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Supplemental Methods

Dietary Assessment

To assess participants' usual intake of foods and beverages, a modified version of the semi-quantitative Willet food frequency questionnaire was administered. Visual representations (glasses and different sizes of measuring cups) were provided to help participants estimate portion size. Participants reported how frequently they consumed each food item of a defined serving size during the previous year. Nutrient intakes were calculated by multiplying frequency of reported consumption and portion size of each food item by nutrient composition. The reliability of this food frequency questionnaire was assessed in a random selection of participants from all four study sites, and showed a high reproducibility (1).

Two measurements of dietary intakes were incorporated using the cumulative average (2). For those who developed CKD or were censored before visit 3, we used dietary intakes at visit 1. Otherwise, we averaged the dietary intakes from the two visits. For analyses examining annual change in kidney function over time, we used baseline dietary intakes only to construct the scores (not the cumulative average).

Plant-Based Diet Scores

We used *a priori* indices to characterize participants' diet. The ARIC study did not assess if participants are following a vegetarian diet or a plant-based diet. For the overall plant-based diet index, healthy plant-based diet index, and less healthy plant-based diet index, we categorized food items in the food frequency questionnaire into 17 food groups which were divided into healthy plant foods, less healthy plant foods, and animal foods (**Table 1**), given their reported associations with chronic diseases (3,4). We constructed a pro-vegetarian diet index after

categorizing food items into 11 food groups, 6 of which were plant foods and 5 of which were animal foods (5). We attempted to categorize foods and beverage items to different food groups as closely as possible to these previous studies (3–5). We did not include vegetable oil in the healthy plant food group because the food frequency questionnaire only assessed margarine intake, which may have been high in *trans*-fats during this time (3). We controlled for margarine intake as a covariate. After food items were classified into each food group, we ranked participants by their consumption (servings/day) after adjusting for total energy intake using the residual method (5).

For the overall plant-based diet index, healthy and less healthy plant foods were positively scored, but animal foods were negatively scored. For instance, those in the highest quintile of fruit intake received a score of 5 whereas those in the lowest quintile received a score of 1. In contrast, those in the highest quintile of meat intake received a score of 1 and those in the lowest quintile received a score of 5 (reverse scores). For the healthy plant-based diet index, only the healthy plant foods received positive scores, and less healthy plant foods and animal foods received reverse scores. For the less healthy plant-based diet index, only less healthy plant foods received positive scores, and healthy plant foods and animal foods received reverse scores. For the pro-vegetarian diet index, selected plant foods received positive scores and animal foods received reverse scores.

Higher overall plant-based diet index score represented a higher consumption of healthy and less healthy plant foods. Higher healthy plant-based diet index score represented a higher consumption of healthy plant foods and lower consumption of less healthy plant foods. Higher less healthy plant-based diet index score represented a lower consumption of healthy plant foods and higher consumption of less healthy plant foods. Higher pro-vegetarian diet score represented

higher consumption of plant foods (regardless of healthfulness) and lower consumption of animal foods. Higher scores of all four indices represented lower consumption of animal foods. The overall plant-based diet index, healthy plant-based diet index, and less healthy plant-based diet index could range from 17 to 85, and the pro-vegetarian diet index could range from 11 to 55.

The overall healthy plant-based diet index and healthy plant-based diet index was positively correlated ($r = 0.21$ to 0.33), but less healthy plant-based diet index was negatively correlated with overall plant-based diet index ($r = -0.06$ to -0.21) and healthy plant-based diet index ($r = -0.12$ to -0.36) in previous studies (3,4,6). We used all of these plant-based diet indices to provide a more nuanced characterization of participants' dietary intakes. The overall plant-based diet index and healthy plant-based diet index differed from each other in that only nutrient-dense plant foods were positively scored in the healthy plant-based diet index whereas all plant foods were positively scored in the overall plant-based diet index. The overall plant-based diet index and pro-vegetarian diet index also differed in that the overall plant-based diet index was provided a more comprehensive assessment of dietary intakes, whereas pro-vegetarian diet index did not score plant foods high in refined carbohydrates (fruit juices, sugar sweetened beverages, sweets and desserts).

The correlations between the scores at baseline and visit 3 were 0.44 for pro-vegetarian diet index, 0.46 for overall plant-based diet index, 0.50 for less healthy plant-based diet index, and 0.55 for healthy plant-based diet index (all $P < 0.05$). We also examined agreement between exact quintiles and adjacent quintiles at two time points, to be consistent with how we are using the data. For all indices, 41-48% of those in the extreme quintiles at baseline were in the same extreme quintiles at visit 3. When we further examined agreement between identical or adjacent

quintiles, 64 to 75% of participants were ranked into identical or adjacent quintiles at visit 3, suggesting a considerable consistency between rankings at two time points.

Outcome Assessment

Kidney function was assessed by measuring serum or plasma creatinine at every visit except for visit 3. Serum creatinine was measured at visits 1 and 2, and plasma creatinine was measured from visit 4 using the modified kinetic Jaffe method. At visit 5, serum creatinine was measured using the Roche enzymatic method. Creatinine measurements were calibrated to the National Institute of Standards and Technology standard to account for differences in methods and laboratories (7,8).

Covariate Assessment

At baseline, participants self-reported the following covariates: age, sex, race/ethnicity, education, cigarette smoking status, frequency and duration of physical activity, alcohol intake, margarine intake, lipid-lowering medication use, and diagnosed health conditions.

Participants' standing height and weight were measured by trained personnel, and we used this information to calculate body mass index (BMI, kg/m^2). BMI was categorized into normal weight ($<25 \text{ kg}/\text{m}^2$), overweight ($25\text{-}<30 \text{ kg}/\text{m}^2$), and obese ($\geq 30 \text{ kg}/\text{m}^2$). Total cholesterol concentration was measured using an enzymatic method, and was analyzed as a continuous variable (9). Blood pressure was measured three times by a certified technician using a random-zero sphygmomanometer, and the average of second and third measurements were used. Blood glucose concentration was measured using the modified hexokinase/glucose-6-

phosphate dehydrogenase method. Hypertension was defined as systolic blood pressure ≥ 140 mmHg, diastolic blood pressure ≥ 90 mmHg, or antihypertensive medication use in the previous two weeks. Diabetes was defined as fasting glucose ≥ 126 mg/dL, non-fasting glucose ≥ 200 mg/dL, self-reported doctor's diagnosis of diabetes, or diabetes medication use in the previous two weeks.

Statistical Analyses

For nutritional characteristics, we expressed macronutrient intake as percent of energy, and micronutrients per 1,000 kcal.

In model 1, we adjusted for total energy intake, age, sex, and a combined term for race and study center given the non-uniform distribution of racial groups across study centers (whites in Minneapolis, blacks in Jackson, whites in Washington County, blacks in Forsyth County, and whites in Forsyth County). In model 2, we adjusted for covariates in model 1 as well as education (as a proxy for socioeconomic status) and health behaviors (smoking status, physical activity, alcohol intake, and margarine consumption). In model 3, we adjusted for covariates in model 3 as well as potential mediating variables including body mass index, total cholesterol, lipid-lowering medication use, hypertension, diabetes, and baseline kidney function (two linear spline terms with one knot at $90 \text{ mL/min/1.73 m}^2$).

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Supplemental Table 1. Selected Baseline Characteristics and Nutritional Characteristics by Quintiles of Overall Plant-Based Diet Index in Atherosclerosis Risk in Communities Study^a

Characteristic	Overall Plant-Based Diet Index (n=14,686)				
	Quintile 1 (n=3,386)	Quintile 2 (n=2,463)	Quintile 3 (n=3,680)	Quintile 4 (n=2,365)	Quintile 5 (n=2,792)
Median score (range)	43 (22-46)	48 (47-49)	51 (50-53)	55 (54-56)	59 (57-74)
Female, % ^b	43	55	59	62	62
Non-Hispanic black, % ^b	39	32	23	17	12
Age, years ^b	54 (6)	54 (6)	54 (6)	54 (6)	55 (6)
High school graduate, % ^b	69	74	78	82	85
BMI category ^b					
Normal weight (<25 kg/m ²)	29	31	32	37	41
Overweight (25-<30 kg/m ²)	40	40	40	39	38
Obese (≥30 kg/m ²)	32	30	28	24	21
Current smoker, % ^b	34	29	25	20	20
Physical activity index ^b	2.3 (0.8)	2.4 (0.8)	2.4 (0.8)	2.5 (0.8)	2.6 (0.8)
Alcohol, g/wk ^b	67 (132)	46 (93)	39 (88)	30 (65)	29 (60)
Fasting glucose, mg/dL ^b	111 (42)	110 (42)	109 (40)	107 (37)	105 (32)
Diabetes, % ^b	13	12	11	11	9
Hypertension, % ^b	37	36	34	31	31
Lipid-lowering medication, % ^b	2	2	3	4	5
eGFR, mL/min/1.73 m ^{2b}	105 (15)	104 (15)	103 (14)	102 (13)	102 (13)
Food and Nutrient Intake Per Day					
Healthy plant foods ^{bc}	5.4 (2.7)	6.2 (2.8)	6.9 (2.8)	7.8 (2.9)	9.1 (3.1)
Less healthy plant foods ^{bc}	4.6 (2.3)	4.6 (2.4)	4.9 (2.4)	5.1 (2.4)	6.0 (2.6)
Animal foods ^{bc}	5.5 (2.3)	4.5 (1.9)	4.1 (1.8)	3.8 (1.7)	3.6 (1.7)
Total energy, kcal ^b	1699 (600)	1549 (564)	1560 (562)	1578 (518)	1700 (524)
Total protein, % of energy ^b	18.8 (4.0)	18.6 (3.8)	18.3 (3.9)	18.1 (3.5)	17.2 (3.2)
Animal protein, % of energy ^b	15.3 (4.0)	14.5 (3.8)	13.8 (3.8)	13.2 (3.5)	11.8 (3.2)
Plant protein, % of energy ^b	3.6 (0.8)	4.1 (0.9)	4.5 (0.9)	4.9 (0.9)	5.4 (1.1)
Carbohydrates, % of energy ^b	43.6 (8.0)	47.3 (7.6)	49.7 (7.6)	51.9 (7.1)	54.9 (7.3)
Total fat, % of energy ^b	35.4 (5.9)	33.3 (5.7)	32.0 (5.6)	30.8 (5.7)	29.3 (5.6)
Saturated fat, % of energy ^b	13.3 (2.7)	12.2 (2.4)	11.5 (2.3)	10.9 (2.3)	10.2 (2.3)
MUFA, % of energy ^b	13.9 (2.6)	13.0 (2.6)	12.4 (2.5)	11.9 (2.6)	11.3 (2.5)
PUFA, % of energy ^b	4.9 (1.2)	4.9 (1.2)	4.9 (1.2)	4.9 (1.2)	5.0 (1.2)
Fiber, g/1000 kcal ^b	8.3 (2.6)	10.1 (3.0)	11.2 (3.2)	12.3 (3.4)	13.6 (3.7)
Cholesterol, mg/1000 kcal ^b	193.3 (60.7)	168.0 (50.5)	150.6 (41.8)	137.1 (37.4)	118.7 (34.7)
Sodium, mg/1000 kcal ^b	890.8 (176)	912.5 (178)	936.2 (183)	945.2 (173)	969.6 (174)
Phosphorus, mg/1000 kcal ^b	666.8 (157)	678.0 (152)	684.1 (150)	684.1 (141)	673.8 (129)

Calcium, mg/1000 kcal ^b	407.7 (185)	413.9 (171)	418.6 (161)	416.3 (149)	406.3 (136)
Potassium, mg/1000 kcal ^b	1494 (345)	1636 (355)	1712 (367)	1794 (363)	1832 (346)
Magnesium, mg/1000 kcal ^b	143.9 (33.6)	156.7 (34.8)	163.8 (36.0)	169.9 (35.3)	175.6 (34.7)
Iron, mg/1000 kcal ^b	6.5 (1.8)	6.9 (2.0)	7.3 (2.3)	7.4 (2.0)	7.8 (2.4)
Vitamin A, IU/1000 kcal ^b	4892 (3142)	5746 (3871)	6253 (4044)	6682 (4283)	7221 (4356)
Vitamin C, mg/1000 kcal ^b	61.7 (35.4)	73.5 (40.2)	81.8 (39.8)	89.9 (40.8)	95.0 (39.7)
Folate, µg/1000 kcal ^b	126.9 (41.2)	145.0 (49.1)	156.8 (51.4)	167.1 (52.7)	177.3 (51.3)
Vitamin B12, µg/1000 kcal ^b	5.2 (2.4)	4.9 (2.4)	4.7 (2.2)	4.2 (1.9)	3.7 (1.7)
Zinc, mg/1000 kcal ^b	6.8 (1.6)	6.8 (1.6)	6.7 (1.6)	6.6 (1.4)	6.4 (1.4)
PRAL (mEq/day) ^{bd}	19.0 (12.9)	13.1 (12.4)	11.1 (12.7)	9.2 (12.7)	8.4 (13.0)
NEAP (mEq/day) ^{be}	59.0 (15.0)	51.8 (12.2)	47.9 (11.3)	44.4 (10.1)	40.7 (9.8)

BMI, body mass index; eGFR, estimated glomerular filtration rate; MUFA, monounsaturated fatty acids; NEAP; net endogenous acid production; PRAL, potential renal acid load; PUFA, polyunsaturated fatty acids; IU, international units.

^a Values are means (SDs) for continuous variables and % for categorical variables.

^b Indicates a statistical difference by quintiles of overall plant-based diet index ($P < 0.05$).

^c Food intakes are expressed as servings per day.

^d Potential renal acid load = $0.49 * \text{protein}[\text{g}] + 0.037 * \text{phosphorus}[\text{mg}] - 0.021 * \text{potassium}[\text{mg}] - 0.026 * \text{magnesium}[\text{mg}] - 0.013 * \text{calcium}[\text{mg}]$

^e Net endogenous acid production = $54.5 * (\text{protein}[\text{g}] / \text{potassium}[\text{mEq}]) - 10.2$

Supplemental Table 2. Selected Baseline Characteristics and Nutritional Characteristics by Quintiles of Pro-vegetarian Diet Index in Atherosclerosis Risk in Communities Study^a

Characteristic	Pro-vegetarian Diet Index (n=14,686)				
	Quintile 1: (n=3,607)	Quintile 2: (n=3,227)	Quintile 3: (n=2,306)	Quintile 4: (n=2,768)	Quintile 5: (n=2,778)
Median score (range)	27 (14-29)	31 (30-32)	33 (33-34)	36 (35-37)	40 (38-54)
Female, % ^b	47	56	60	60	58
Non-Hispanic black, % ^b	33	29	25	20	15
Age, years ^b	54 (6)	54 (6)	54 (6)	54 (6)	55 (6)
High school graduate, % ^b	72	76	77	79	83
BMI category ^b					
Normal weight (<25 kg/m ²)	30	31	31	35	41
Overweight (25-<30 kg/m ²)	39	40	42	39	39
Obese (≥30 kg/m ²)	32	29	27	26	21
Current smoker, % ^b	33	29	25	23	18
Physical activity index ^b	2.3 (0.8)	2.4 (0.8)	2.4 (0.8)	2.5 (0.8)	2.6 (0.8)
Alcohol, g/wk ^b	58 (116)	44 (90)	39 (85)	40 (96)	31 (69)
Fasting glucose, mg/dL ^b	110 (42)	110 (41)	108 (39)	107 (37)	106 (36)
Diabetes, %	12	12	12	11	10
Hypertension, %	35	34	34	34	32
Lipid-lowering medication, % ^b	1	2	3	3	5
eGFR, mL/min/1.73 m ^b	104 (15)	104 (15)	103 (15)	102 (14)	101 (13)
Food and Nutrient Intake Per Day					
Healthy plant foods ^{bc}	5.5 (2.7)	6.3 (2.8)	7.0 (2.9)	7.6 (3.0)	9.1 (3.2)
Less healthy plant foods ^{bc}	4.7 (2.3)	4.8 (2.5)	4.8 (2.4)	5.2 (2.6)	5.6 (2.5)
Animal foods ^{bc}	5.2 (2.3)	4.4 (2.0)	4.1 (1.9)	4.0 (1.8)	3.8 (1.6)
Total energy intake, kcal ^b	1616 (587)	1562 (572)	1560 (554)	1621 (548)	1740 (515)
Protein, % of energy ^b	18.7 (4.0)	18.5 (3.9)	18.3 (3.7)	17.9 (3.6)	17.5 (3.2)
Animal protein, % of energy ^b	15.2 (4.0)	14.3 (3.8)	13.8 (3.7)	13.1 (3.5)	12.0 (3.3)
Plant protein, % of energy ^b	3.6 (0.8)	4.2 (0.8)	4.6 (0.8)	4.9 (0.9)	5.5 (1.1)
Carbohydrates, % of energy ^b	44.3 (8.0)	47.8 (7.9)	49.9 (7.6)	51.5 (7.5)	54.5 (7.4)
Total fat, % of energy ^b	35.2 (5.8)	33.1 (5.8)	31.9 (5.7)	31.0 (5.8)	29.4 (5.8)
Saturated fat, % of energy ^b	13.3 (2.6)	12.1 (2.4)	11.5 (2.4)	10.9 (2.3)	10.0 (2.3)
MUFA, % of energy ^b	13.8 (2.5)	12.9 (2.6)	12.4 (2.6)	12.0 (2.6)	11.4 (2.6)
PUFA, % of energy ^b	4.8 (1.1)	4.9 (1.2)	4.9 (1.2)	5.0 (1.2)	5.1 (1.3)
Fiber, g/1000 kcal ^b	8.1 (2.3)	10.0 (2.7)	11.4 (3.0)	12.3 (3.1)	14.3 (3.7)
Cholesterol, mg/1000 kcal ^b	190.9 (59.9)	164.1 (47.4)	150.7 (43.8)	137.6 (40.2)	119.5 (34.7)
Sodium, mg/1000 kcal ^b	888.7 (171)	913.7 (177)	928.3 (177)	947.0 (177)	984.8 (180)
Phosphorus, mg/1000 kcal ^b	676.8 (156)	677.9 (151)	680.4 (147)	674.1 (144)	677.1 (130)

Calcium, mg/1000 kcal ^b	419.3 (182)	413.2 (165)	414.9 (162)	408.0 (154)	405.8 (139)
Potassium, mg/1000 kcal ^b	1547 (360)	1646 (371)	1725 (381)	1744 (364)	1817 (344)
Magnesium, mg/1000 kcal ^b	147.8 (34.2)	157.5 (35.5)	164.6 (36.8)	166.5 (35.8)	175.1 (35.3)
Iron, mg/1000 kcal ^b	6.5 (1.7)	7.0 (2.1)	7.3 (2.1)	7.5 (2.3)	7.9 (2.3)
Vitamin A, IU/1000 kcal ^b	4751 (3134)	5706 (3591)	6291 (4029)	6712 (4106)	7581(4689)
Vitamin C, mg/1000 kcal ^b	66.8 (38.2)	76.4 (40.1)	82.7 (42.5)	85.9 (40.2)	91.1 (39.4)
Folate, µg/1000 kcal ^b	130.4 (43.5)	147.2 (48.6)	158.0 (54.3)	163.7 (51.3)	177.0 (52.0)
Vitamin B12, µg/1000 kcal ^b	5.1 (2.4)	4.9 (2.3)	4.6 (2.2)	4.3 (1.9)	3.8 (1.8)
Zinc, mg/1000 kcal ^b	6.8 (1.6)	6.8 (1.6)	6.7 (1.5)	6.6 (1.5)	6.4 (1.3)
PRAL (mEq/day) ^{bd}	16.4 (13.1)	12.8 (12.9)	10.8 (13.4)	10.6 (12.9)	10.3 (13.3)
NEAP (mEq/day) ^{bc}	56.5 (15.0)	51.1 (12.9)	47.8 (12.2)	45.6 (11.1)	42.2 (10.4)

BMI, body mass index; eGFR, estimated glomerular filtration rate; MUFA, monounsaturated fatty acids; NEAP; net endogenous acid production; PRAL, potential renal acid load; PUFA, polyunsaturated fatty acids; IU, international units.

^a Values are means (SDs) for continuous variables and % for categorical variables.

^b Indicates statistical difference by quintiles of pro-vegetarian diet index ($P < 0.05$).

^c Food intakes are expressed as servings per day.

^d Potential renal acid load = $0.49 * \text{protein}[\text{g}] + 0.037 * \text{phosphorus}[\text{mg}] - 0.021 * \text{potassium}[\text{mg}] - 0.026 * \text{magnesium}[\text{mg}] - 0.013 * \text{calcium}[\text{mg}]$

^e Net endogenous acid production = $54.5 * (\text{protein}[\text{g}]/\text{potassium}[\text{mEq}]) - 10.2$

Supplemental Table 3. Selected Baseline Characteristics and Nutritional Characteristics by Quintiles of Less Healthy Plant-Based Diet Index in Atherosclerosis Risk in Communities Study^a

Characteristic	Less Healthy Plant-Based Diet Index (n=14,686)				
	Quintile 1 (n=2,982)	Quintile 2 (n=3,254)	Quintile 3 (n=2,631)	Quintile 4 (n=2,891)	Quintile 5 (n=2,928)
Median score (range)	43 (17-45)	48 (46-49)	51 (50-52)	54 (53-56)	60 (57-76)
Female, % ^b	62	60	58	52	46
Non-Hispanic black, % ^b	29	28	25	23	20
Age, years ^b	55 (6)	55 (6)	54 (6)	54 (6)	54 (6)
High school graduate, %	78	78	78	76	76
BMI category ^b					
Normal weight (<25 kg/m ²)	26	33	34	35	36
Overweight (25-<30 kg/m ²)	40	39	38	40	39
Obese (≥30 kg/m ²)	30	28	28	26	25
Current smoker, %	26	26	26	26	27
Physical activity index ^b	2.5 (0.8)	2.5 (0.8)	2.4 (0.8)	2.4 (0.8)	2.4 (0.8)
Alcohol, g/wk ^b	36 (79)	39 (82)	42 (88)	48 (102)	52 (118)
Fasting glucose, mg/dL ^b	114 (49)	109 (43)	108 (38)	107 (34)	104 (27)
Diabetes, % ^b	16	12	11	10	7
Hypertension, %	34	34	34	34	33
Lipid-lowering medication, %	3	3	3	2	3
eGFR, mL/min/1.73 m ^{2b}	104 (14)	103 (14)	104 (14)	103 (14)	102 (14)
Food and Nutrient Intake Per Day					
Healthy plant foods ^{bc}	9.1 (3.2)	7.5 (3.0)	6.7 (2.8)	6.2 (2.8)	5.4 (2.5)
Less healthy plant foods ^{bc}	3.6 (1.9)	4.2 (1.9)	4.7 (2.0)	5.5 (2.2)	7.2 (2.7)
Animal foods ^{bc}	5.1 (2.3)	4.4 (2.0)	4.1 (1.9)	4.1 (1.9)	4.1 (1.9)
Total energy, kcal ^b	1604 (529)	1527 (520)	1519 (534)	1616 (568)	1834 (599)
Proteins, % of energy ^b	20.7 (3.5)	19.3 (3.3)	18.2 (3.2)	17.3 (3.2)	15.4 (3.2)
Animal protein, % of energy ^b	16.0 (3.7)	14.7 (3.6)	13.8 (3.4)	12.9 (3.4)	11.3 (3.3)
Plant protein, % of energy ^b	3.6 (0.8)	4.1 (0.9)	4.5 (0.9)	4.9 (0.9)	5.4 (1.1)
Carbohydrates, % of energy ^b	47.0 (7.7)	48.3 (8.5)	49.1 (8.4)	49.9 (8.4)	52.1 (8.7)
Total fat, % of energy ^b	32.6 (5.9)	32.4 (6.2)	32.4 (6.1)	32.2 (6.2)	32.0 (6.2)
Saturated fat, % of energy ^b	11.8 (2.6)	11.7 (2.7)	11.7 (2.6)	11.6 (2.6)	11.6 (2.6)
MUFA, % of energy ^b	12.5 (2.6)	12.5 (2.8)	12.6 (2.7)	12.6 (2.7)	12.6 (2.7)
PUFA, % of energy ^b	5.0 (1.1)	4.9 (1.2)	4.9 (1.2)	4.9 (1.2)	4.9 (1.3)
Fiber, g/1000 kcal ^b	12.9 (3.7)	11.8 (3.7)	11.0 (3.5)	10.2 (3.3)	9.0 (2.8)
Cholesterol, mg/1000 kcal ^b	178.7 (55.1)	165.1 (55.2)	154.6 (48.7)	145.8 (49.3)	129.4 (42.5)
Sodium, mg/1000 kcal ^b	971.9 (168)	951.5 (173)	931.1 (178)	917.8 (183)	872.3 (179)
Phosphorus, mg/1000 kcal ^b	758.5 (127)	711.2 (132)	678.5 (133)	649.0 (140)	582.5 (140)

Calcium, mg/1000 kcal ^b	407.7 (185)	413.9 (171)	418.6 (161)	416.3 (149)	406.3 (136)
Potassium, mg/1000 kcal ^b	1899 (341)	1785 (349)	1710 (349)	1594 (335)	1423 (317)
Magnesium, mg/1000 kcal ^b	185.3 (34.0)	171.2 (33.3)	162.5 (32.6)	151.8 (31.0)	133.9 (29.9)
Iron, mg/1000 kcal ^b	7.7 (2.0)	7.5 (2.1)	7.2 (2.2)	7.0 (2.2)	6.5 (2.1)
Vitamin A, IU/1000 kcal ^b	8079 (4538)	6938 (4160)	6046 (3895)	5294 (3395)	4029 (2418)
Vitamin C, mg/1000 kcal ^b	82.8 (35.5)	81.4 (38.9)	82.0 (43.3)	77.1 (40.9)	74.8 (45.0)
Folate, µg/1000 kcal ^b	169.7 (49.4)	161.6 (50.3)	156.4 (52.6)	147.2 (52.1)	131.6 (48.1)
Vitamin B12, µg/1000 kcal ^b	5.3 (2.4)	4.9 (2.4)	4.6 (2.1)	4.3 (2.0)	3.7 (1.7)
Zinc, mg/1000 kcal ^b	7.1 (1.4)	6.9 (1.4)	6.7 (1.5)	6.5 (1.6)	6.1 (1.5)
Dietary Acid Load (mEq/day) ^{bd}	14.1 (14.3)	11.7 (13.6)	10.7 (13.3)	12.2 (13.0)	13.7 (12.1)
NEAP (mEq/day) ^b	49.4 (12.0)	49.2 (13.4)	48.7 (13.9)	49.5 (14.2)	49.2 (14.4)

BMI, body mass index; eGFR, estimated glomerular filtration rate; MUFA, monounsaturated fatty acids; NEAP; net endogenous acid production; PRAL, potential renal acid load; PUFA, polyunsaturated fatty acids; IU, international units.

^a Values are means (SDs) for continuous variables and % for categorical variables.

^b Indicates a statistical difference by quintiles of less healthy plant-based diet index ($P < 0.05$).

^c Food intakes are expressed as servings per day.

^d Potential renal acid load = $0.49 * \text{protein}[\text{g}] + 0.037 * \text{phosphorus}[\text{mg}] - 0.021 * \text{potassium}[\text{mg}] - 0.026 * \text{magnesium}[\text{mg}] - 0.013 * \text{calcium}[\text{mg}]$

^e Net endogenous acid production = $54.5 * (\text{protein}[\text{g}]/\text{potassium}[\text{mEq}]) - 10.2$

Supplemental Table 4. Adjusted Hazard Ratios and 95% Confidence Intervals for Incident Chronic Kidney Disease for Highest versus Lowest Quintiles of Healthy Plant Food, Less Healthy Plant Food, and Animal Food Consumption

	Incident CKD ^a	<i>P</i> trend
Overall, Healthy, and Less Healthy Plant-Based Diet Indices		
Healthy plant food	0.80 (0.72 to 0.89)	<0.001
Less healthy plant food	1.06 (0.93 to 1.20)	0.49
Animal food	1.02 (0.89 to 1.17)	0.80
Components of Pro-vegetarian Diet Index		
Plant food (selected)	0.84 (0.76 to 0.93)	<0.001
Animal food	1.01 (0.92 to 1.12)	0.89

CKD, chronic kidney disease.

^a Adjusted for age, sex, race-center, and total energy intake, education, smoking status, physical activity, alcohol consumption, margarine consumption, baseline total cholesterol, lipid-lowering medication use, kidney function (two linear spline terms with one knot at 90 mL/min/1.73 m²), hypertension, diabetes, and body mass index.

Supplemental Table 5. Associations between Individual Components within Plant-Based Diet Scores and Incident Chronic Kidney Disease^a

Adjusted Hazard Ratios ^b (95% Confidence Intervals)			
Overall, Healthy, and Less Healthy Plant-Based Diet Indices		Pro-vegetarian Diet Index	
Healthy Plant Foods		Plant Foods	
Whole grains	0.97 (0.94, 1.01)	Grains ^c	0.98 (0.96, 1.01)
Fruits	1.00 (0.97, 1.03)	Fruits	0.99 (0.96, 1.02)
Vegetables	0.99 (0.94, 1.03)	Vegetables	0.98 (0.94, 1.02)
Nuts	0.99 (0.92, 1.07)	Nuts	0.98 (0.91, 1.06)
Legumes	0.92 (0.85, 0.99)	Legumes	0.92 (0.85, 0.99)
Coffee and tea	0.98 (0.97, 1.00)	Potatoes	0.98 (0.90, 1.07)
Less Healthy Plant Foods			
Refined grains	1.00 (0.97, 1.03)		
Potatoes	0.97 (0.89, 1.06)		
Fruit juices	1.00 (0.95, 1.06)		
SSBs	1.05 (1.02, 1.08)		
Sweets and desserts	1.02 (0.98, 1.05)		
Animal Foods		Animal Foods	
Animal fat	1.02 (0.97, 1.08)	Animal fat	1.02 (0.96, 1.08)
Dairy	0.99 (0.95, 1.02)	Dairy	0.98 (0.95, 1.01)
Meat	1.08 (1.03, 1.13)	Meat	1.08 (1.03, 1.13)
Eggs	1.06 (0.96, 1.17)	Eggs	1.05 (0.95, 1.16)
Fish or seafood	0.95 (0.84, 1.07)	Fish or seafood	0.94 (0.84, 1.06)
Miscellaneous animal foods	1.02 (0.93, 1.12)		

SSBs, Sugar sweetened and artificially sweetened beverages.

^a We modeled individual components (per one serving higher intake per day) within plant-based diet scores simultaneously instead of the overall scores.

^b Adjusted for age, sex, race-center, and total energy intake, education, smoking status, physical activity, alcohol consumption, margarine consumption, baseline total cholesterol, lipid-lowering medication use, kidney function (two linear spline terms with one knot at 90 mL/min/1.73 m²), hypertension, diabetes, and body mass index.

^c Aggregated consumption of whole grains and refined grains

Supplemental Table 6. Sensitivity Analyses on the Associations between Quintiles of Plant-Based Diet Scores and Incident Chronic Kidney Disease

Adjusted Hazard Ratios ^a (95% Confidence Intervals)						
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	<i>P</i> trend
Overall Plant-Based Diet Index						
Main Analyses	Ref.	1.04 (0.94 to 1.15)	0.97 (0.88 to 1.05)	0.90 (0.82 to 1.00)	0.95 (0.86 to 1.04)	0.07
Sensitivity Analyses 1 ^b	Ref.	1.00 (0.90 to 1.09)	0.94 (0.86 to 1.03)	0.93 (0.84 to 1.03)	0.92 (0.84 to 1.02)	0.09
Sensitivity Analyses 2 ^c	Ref.	0.95 (0.86 to 1.05)	0.96 (0.88 to 1.05)	0.91 (0.83 to 1.00)	0.92 (0.83 to 1.01)	0.08
Healthy Plant-Based Diet Index						
Main Analyses	Ref.	0.97 (0.89 to 1.07)	0.96 (0.87 to 1.05)	0.91 (0.83 to 0.99)	0.91 (0.82 to 0.99)	0.02
Sensitivity Analyses 1 ^b	Ref.	1.00 (0.91 to 1.08)	0.97 (0.88 to 1.07)	0.89 (0.81 to 0.97)	0.91 (0.82 to 0.99)	0.007
Sensitivity Analyses 2 ^c	Ref.	1.04 (0.95 to 1.14)	0.97 (0.88 to 1.06)	0.94 (0.85 to 1.04)	0.94 (0.84 to 1.03)	0.06
Less Healthy Plant-Based Diet Index						
Main Analyses	Ref.	1.10 (1.01 to 1.20)	1.12 (1.02 to 1.24)	1.13 (1.03 to 1.25)	1.18 (1.07 to 1.30)	0.001
Sensitivity Analyses 1 ^b	Ref.	1.13 (1.03 to 1.24)	1.17 (1.07 to 1.29)	1.12 (1.02 to 1.23)	1.18 (1.08 to 1.31)	0.001
Sensitivity Analyses 2 ^c	Ref.	1.06 (0.96 to 1.16)	1.09 (0.99 to 1.20)	1.09 (0.99 to 1.19)	1.16 (1.04 to 1.28)	0.004
Pro-vegetarian Diet Index						
Main Analyses	Ref.	0.97 (0.89 to 1.05)	0.94 (0.85 to 1.04)	0.91 (0.83 to 0.99)	0.91 (0.82 to 0.99)	0.02
Sensitivity Analyses 1 ^b	Ref.	0.95 (0.87 to 1.04)	1.00 (0.91 to 1.10)	0.89 (0.81 to 0.98)	0.90 (0.81 to 0.99)	0.01
Sensitivity Analyses 2 ^c	Ref.	0.95 (0.87 to 1.04)	0.97 (0.88 to 1.06)	0.93 (0.85 to 1.02)	0.91 (0.83 to 1.00)	0.06

Ref., reference

^a Model 3 was adjusted for age, sex, race-center, total energy intake, education, smoking status, physical activity, alcohol consumption, margarine consumption, and baseline total cholesterol, lipid-lowering medication use, kidney function (two linear spline terms with one knot at 90 mL/min/1.73 m²), hypertension, diabetes, and body mass index.

^b In sensitivity analyses 1, we re-classified string or green beans from ‘legumes’ food group to ‘vegetables’ food group.

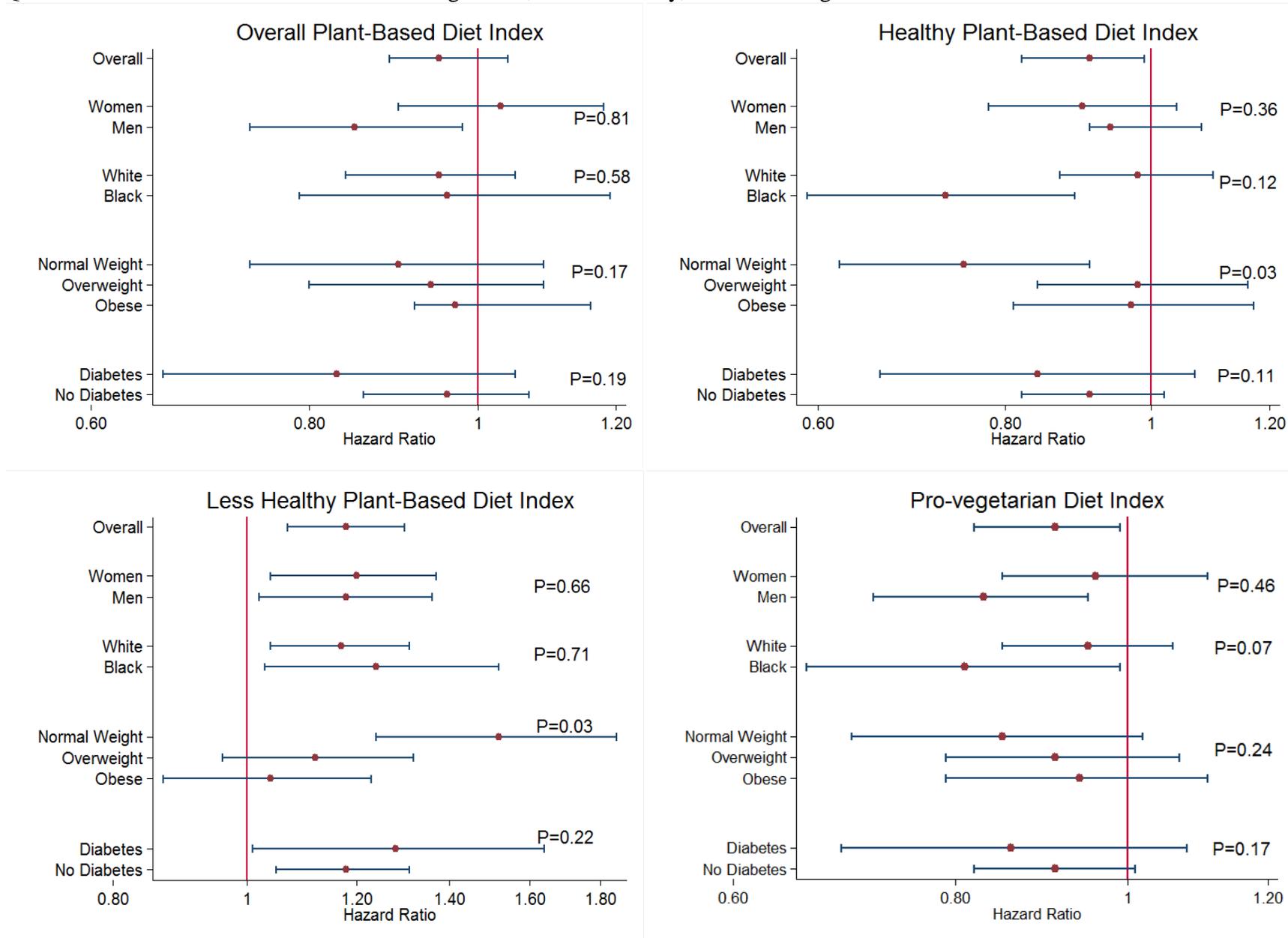
^c In sensitivity analyses 2, we considered margarine intake as part of all plant-based diet scores (‘vegetable oil’ food group). Vegetable oil was positively scored in the overall, healthy plant-based diet index, and pro-vegetarian diet index, but was reverse scored in the less healthy plant-based diet index, consistent with previous studies (1-3). We did not adjust for margarine intake for these analyses.

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² Satija A, Bhupathiraju SN, Spiegelman D, Chiuve SE, Manson JE, Willett W, Rexrode KM, Rimm EB, Hu FB. Healthful and unhealthful plant-based diets and the risk of coronary heart disease in U.S Adults. *J Am Coll Cardiol* 70:411–22, 2017

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Supplemental Figure 1. Adjusted Hazard Ratios and 95% Confidence Intervals for Incidence Chronic Kidney Disease for Highest versus Lowest Quintiles of Plant-Based Diet Scores According to Sex, Race/Ethnicity, Baseline Weight Status and Baseline Diabetes Status^a



P indicates *P* for interaction. We considered $P < 0.05$ to be statistically significant.

Supplemental material is neither peer-reviewed nor thoroughly edited by CJASN. The authors alone are responsible for the accuracy and presentation of the material.

^a Adjusted for age, sex, race-center, and total energy intake, education, smoking status, physical activity, alcohol consumption, margarine consumption, baseline total cholesterol, lipid-lowering medication use, kidney function (two linear spline terms with one knot at 90 mL/min/1.73 m²), hypertension, diabetes, and body mass index.