plan. Her diet routinely included taco meat, fried pork chops, dark meat
25
26 and skin of chicken and turkey (fried), bacon, sausage, and country ham; vegetables prepared
27
28 with animal products such as fatback, bacon grease, and ham hocks. We agreed to give her tips
29
30 on how to eat healthier.
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35 The following Nutrition Diagnosis was made: "Food and nutrition-related knowledge deficit
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37 (NB-1.1) related to the uncertainty of how to apply nutrition information to achieve and maintain
38
39 a healthy weight as evidence by BMI of 30.0 (Obesity, Class I)."
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43 Call out: Nutrition Diagnosis was made: "Food and nutrition-related knowledge deficit (NB-1.1)
44
45 related to the uncertainty of how to apply nutrition information to achieve and maintain a healthy
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47 weight as evidence by BMI of 30.0 (Obesity, Class I)."
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51 **Background**

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54 First, let us review some recent studies of the "Southern" diet and health (Table 2).^{7,9-16}
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57 **The Prevention of Cardiology Disease Council's guidance papers and relevant findings**
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59 **from the REGARDS study's definition of the "Southern Diet".** In the 2017 paper "Trending
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4 Cardiovascular Nutrition Controversies” expressing the views of the American College of
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6 Cardiology’s Prevention of Cardiovascular Disease Council, “Southern Diets” were listed in a
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8 column labeled “Evidence of harm; limit or avoid”.³ The REGARDS Study (Reasons for
9
10 Geographic and Racial Differences in Stroke), a national observational study focused on risk
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12 factors for stroke in adults 45 years or older, is cited as the evidence for that recommendation.⁷
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17 Between 2003-2007, the REGARDS study enrolled 30,239 African American and Caucasian
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19 participants from the continental United States. As stated on the REGARDS’ website and in
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21 more than 500 published studies, the purpose of the study is to understand why people in some
22
23 parts of the country are more likely to have strokes, and why African Americans are more likely
24
25 to have strokes than Caucasian Americans. Details of the sample, methods and findings are
26
27 accessible at www.regardsstudy.org. In the team’s 2013 report they concluded that regional and
28
29 racial differences in diet do exist, and that the role of diet may be more important than some
30
31 other traditional risk factors such as hypertension.¹⁷ The self-reported data from participants
32
33 suggested that adherence to a southern style diet may increase the risk of stroke. They found that
34
35 the “Southern Dietary” pattern as defined mediates racial disparity in stroke by 63%. Previous
36
37 work by the REGARDS group demonstrated traditional risk factors such as hypertension and
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39 atrial fibrillation mediated only 50% of the excess stroke among African Americans. Based on
40
41 these findings, it was suggested that discussion of nutrition patterns during risk screening of
42
43 patients may be an important step in reducing stroke.
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52 The 2015 study referenced in “Trending Cardiovascular Nutrition Controversies”, concluded that
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54 a “Southern Dietary” pattern, characterized by added fats, fried food, eggs and egg dishes, organ
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56 meats, processed meats, and sugar-sweetened beverages, was associated with a 56% higher risk
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58 of acute coronary heart disease (CHD) events over 6 years of follow up among the REGARDS
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4 study's socio-demographically and regionally diverse sample of Caucasian and African
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6 American adults.⁷ Other dietary patterns tested were not. The American Heart Association
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8 shared the news widely that the "Southern Diet" could raise the risk of heart attack"
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11 (<https://newsarchive.heart.org/southern-diet-could-raise-the-risk-of-heart-attack/>).

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14 Subsequently, in a 2018 report, the "Southern Dietary" pattern was identified as the largest
15
16 statistical mediator of the difference in hypertension incidence between African American and
17
18 Caucasian male and female participants.¹⁸ In the analyses performed, the "Southern Diet"
19
20 accounted for 51.6% of the excess risk among African American men and 29.2% of the excess
21
22 risk among African American women (p. 1345). The "Southern Dietary" pattern was associated
23
24 with southern African American participants, conferring a 39% greater risk of stroke. In addition
25
26 to the "Southern Diet", the researchers investigated alcohol intake, exercise, depression, stress,
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28 DASH diet score, Mediterranean diet score, and ratio of sodium to potassium in diet. The
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30 American Heart Association and other groups highlighted the study results saying, "Southern
31
32 Diet" could be deadly for people with heart disease"
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35 ([https://www.heart.org/en/news/2018/07/13/southern-diet-could-be-deadly-for-people-with-](https://www.heart.org/en/news/2018/07/13/southern-diet-could-be-deadly-for-people-with-heart-disease)
36
37 [heart-disease](https://www.heart.org/en/news/2018/07/13/southern-diet-could-be-deadly-for-people-with-heart-disease)).

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44 In work presented at the American Heart Association Lifestyle Scientific sessions in March
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46 2019, Judd and coworkers¹⁹ reported the characteristics most strongly associated with eating the
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48 "Southern Diet" as being African American, having less than a high school education, and being
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50 male, especially among those living in the "stroke belt" (thought to include Mississippi,
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52 Tennessee, Louisiana, Kentucky, Georgia, North Carolina, Alabama, South Carolina, Arkansas,
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54 Indiana and Virginia). Other factors assessed did not include weight or medical diagnoses.
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4 The REGARDS study diet score data were derived from self-reported answers from 17,418
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6 participants who completed the Block 98 Food Frequency Questionnaire which addresses
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8 consumption of 110 foods.⁷ The researchers iteratively employed exploratory and confirmatory
9
10 factor analyses on 56 different food groups and examined differences by race, region, and sex to
11
12 determine the optimal factor solution in the sample group. In addition to the “Southern Diet” the
13
14 following patterns emerged: (1) the “Convenience” pattern characterized by mixed dishes; (2)
15
16 the “Plant-based” pattern by fruits, vegetables, and fish; (3) the “Sweets/Fats” pattern by sweet
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18 snacks, desserts, and fats and oils associated more with Caucasian southerners; and (4) the
19
20 “Alcohol and salads” pattern which loaded heavily on beer, wine, liquor, and salad ingredients.²⁰
21
22 Only the “Southern Diet” pattern was associated with increased risk of stroke. Additional
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24 REGARDS studies show the “Southern Dietary” pattern associated with increased risk of
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26 incident stroke, coronary heart disease, end stage renal disease and chronic kidney disease,
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28 sepsis; cancer mortality; and cognitive decline (www.uab.edu/soph/regardsstudy).

29 A word on analytic nutrition epidemiology and observational data

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31 Most RDNs, cultural anthropologists and students of food folkways would say there is no one
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33 single southern diet. While dietary patterns derived from epidemiological studies have been
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35 informative in planning clinical trial research, observational studies do have limitations.

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37 Therefore, is it appropriate to translate them into clinical recommendations, as was done by The
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39 American College of Cardiology’s Prevention of Cardiovascular Disease Council?

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41 Call out: Data from nutritional epidemiology can inform guidelines or provide the basis for
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43 making dietary advice that is applicable to different groups of people but must be tailored for
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45 individuals.
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4 Most nutrition experts believe that nutritional epidemiology has contributed positively to our
5 understanding of the role of diet in long-term health and disease. According to Steffen²¹,
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9 “Observational studies attempt to develop evidence for risk (association) of dietary intake and
10 nutritional status as they relate to health or disease outcomes.” However, their role in translation
11 and answering clinical practice questions has long been a contentious issue, as demonstrated in
12 recent calls for improving the quality of dietary research to reduce consumer confusion,
13 including media reports that describe results as causal when they clearly are not.²²⁻²⁴
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22 The authors of the 2017 American College of Cardiology paper on cardiovascular nutrition
23 controversies, noting there were limited data, use these and other studies based on observational
24 data to make specific dietary recommendation.³ As it is accepted that data from nutritional
25 epidemiologic work can inform guidelines or provide the basis for dietary advice different
26 groups of people, but not individuals,^{22,25} it might be tempting to base recommendations on the
27 loading factors from the factor analyses, but is this appropriate? The Judd and co-workers’
28 paper¹⁷ provides the factor loadings for foods that fall in the five patterns. Foods most closely
29 associated with the “Southern Dietary pattern are fried foods (0.56), organ meats (0.47),
30 processed meats (0.45), eggs and egg dishes (0.42), added fats (0.38), and avoiding low fat milk
31 (-0.42). Unfortunately, however, these data cannot be used to tell a patient that if she eliminates,
32 for example, fast food, that she would lower her risks for a stroke.
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49 Call out: It is accepted that data from nutritional epidemiologic work can inform guidelines or
50 provide the basis for dietary advice different groups of people, but not individuals
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55 A word on dietary assessment methods.
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4 The assessment of dietary intake is complex and no single standardized, validated approach to do
5 so exists. Despite advances in biostatistical analysis relevant to dietary assessment, Van Horn²⁶
6
7 states that lingering questions remain regarding choice of approach. Food Frequency
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9 questionnaires (FFQ) are often used in observational studies. A FFQ is a list of foods and the
10
11 frequency in which these foods are consumed in a specific time frame. Results may be useful in
12
13 examining dietary patterns and directional relationships between diet and chronic disease if they
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15 are validated for the population under investigation but they are not necessarily valid for
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17 individuals. FFQs sacrifice precision for simplicity and convenience, yet even so, the results are
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19 thought to reflect conceptually important exposure to the development of disease or risk of
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21 disease.²⁶
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29 In a quick review of current, indexed literature, the most recent validation studies of the Block 98
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31 FFQ we found were with samples of Canadian women²⁷ and pregnant women²⁸. Most of these
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33 validations are, however, not against “true” intakes unbiased by respondents’ reporting errors but
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35 rather concurrent validations against some other assessment measure that also involves
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37 subjective reporting. It is well known that under and overreporting occur, especially with foods
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39 thought to be “healthy” or “unhealthy”. Van Horn²⁶ concludes her chapter on dietary assessment
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41 methods and validation with a word to researchers that they “interpret dietary intake data
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43 cautiously and with considerable effort to identify measurement error and to offer well
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45 documented diet and healthy hypotheses and associations”. Tools other than FFQs may be more
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47 appropriate for assessment of diet in clinical settings (Table 3²⁹⁻³⁴). In our own clinic we have
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49 modified the “Rate Your Plate” tool³² to include foods typically reported by our patients.
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57 In research for this article, we the authors found it curious that while the REGARDS study
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59 labeled the most concerning pattern identified as the “Southern Diet”, other studies have
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4 produced similar patterns and referred to them as “Western” or “Standard American” (Table 2).

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6 In another study of food behaviors in the southern U.S., the Jackson Heart Study from
7
8 Mississippi, researchers found the southern dietary pattern correlated with visceral adipose tissue
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10 and cardiometabolic risk factors.⁹ Other researchers have analyzed data from the U.S.
11
12 Department of Agriculture’s Continuing Survey of Food Intake by Individuals (1994-1996) that
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14 had a sample size of 3,498 adults. In unpublished work, Mechanic and Popkin,¹⁰ found those
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16 living in the south (37.4% of the sample) consumed more high-calorie, low nutrient density,
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18 “obesity-promoting” foods such as French fries, soda and fruit drinks, sweet tea, cheeseburgers,
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20 and fast food, than non-southerners.
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26 Call Out: Other studies have produced similar patterns to REGARDS but refer to them as
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28 “Western” or “Standard American”
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32 Multiple investigators have conducted small surveys of foodways for food habits. For example,
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34 Yang and coworkers¹² described the favorite foods of older Caucasian and African American
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36 adults living in Alabama to include: chicken of any kind, collard greens, cornbread, green or
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38 string beans, fish (likely fried catfish), turnip greens, potatoes, apples, tomatoes, fried chicken,
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40 eggs, steak, and iced tea, milk, and soda/coke. And Sterling and co-workers¹¹ found that African
41
42 American women living in the rural south had two dietary patterns, one more plant based
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44 containing nuts, and the other more traditional with more animal foods and fats. Although due to
45
46 space constraints we will not provide an in-depth review of these studies, in general, the patterns
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48 were not considered to be healthful as they did not meet recognized, evidence based dietary
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50 guidelines.
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57 Food is more than just something to eat--especially in the south
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4 If you dive into the literature and cookbooks of the south, you will find great diversity of cuisine
5 as well as culture.
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10 Twixt the Cup and the Lip (1952).³⁵ This book, written in 1952, was among the first to describe
11 the psychological and socio-cultural factors affecting food habits based on field research in the
12 rural south. The authors describe four prevailing values in southern culture and how food
13 patterns reflect those values of respect for tradition, reverence for science, affability or southern
14 hospitality and approval of social distinctions. They conclude that food habits do change and
15 there are ways to speed up change for improved health behavior.
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25 The Carolina Table (2016).⁶ Unfortunately, the literature about southern foodways is not just
26 about the food but also the unfortunate stereotyping of southerners. The editor of “The Carolina
27 Table”, a book by North Carolina Writers on Food⁶ wrote, “certain of us sons and daughters of
28 the South have a chip on our shoulders about stereotyping regarding the American South...South
29 means backward, ill-educated, lazy, superstitious, unhygienic and dumb.” He acknowledges that
30 many southerners adore fried chicken and have strong feelings about barbeque and sweet tea but
31 that doesn’t mean that everything they eat is fried (or that they lack ambition, education, and
32 reason!).
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45 To understand the southern diet pattern and better counsel patients on healthy eating, it seems
46 useful to explore some resources not usually consulted by health care professionals. Here are a
47 few that share thoughts about the south and its foodways:
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53 The Edible South (2014).³⁶ Marci Cohen Ferris’ book, “*The Edible South*”, chronicles the
54 American South’s history through food describing how Caucasian, African and Native
55 Americans struggled to nourish themselves and shaped the southern identity.
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4 The Month of Their Ripening: North Carolina Heritage Foods Through the Year (2018).³⁷
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6 Georgann Eubanks' book has the stories of 12 North Carolina heritage foods and their deep ties
7 to the culture of the people in that state. The people in North Carolina --as in much of the south--
8 have a connection to the land. Many reminisce about how they were nourished by the fruits and
9 vegetables grown in their gardens, preserved for winter and eaten year-round. In one story about
10 a new restaurant in a historic African American neighborhood in Asheville, North Carolina, the
11 chef is quoted as saying "I got to see the power in telling stories with food, in sharing your
12 identity on the plate." There is a trend of elevating simple ingredients and dishes like grits,
13 collards, and macaroni and cheese to expensive dishes on fine dining menus.
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27 Deep Run Roots (2016), A Chef's Life (2013-2016), and Somewhere South (coming in

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29 2020).³⁸⁻⁴⁰ Vivian Howard's popular cook book and PBS shows have contributed to the revival
30 of the southern diet.⁴¹ Her new series "Somewhere South" is scheduled to air on PBS in 2020.

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32 The chef, restaurateur, author, and TV persona writes, "This is a Southern cookbook, but not one
33 that treats the South like one big region where everybody eats the same fried chicken, ribs,
34 shrimp and grits, collard greens, and gumbo... Instead, I interpret Southern cooking the way we
35 understand French, Italian, and Chinese food: as a complex cuisine with abundant variations
36 shaped by terrain, climate and people". What you won't find, however, is a nutrient analysis of
37 the recipes. In her new series she will be challenging the oversimplified concepts about the
38 South. She discovers "how breaking bread and sharing a meal can create a comfortable place to
39 have meaningful, memorable conversations."
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54 Call out: I interpret Southern cooking the way we understand French, Italian, and Chinese food:
55 as a complex cuisine with abundant variations shaped by terrain, climate and people"---Vivian
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59 Howard
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4 Grits: A Cultural & Culinary Journey Through the South (2019).⁴² In her review of Erin Byers
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6 Murray's "Grits: A Cultural and Culinary Journey through the South", Harktk⁴³ recounts how
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8 the book describes humble ingredients like grits being elevated into expensive dishes. And how
9
10 there are now small-batch artisanal grits from Southern millers. She also shares comments from
11
12 other writers interviewed for the book about how food of the south was "born of poverty",
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14 associated with the south but not necessarily with a race or gender. She cites one source as
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16 saying, "the essence of soul food is preserving and evolving at the same time."
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22 National Restaurant News July 8, 2019 ([https://www.nrn.com/food-trends/flavor-week-southern-](https://www.nrn.com/food-trends/flavor-week-southern-staple-pimiento-cheese-draws-foodies)
23
24 [staple-pimiento-cheese-draws-foodies](https://www.nrn.com/food-trends/flavor-week-southern-staple-pimiento-cheese-draws-foodies)) Foodies are discovering southern staples like pimiento
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26 cheese (a spread made with sharp cheddar cheese, mayonnaise and pimiento peppers) and
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28 finding it on menus or progressive fast-casual restaurants.
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32 Southern Foodways Alliance (www.southernfoodway.org). Writers from the Alliance put
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34 foodways at the center of dialogues about race, class, gender, ethnicity, and religion.
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38 Southern culinary history (<https://afroculinaria.com>). This blog is by Michael Twitty, a culinary
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40 historian who focuses his writing on the foodways of Africa, enslaved African Americans,
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42 African Americans, and the African and Jewish diasporas. He blogs about "food's critical role in
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44 the development and definition of African American civilization and the politics of consumption
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46 and cultural ownership that surround it."
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51 News and Observer (<https://www.newsobserver.com/living/travel/article233663557.html>). A
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53 North Carolina newspaper story about a new airline lounge at the Raleigh-Durham International
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55 airport brags that with biscuits and gravy, barbecue and cornbread, and craft beer on tap you may
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57 hope for a delayed flight!⁴⁴
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4 As seems to be happening in many other facets of American life, perhaps diets are simply
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6 becoming more homogeneous across the country. In previous articles we have documented the
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8 spread of iced tea to other regions of the U.S., not only home brewed but also craft sweet tea at a
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10 national coffee chain.⁵ Perhaps the headline writer at our local newspaper described today's
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12 southern diet the best when after a local election, he wrote that "there are two North
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14 Carolinas...one is at Cracker Barrel, the other is at Whole Foods"
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19 Some health care professionals have observed that African Americans seem to lag behind other
20
21 groups in modifying their diets to meet the Dietary Guidelines. James⁴⁵ explored how culture and
22
23 community have an impact on the nutrition attitudes, food choices, and dietary intake of African
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25 Americans men and women. She analyzed the data from six focus groups made up of African
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27 American men and women from Florida using a theoretical model that centralizes culture as the
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29 primary reasons for health behavior. The guiding questions for the focus groups explored
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31 concepts of healthful eating and barriers and motivators to healthy eating and nutrition education
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33 channels. The author found a perception that healthful eating means giving up traditional ways of
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35 cooking and eating, and that those who attempt to eat healthier only do so when faced with onset
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37 of disease. The participants believed a meal must have meat to be complete; chicken tastes better
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39 with the skin; and whole milk tastes better than skim or low fat. Because of the cultural value of
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41 the traditional foods, the researcher concluded that they should not be eliminated from the diet
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43 entirely, but rather eaten less frequently, in smaller amounts, and reserved for weekends and
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45 special occasions.
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56 Although meat is considered a mainstay for many, a wide variety of vegetables are traditionally
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58 consumed by people in the south, either fresh or canned or frozen. Counselors can help these
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4 patients capitalize on the strength of their diet. That include cabbage, greens and salat'.

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6 Preparation methods are not always designed to maximize nutritional value. Counselors should
7 help their clients find ways to modify recipes used every day, for example by using smoked
8 turkey rather than pork fat to season vegetables--retaining the taste and mouthfeel of the cooking
9 the patients are accustomed to. Counselors might be even more creative and use roasted
10 tomatoes for seasoning things such as collards. In addition to the smoky flavor they offer, roasted
11 tomatoes partially disintegrate when further cooked in vegetables and somewhat mimic the
12 appearance of chunks of meat while providing a meatless option.
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29 In summary, the experts report that eating a southern diet leads to greater chance of stroke, a
30 higher occurrence of hypertension or high blood pressure, and type 2 diabetes. Additionally,
31 researchers have reported that adults who consume a southern diet are more likely to have a
32 higher body mass index (BMI) and larger waist size while also being less physically active.
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34 Studies using REGARDS study data in particular illustrate the complexity of identifying
35 differences between and among the diets of African American and Caucasian adults living in the
36 South while demonstrating the importance of diet as a factor in the occurrence of stroke.
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39 Clinicians can act on this understanding by ensuring their patients receive individualized
40 nutrition care and support to implement and sustain food behavior changes that lessen their risk
41 for stroke and other diet related chronic conditions.
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57 Call out: Clinicians can act on this understanding by ensuring their patients receive
58 individualized nutrition care and support to implement and sustain food behavior change
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7 Clinicians can feel confident that food-based dietary recommendations like the American
8 College of Cardiology/American Heart Association/ (ACC/AHA) Guideline on the Primary
9 Prevention of Cardiovascular Disease⁴⁶ and the Nutrition Therapy for Adults with Diabetes or
10 Prediabetes: A Consensus Report,¹ can be modified based on cultural/ethnic and economic
11 considerations. Health care professionals providing dietary advice should not focus on
12 preconceived or stereotypical dietary patterns, be they Southern, Western, Hispanic or Native
13 American. Rather, they should assist patients in modifying actual food and beverage intake along
14 the lines of healthy dietary patterns recognized in the Dietary Guidelines for Americans
15 (<https://health.gov/dietaryguidelines/2015/>) or guidelines cited above, in ways that align with
16 their personal chronic disease risks.
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32 It also is reasonable for clinicians to question how well a specific diet assessment tool and
33 analysis of the data collected actually represents the food patterns of their patient population.
34 Based on our personal observations, the Block 98 may not reflect our patient population very
35 well. In our clinical experience conducting 24 hour dietary recalls and reviewing food records,
36 we observe that African Americans eat large quantities of vegetables that may not be captured in
37 the FFQ. A look at the list of vegetables offered at a local Cracker Barrel restaurant confirms
38 this. A recent menu board listed five vegetables as the specials for a week: cornbread dressing,
39 rice, lima beans, cabbage and sweet potato casserole. Table 3 lists several dietary screeners that
40 may be useful in community or clinical settings. The dietary assessment used by health care
41 professionals should be tailored to the goals of the patient.²⁹
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57 **Case 1 revisited**

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4 Mrs. AB was very receptive to making changes that would promote weight loss and overall
5 health. We counseled her that she could still incorporate many of the foods she and her family
6 enjoyed but with some changes in how these foods were prepared. Over the course of 5 visits
7 over 6 weeks, Mrs. A lost a total of 10 pounds and experienced a difference in the way her
8 clothes fit. She was discouraged at week 3 with weight regain but responded to the RDN's
9 coaching.
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19 Nutrition therapy provided to Mrs. AB included measurement of her REE. It was determined that
20 to lose weight she should eat between 1268-1584 calories per day depending on the amount of
21 exercise she included. She switched to diet drinks but declined to drink water as she hates the
22 lack of flavor. Data regarding the health risks and benefits of drinking diet drinks rather than
23 water remain mixed. Until the data are clear, there may be other more beneficial changes she can
24 make. Mrs. AB was able to make some change that retained the essence of the meals her family
25 enjoyed. For example, they still had neck bones but now baked the chicken and now eat pork
26 tenderloin instead of fried pork chops. She added fish, albeit fried, but in oil. Canadian bacon
27 was used in place of sausage.
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42 Her breakfast now included grits and Canadian bacon. Lunches were leftovers, such as 2 large
43 broiled chicken drumsticks without the skin or 1 broiled chicken leg with a baked sweet potato
44 and cabbage cooked with ham hocks. Dinners were meals such as a ground beef patty, brown
45 gravy, rice, and garden peas or 2 pieces of slab fish fried in olive oil, and baked beans. After
46 dinner snack was ginger chews.
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55 She mentioned that gravy was not on the initial menu plan she was provided, and the RDN
56 discussed the use of gravy packets that had a ¼ cup serving with 20 calories and no fat, as
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4 compared with gravy made from meat drippings. Mrs. AB requested more frequent support to
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7 continue making these changes!
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10 Call out: Although meat is considered a mainstay for many, a wide variety of vegetables are
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12 traditionally consumed by people in the south, either fresh or canned or frozen
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18 Case 2 revisited

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21 We shared with Ms. CD the results of the dietary analysis of her 7 day record and informed her
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23 that to lose weight she would need to reduce her intake by about 600 calories a day. Using an
24
25 FFQ that included traditional southern foods, we encouraged her to identify foods she could
26
27 choose less often (processed and fatty meats and full fat dairy) and others she could consumer
28
29 larger amounts of (vegetables and fruit). We discussed alternatives like using low sodium broths
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31 to season vegetables, rather than fatback, bacon grease and ham hocks. We suggested reducing
32
33 the number of portions of fried foods and commercially prepared foods she selected, noting that
34
35 her sodium intake was averaging 5,100 milligrams per day. We also provided her with the
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37 American Heart Association's "How to Eat Better" from the AHA's Life's Simple 7⁴⁷
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39 [https://www.heart.org/en/healthy-living/healthy-lifestyle/my-life-check--lifes-simple-7/lifes-](https://www.heart.org/en/healthy-living/healthy-lifestyle/my-life-check--lifes-simple-7/lifes-simple-7-eat-better-infographic)
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41 [simple-7-eat-better-infographic](https://www.heart.org/en/healthy-living/healthy-lifestyle/my-life-check--lifes-simple-7/lifes-simple-7-eat-better-infographic)). She thanked us for the information and declined setting a
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43 follow up appointment saying, "I know what to do, I just don't do it".
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51 Summary

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54 The purpose of nutritional epidemiology is not to prove that one dietary factor or pattern causes
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56 disease but rather to inform us about dietary habits of groups of people. Its results, which are
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58 valid for populations and the directions of associations, should not be used in place of judgment
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4 with an individual patient who needs advice on amount and frequency of intake of foods they
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6 currently eat, and substitutions for others if indicated for health reasons. The goal is to personally
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8 tailor recommendations to maximize acceptance and maximize adherence. The REGARDS study
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10 demonstrates that African Americans (and others who follow a diet with added fats and oils,
11
12 fried foods, eggs, organ and processed eat, and sugar sweetened drinks) may have increased risk
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14 for stroke related to the “Southern Dietary” pattern they follow as compared with those who
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16 follow a Mediterranean diet pattern. While it is unrealistic to urge such individuals to eat a
17
18 Mediterranean diet, it is sensible to try to modify their existing pattern of foods to maximize
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20 dietary intake of food components needed for good health, and to lower components associated
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22 with ill health. Taking the time to ensure dietary recommendations are individualized for the
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24 patient is preferable to simply counseling to “limit or avoid” the “Southern Diet”.
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Table 1. Meal plan for case 1.

Plan based on 1,300 kcal/day; 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 non fat 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 ounces) lean meats baked or broiled without skin; Vegetables (2); Fat (1)

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 | 1,775 participants (AA, aged 21-94, AA, Mississippi, US) pulled from 5,301 participants in the Jackson Heart Study | Short food frequency questionnaire (FFQ) developed from longer one used in USDA Delta Nutritional Intervention Research Initiative (Delta-NIRI FFQ) and 24-hour dietary recall | Three dietary patterns: Southern pattern: beans & legumes (0.593), bread (0.423), chicken & turkey (0.340), corn and corn products (0.529), eggs (0.468), fast food (0.320), margarine & butter (0.581), meat (0.446), miscellaneous fats (0.525), organ meats (0.458), vegetables (0.453), processed meat & poultry (0.473); rice & pasta (0.674), seafood (0.311), soups (0.361), potato (0.638) Fast food pattern: fast food (0.620), salty snacks (0.612) sugar & candy (0.600), baked desserts (0.483), meat (0.475), soda (0.427), fruit drinks (0.420), oils & salad dressings (0.395), processed meat & poultry (0.394), milk & dairy (0.355) Prudent pattern: fruit (0.632), hot cereal (0.492), cold cereal (0.477), dairy desserts (0.369), nuts & seeds (0.339), fruit juice (0.311); milk & 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 |

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| | | | | metabolic syndrome as was the “fast food” pattern |
| Mechanic & Popkin (2010) [10] | | 3,498 participants; Southerners 34.7% of the sample | CFSII using 24 hour 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 non-southerners |
| 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 study (enrolled between 2003-2007, aged 45 years or older, 35% AA, 59% female, United States with 56% residents of the stroke belt) | Block 98 food frequency questionnaire (FFQ) | <p>Five dietary patterns:</p> <p>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)</p> <p>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),</p> <p>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)</p> <p>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),</p> <p>Alcohol and salads pattern: salad dressings/sauces (0.55), butter (0.32), liquor (0.31), coffee (0.30)</p> |

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| | | | | Findings: After adjustment for multiple variables, consumption consistent with Southern pattern was associated with greater risk of acute coronary heart disease event |
| 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 years 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 (one weekend, one weekday) 24 hour 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 United States | 270 homebound participants (65 years 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 United States. Western dietary pattern identified as one of two major dietary | 995 participants in the Bogalusa Heart Study (aged 19-39 years, 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) |

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| | patterns among participants. | | | (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 |
| Esmailzadeh et al. (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, 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 | Three unannounced 24 hour recalls with | Three dietary patterns: Western-like pattern: (41.3%): relatively higher |

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| | | Aging (71-77 years of age, 39% AA, 56% female, west central Alabama) | each participant; foods then aggregated into 13 groups and classified into dietary patterns | 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, race not provided, all female, United States) | Willett semi quantitative 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) |

Table 3. Dietary screeners for clinical and community practice (29)

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|------------------------------------|--|--------------------------|
| Habitual Beverage Intake (BevQ-15) | 15 item to quantify habitual beverage intake of adults (grams, energy); administered by practitioners in under 2 minutes | Hedrick 2012 [30] |
| Mediterranean Diet Screener | 14 items designed to appraise adherence to Mediterranean diet | Martinez et al 2012 [31] |
| Rate Your Plate | 10 questions; can be modified to reflect local foods | Gans 2000 [32] |
| REAP | 16 item dietary and eating behaviors, identifies patients who would benefit from referral to RDN | Segal-Isaacson 2004 [33] |
| WAVE | reference card with questions on physical activity, weight, eating habits with suggestions on how to improve physical activity and eating habits | Gans 2003 [34] |

Call out: Do patients really have to give up the southern diet they know and love to be healthy?

Call out: Our analysis showed her average caloric intake to be around 1,500 calories, with about 44% of her calories coming from total fat, much of it from saturated fat (14%). Her carbohydrate intake was about 140 grams per day. The vegetables she was consuming were providing significant amounts of the B vitamins and vitamin C

Call out: 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 to achieve and maintain a healthy weight as evidenced by BMI of 30.0 (Obesity, Class I)."

Call out: Most RDNs and students of food folkways would say there is no one single "Southern" diet.

Call out: 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

Call Out: Other studies have produced similar patterns and referred to them as "Western" or "Standard American"

Call out: 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".

Call out: 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

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

Bios

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