Supplementary Materials

Dietary assessment from inflammation and gut microbiota perspectives in urban Chinese adults aged 40-69 years: Association with chronic diseases

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Supplementary Table 1. Components and scoring of DI-GM among the participants

DI-GM components	Contributing foods/nutreints among the participants	Scoring
Beneficial to gut microbiota		
Avocados	Avocados	
Broccoli	Broccoli	
Coffee	Coffee	For each component, a score of 1 if consumption at or above the sex-specific median, else 0
Fermented dairy	Yogurt	
Fiber	Dietary fiber	
Soybean	Soybean and soybean products (soy milk, tofu)	
Whole grains	Brown rice, oats, millet, corn and barley	
Chickpea		
Cranberries	No consumption among the participants	Not applicable
Green tea		
Unfavorable to gut microbiota		
Red meat	Beef, pork, lamb; excludes organ meat and cured meat	For each component, a score of 0 if consumption at or above the sex-specific median, else 1
Processed meat	Sausages, luncheon meat, ham, cured pork	
Refined grains	Rice, wheat flour, and their products	
High-fat diet (% energy)	Total fat	0 if consumption at or above 40% energy from fat, else 1

Supplementary Table 2. Proportion of participants meeting the scoring criteria for each DI-GM components

DI-GM components	Total population	Age <50	Age ≥50
Beneficial to gut microbiota			
Whole grains	65 (21.7)	36 (20.3)	29 (23.6)
Soybean	105 (35.0)	59 (33.3)	46 (37.4)
Coffee	10 (3.3)	7 (4.0)	3 (2.4)
Broccoli	8 (2.7)	5 (2.8)	3 (2.4)
Avocados	2 (0.7)	2 (1.1)	-
Fermented dairy	24 (8.0)	15 (8.5)	9 (7.3)
Fiber	151 (50.3)	83 (46.9)	68 (55.3)
Unfavorable to gut microbiota			
Red Meat	131 (43.7)	69 (39.0)	62 (50.4)
Processed Meat	248 (82.7)	143 (80.8)	105 (85.4)
Refined grains	125 (41.7)	72 (40.7)	53 (43.1)
Fat-for-energy ratio	178 (59.3)	105 (59.3)	73 (59.3)

Supplementary Table 3. Associations between DII, DI-GM and hypertension

	Model 1		Model 2		Model 3	
	OR (95%CI)	*p*	OR (95%CI)	*p*	OR (95%CI)	*p*
DII						
Q1	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Q2	1.43 (0.617,3.32)	0.403	1.53 (0.635,3.70)	0.343	1.53 (0.631,3.69)	0.347
Q3	0.810 (0.334,1.96)	0.639	0.853 (0.347,2.10)	0.730	0.852 (0.346,2.10)	0.728
Q4	1.96 (0.879,4.38)	0.100	1.93 (0.849,4.37)	0.117	1.93 (0.850,4.37)	0.116
DII continuous	1.15 (0.934,1.41)	0.190	1.15 (0.933,1.42)	0.189	1.15 (0.933,1.42)	0.188
DI-GM						
≤2	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
3	0.776 (0.366,1.64)	0.507	0.730 (0.337,1.58)	0.424	0.751 (0.342,1.62)	0.457
4	0.459 (0.196,1.08)	0.073	0.467 (0.196,1.11)	0.086	0.494 (0.205,1.19)	0.115
≥5	0.542 (0.249,1.18)	0.122	0.579 (0.260,1.29)	0.181	0.591 (0.263,1.33)	0.203
DI-GM continuous	0.857 (0.694,1.06)	0.153	0.871 (0.702,1.08)	0.210	0.880 (0.708,1.09)	0.249

Hypertension: Self-reported presence of hypertension. DII, dietary inflammation index; DI-GM, dietary index for gut microbiota.
Model 1: adjusted for age and gender.
Model 2: adjusted for education level, household income, city classification and residence status based on model 1.
Model 3: total dietary energy intake and use of nutritional supplementation were adjusted based on model 2. Total dietary energy intake wasn't adjusted in model 3 for DII, since it has been adjusted in the DII calculation process.

Supplementary Table 4. Associations between DII, DI-GM and dyslipidemia

	Model 1		Model 2		Model 3	
	OR (95%CI)	*p*	OR (95%CI)	*p*	OR (95%CI)	*p*
DII						
Q1	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Q2	0.677 (0.242,1.90)	0.457	0.629 (0.215,1.84)	0.396	0.592 (0.202,1.74)	0.340
Q3	0.445 (0.144,1.38)	0.160	0.414 (0.132,1.84)	0.131	0.397 (0.126,1.25)	0.115
Q4	0.449 (0.147,1.38)	0.162	0.421 (0.136,1.30)	0.134	0.415 (0.134,1.29)	0.129
DII continuous	0.817 (0.622,1.07)	0.146	0.795 (0.600,1.06)	0.112	0.792 (0.595,1.05)	0.107
DI-GM						
≤2	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
3	0.687 (0.214,2.21)	0.529	0.593 (0.179,1.97)	0.393	0.576 (0.171,1.94)	0.372
4	1.26 (0.443,3.60)	0.662	1.23 (0.424,3.56)	0.704	1.40 (0.468,4.19)	0.547
≥5	0.865 (0.295,2.54)	0.792	0.881 (0.293,2.65)	0.822	0.955 (0.311,2.94)	0.936
DI-GM continuous	1.03 (0.770,1.37)	0.856	1.04 (0.777,1.40)	0.780	1.07 (0.792,1.45)	0.656

Dyslipidemia: Self-reported presence of abnormal blood lipid or diagnosed hyperlipidemia. DII, dietary inflammation index; DI-GM, dietary index for gut microbiota.
Model 1: adjusted for age and gender.
Model 2: adjusted for education level, household income, city classification and residence status based on model 1.
Model 3: total dietary energy intake and use of nutritional supplementation were adjusted based on model 2. Total dietary energy intake wasn't adjusted in model 3 for DII, since it has been adjusted in the DII calculation process.

Supplementary Table 5. Subgroup analysis based on gender classification

	Dysglycemia			Hypertension		
	OR (95%CI)	*p*	*p* for interaction	OR (95%CI)	*p*	*p* for interaction
DII			0.952			0.144
Male	1.062 (0.690,1.635)	0.784		0.925 (0.625,1.370)	0.698	
Female	1.005 (0.750,1.347)	0.974		1.292 (0.993,1.679)	0.056	
DI-GM			0.296			0.713
Male	0.484 (0.288,0.816)	0.006		0.886 (0.609,1.290)	0.528	
Female	0.864 (0.620,1.205)	0.389		0.847 (0.639,1.123)	0.250	

	Dyslipidemia		
	OR (95%CI)	*p*	*p* for interaction
DII			0.297
Male	1.003 (0.527,1.909)	0.992	
Female	0.730 (0.523,1.018)	0.064	
DI-GM			0.431
Male	0.857 (0.448,1.642)	0.643	
Female	1.115 (0.785,1.583)	0.543	

Dysglycemia: Self-reported presence of abnormal blood glucose or diagnosed diabetes; Hypertension: Self-reported presence of hypertension; Dyslipidemia: Self-reported presence of abnormal blood lipid or diagnosed hyperlipidemia. DII, dietary inflammation index; DI-GM, dietary index for gut microbiota. Models adjusted for age, education level, household income, city classification, residence status, total dietary energy intake and use of nutritional supplementation.
Total dietary energy intake wasn't adjusted for DII, since it has been adjusted in the DII calculation process