

Supplementary Materials Files

To: Dietary index for gut microbiota is associated with stroke among US adults

By Jingjing Liu, Shaoqiang Huang

Supplementary Table 1. Components and scoring criteria of DI-GM

DI-GM score	Component	Included Food items	Scoring criteria
BGMS	Beneficial to gut microbiota		
	Avocados	Avocados	A score of 1 if consumption at or above the sex-specific median, else 0
	Broccoli	Broccoli	
	Chickpea	Chickpeas	
	Coffee	Coffee	
	Cranberries	Cranberries	
	Fermented dairy	Yogurt, cheese, kefir, sour cream, buttermilk	
	Fiber	Not applicable	
	Soybean	Soy milk, Tofu	
Whole grains	Grains defined as whole grains, containing the entire grain kernel—the bran, germ, and endosperm		
UGMS	Unfavorable to gut microbiota		
	High-fat diet (% energy)	Not applicable	0 if consumption at or above 40% energy from fat, else 1
	Processed meat	Frankfurters, sausages, corned beef, and luncheon meat that are made from beef, pork, or poultry	A score of 0 if consumption at or above the sex-specific median, else 1
	Red meat	Beef, veal, pork, lamb, and game meat; excludes organ meat and cured meat	
	Refined grains	Refined grains that do not contain all of the components of the entire grain kernel	

Abbreviations: BGMS, beneficial to gut microbiota score; DI-GM, dietary index for gut microbiota; UGMS, unfavorable to gut microbiota score.

Supplementary Table 2. Participants' characteristic by categories of age

Characteristics	Overall, N = 204,326,645	Age < 30 years N = 38301799 n = 8513 (19%)	Age ≥ 30 years N = 166024846 n = 40164 (81%)	P value
Age, mean (SD), years	47.04 (16.95)	24.42 (2.88)	52.26 (14.37)	<0.001
Sex, n (%)				<0.001
Male	23,471 (48.13)	3,930 (50.20)	19,541 (47.66)	
Female	25,206 (51.87)	4,583 (49.80)	20,623 (52.34)	
Race, n (%)				<0.001
Non-Hispanic White	21,829 (68.80)	3,254 (59.57)	18,575 (70.93)	
Non-Hispanic Black	10,189 (11.03)	1,818 (12.91)	8,371 (10.60)	

Characteristics	Overall, N = 204,326,645	Age < 30 years N = 38301799 n = 8513 (19%)	Age ≥ 30 years N = 166024846 n = 40164 (81%)	P value
Mexican American	8,547 (8.04)	1,870 (12.50)	6,677 (7.01)	
Other Hispanic	3,954 (5.55)	705 (7.15)	3,249 (5.18)	
Other Race	4,158 (6.57)	866 (7.87)	3,292 (6.28)	
Education level, n (%)				0.002
Less than high school	13,049 (17.11)	1,840 (15.29)	11,209 (17.53)	
High school or equivalent	11,320 (24.17)	2,134 (25.59)	9,186 (23.85)	
College or above	24,308 (58.72)	4,539 (59.12)	19,769 (58.63)	
Marital status, n (%)				<0.001
Married	25,757 (56.39)	2,435 (27.28)	23,322 (63.10)	
Never married	8,481 (17.66)	4,425 (53.41)	4,056 (9.41)	
Living with partner	3,640 (7.52)	1,350 (15.67)	2,290 (5.64)	
Other	10,799 (18.44)	303 (3.64)	10,496 (21.85)	
PIR, mean (SD)	2.99 (1.64)	2.46 (1.60)	3.11 (1.62)	<0.001
Smoking status, n (%)				<0.001
never	26,391 (53.78)	5,440 (60.82)	20,951 (52.15)	
former	12,141 (24.91)	945 (12.09)	11,196 (27.87)	
now	10,145 (21.31)	2,128 (27.09)	8,017 (19.98)	
Alcohol drinking status, n (%)				<0.001
never	7,205 (11.62)	1,285 (12.48)	5,920 (11.42)	
former	8,501 (14.33)	607 (5.57)	7,894 (16.35)	
mild	16,201 (35.98)	2,031 (24.50)	14,170 (38.63)	
moderate	7,161 (16.91)	1,501 (18.58)	5,660 (16.53)	
heavy	9,609 (21.16)	3,089 (38.86)	6,520 (17.08)	
Physical activity, median [IQR], minutes·week ⁻¹	160.00 [7.88, 640.00]	260.00 [31.50, 1,040.00]	141.75 [0.00, 570.00]	<0.001
BMI, mean (SD), kg·m ⁻²	28.79 (6.76)	27.28 (6.95)	29.15 (6.67)	<0.001
Hypertension, n (%)	20,498 (37.02)	834 (9.67)	19,664 (43.33)	<0.001
DM, n (%)	8,353 (12.73)	179 (1.81)	8,174 (15.25)	<0.001
Energy intake, mean	2,130.66 (897.84)	2,304.93 (1,012.90)	2,090.46 (864.17)	<0.001

Characteristics	Overall, N = 204,326,645	Age < 30 years N = 38301799 n = 8513 (19%)	Age ≥ 30 years N = 166024846 n = 40164 (81%)	P value
(SD), kcal				
DI-GM score, mean (SD)	4.54 (1.52)	4.14 (1.43)	4.63 (1.53)	<0.001
BGMS, mean (SD)	2.14 (1.21)	1.84 (1.15)	2.2 (1.22)	<0.001
UGMS, mean (SD)	2.34 (1.02)	2.23 (1.00)	2.36 (1.02)	<0.001

Abbreviations: BGMS, beneficial to gut microbiota score; BMI, body mass index; DM, diabetes mellitus; DI-GM, dietary index for gut microbiota; N, weighted population numerical counts; IQR, interquartile range; PIR, poverty income ratio; SD, standard deviation; UGMS, unfavorable to gut microbiota score.

Supplementary Table 3. Participants' characteristic by stroke status (aged ≥ 30 years)

Characteristic	Overall, N = 166,024,846	Non-stroke N=160268869 n=38286 (97%)	Stroke N=5755977 n=1878 (3.5%)	P value
Age, mean (SD), years	52.26 (14.37)	51.79 (14.19)	65.25 (13.31)	<0.001
Sex, n (%)				0.017
Male	19,541 (47.66)	18,595 (47.79)	946 (44.09)	
Female	20,623 (52.34)	19,691 (52.21)	932 (55.91)	
Race, n (%)				<0.001
Non-Hispanic White	18,575 (70.93)	17,617 (70.92)	958 (71.25)	
Non-Hispanic Black	8,371 (10.60)	7,878 (10.46)	493 (14.65)	
Mexican American	6,677 (7.01)	6,462 (7.11)	215 (4.34)	
Other Hispanic	3,249 (5.18)	3,148 (5.26)	101 (3.08)	
Other Race	3,292 (6.27)	3,181 (6.25)	111 (6.68)	
Education level, n (%)				<0.001
Less than high school	11,209 (17.53)	10,500 (17.14)	709 (28.33)	
High school or equivalent	9,186 (23.85)	8,699 (23.61)	487 (30.56)	
College or above	19,769 (58.63)	19,087 (59.26)	682(41.11)	
Marital status, n (%)				<0.001
Married	23,322 (63.10)	22,412 (63.51)	910 (51.83)	
Never married	4,056 (9.41)	3,928 0(9.53)	128 (6.07)	
Living with partner	2,290 (5.64)	2,218 (5.65)	72 (5.33)	

Characteristic	Overall, N = 166,024,846	Non-stroke N=160268869 n=38286 (97%)	Stroke N=5755977 n=1878 (3.5%)	P value
Other	10,496 (21.85)	9,728 (21.32)	768 (36.78)	
PIR, mean (SD)	3.11 (1.62)	3.14 (1.62)	2.34 (1.46)	<0.001
BMI, mean (SD), kg/m ²	29.15 (6.67)	29.12 (6.65)	29.89 (6.97)	<0.001
Smoking status, n (%)				<0.001
never	20,951 (52.15)	20,191 (52.54)	760 (41.33)	
former	11,196 (27.87)	10,499 (27.63)	697 (34.52)	
now	8,017 (19.98)	7,596 (19.83)	421 (24.15)	
Alcohol drinking status, n (%)				<0.001
never	5,920 (11.42)	5,583 (11.20)	337 (17.52)	
former	7,894 (16.35)	7,230 (15.79)	664 (31.88)	
mild	14,170 (38.63)	13,623(38.90)	547 (31.06)	
moderate	5,660 (16.53)	5,503 (16.80)	157 (9.10)	
heavy	6,520 (17.08)	6,347 (17.31)	173 (10.44)	
Physical activity, median [IQR], min	141.75 [0.00, 570.00]	150.00 [3.94, 600.00]	10.00 [0.00, 300.00]	<0.001
Energy intake, mean (SD), kcal	2,090.46 (864.17)	2,101.32 (864.88)	1,788.04 (786.15)	<0.001
DM, n (%)	8,174 (15.25)	7,417 (14.49)	757 (36.33)	<0.001
Hypertension, n (%)	19,664 (43.33)	18,121 (42.02)	1,543 (79.59)	<0.001
DI-GM score, mean (SD)	4.63 (1.53)	4.64 (1.53)	4.47 (1.48)	0.001
BGMS, mean (SD)	2.20 (1.22)	2.21 (1.22)	1.97 (1.14)	<0.001
UGMS, mean (SD)	2.36 (1.02)	2.36 (1.02)	2.47 (1.00)	<0.001

Abbreviations: BGMS, beneficial to gut microbiota score; BMI, body mass index; DM, diabetes mellitus; DI-GM, dietary index for gut microbiota; N, weighted population numerical counts; IQR, interquartile range; PIR, poverty income ratio; SD, standard deviation; UGMS, unfavorable to gut microbiota score.