

Supplementary materials of

**Greater Adherence to Mediterranean Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay (MIND) Diet is Associated with Lower Risk of Inflammatory Bowel Disease: A Prospective Cohort Study**

**Content**

<b>Table S1. MIND diet component servings and scoring .....</b>	<b>2</b>
<b>Table S2. Definitions of covariables in the analysis .....</b>	<b>3</b>
<b>Table S3. Missing numbers and rates of covariables .....</b>	<b>5</b>
<b>Table S4. Baseline characteristics of participants with and without dietary information collected from the Oxford WebQ.....</b>	<b>6</b>
<b>Table S5. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to food components in MIND diet .....</b>	<b>7</b>
<b>Table S6. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident Crohn's disease based on Montreal classification according to tertiles of MIND diet score.....</b>	<b>9</b>
<b>Table S7. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident ulcerative colitis based on Montreal classification according to tertiles of MIND diet score .....</b>	<b>10</b>
<b>Table S8. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to tertiles of MIND diet score stratified by age, sex, and body mass index .....</b>	<b>11</b>
<b>Table S9. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to tertiles of MIND diet score in the sensitivity analysis.....</b>	<b>13</b>
<b>Figure S1. Restricted cubic spline of the association between MIND diet score and risk of IBD, CD, and UC .....</b>	<b>15</b>

**Table S1. MIND diet component servings and scoring**

MIND diet component	Example food items in the Oxford WebQ	Scoring		
		0	0.5	1
Green leafy vegetables	Cabbage/kale, lettuce, spinach	≤2 servings/wk	>2 to <6 servings/wk	≥6 servings/wk
Other vegetables	Green beans, broccoli, butternut squash, carrot, cauliflower, celery, cucumber, leek, mushroom, sweet pepper, sprouts, sweetcorn, sweet potato	<5 servings/wk	5 to <7 servings/wk	≥1 servings/d
Berries	Berries	<1 serving/wk	1 serving/wk	≥2 servings/wk
Nuts	Nuts, peanuts, seeds, peanut butter	<1 serving/m	1/m to <5 servings/wk	≥5 servings/wk
Olive oil	Participants used olive oil in cooking across all diet records that reported using fat/oil in cooking	No primary oil		Primary oil used
Butter/margarine	Butter/margarine on bread/crackers and potatoes	>2 tsp/d	1–2 tsp/d	<1 tsp/d
Cheese	Hard cheese, soft cheese, cheese spread, cottage cheese, mozzarella, goat's cheese	≥7 servings/wk	1 to 6 servings/wk	<1 serving/wk
Whole grains	Porridge, whole-wheat cereal/breads, wholemeal pasta, brown rice	<1 serving/d	1–2 servings/d	≥3 servings/d
Fish (not fried)	Tinned tuna, oily fish, white fish, prawns, lobster/crab, shellfish	<1 serving/m	1 to 3 servings/m	≥1 servings/wk
Beans	Baked bean, pulses, broad bean, hummus, tofu	<1 serving/wk	1–3 servings/wk	>3 servings/wk
Poultry (not fried)	Poultry	<1 serving/wk	1 serving/wk	≥2 servings/wk
Red meat and products	Sausage, beef, pork, lamb, bacon, ham	≥7 servings/wk	4–6 servings/wk	<4 servings/wk
Fast/fried foods	Fried poultry, breaded fish, fried potatoes, crisp/chips	≥4 servings/wk	1–3 servings/wk	<1 serving/wk
Pastries and sweets	Pastry, crumble, pancake, pudding, ice-cream, cake, doughnut, chocolate bar, biscuits, hot chocolate, fizzy drink, added sugars and preserves	≥7 servings/wk	5–6 servings/wk	<5 servings/wk
Wine	Red wine, rose wine, white wine, fortified wine	>1 glass/d or never	1/m to 6/wk	1 glass/d

**Table S2. Definitions of covariables in the analysis**

<b>Covariables</b>	<b>Definitions</b>
Age at recruitment	Continuous variable. Age at recruitment is based on the participant's date of birth and date of attendance at the initial assessment centre. Refers to the age of the participant on the date of attendance at the initial assessment centre, truncated to a full year.
Sex	Categorical variable, men and women. Acquired from central registry at recruitment.
Race	Categorical variable, white and non-white. UK Biobank touch-screen questionnaire asked about the ethnic background: White included British, Irish, and any other white background.
Education	Categorical variable, college or university degree and above, and high school and below (A levels/AS levels or equivalent, O levels/GCSEs or equivalent, CSEs or equivalent, NVQ or HND or HNC or equivalent, other professional qualifications eg: nursing, teaching, and none of the above). UK Biobank touch-screen questionnaire asked about the possession of qualifications.
Townsend deprivation index	Continuous variable. Townsend deprivation index was conducted as a complex indicator of socioeconomic status based on the preceding national census output areas at recruitment using the method mentioned online ( <a href="https://biobank.ndph.ox.ac.uk/showcase/label.cgi?id=76">https://biobank.ndph.ox.ac.uk/showcase/label.cgi?id=76</a> ).
Smoking status	Self-reported current/past smoking status of the participant. We classified the responses into: never smoked, previous, and current smoker.
Physical activity	Categorical variable, regular and irregular. UK Biobank touch-screen questionnaire on the reported type and duration of physical activity (including walking, DIY, moderate and vigorous physical activity, strenuous sports, etc). One of the following is equal to 1 score: 1. $\geq 150$ minutes of moderate activity per week. 2. $\geq 75$ minutes of vigorous activity per week. 3. Equivalent combination. 4. Moderate physical activity at least 5 days a week or vigorous activity once a week. 1 score and more indicated regular physical activity.
Body mass index	Continuous variable, weight/height <sup>2</sup> , kg/m <sup>2</sup> .
Cancer history	Categorical variable, with and without. According to self-reported code for cancer history.

<b>Covariables</b>	<b>Definitions</b>
Total energy	Total energy from overall diet was estimated from the mean intake of the Oxford WebQ.
Total sugar	Total sugar from overall diet was estimated from the mean intake of the Oxford WebQ.
Depression symptom	Categorical variable, with and without. UK Biobank touch-screen questionnaire on psychological factors and mental health asked two questions: Over the past two weeks, how often have you felt down, depressed, or hopeless? Over the past two weeks, how often have you had little interest or pleasure in doing things? Scores: 0 (not at all); 1 (several days); 2 (more than half the days); 3 (nearly every day); scored equal to or more than 3 was considered to have depression symptoms.
Cardiovascular disease	Categorical variable, with and without. According to the International Classification of Diseases (ICD) codes: ICD-9: 410-414, 362.3, 430-431, 433-436, 440, 443.9, and ICD-10: I20-I25, H34.1, I60-I61, I63-I64, G45, I70, I73.9.
Diabetes	Categorical variable, with and without. According to the International Classification of Diseases (ICD) codes: ICD-9: 250 and ICD-10: E10-E14.
Stroke	Categorical variable, with and without. According to the International Classification of Diseases (ICD) codes: ICD-9: 362.3, 430-431, 433-434, 436 and ICD-10: H34.1, I60-I61, I63-I64.
INFLA score	Continuous variable. Aliquoted the four indicators (C-reactive protein, white blood cell count, platelet count, and the neutrophil-to-lymphocyte ratio), with the highest four deciles assigned values +1 to +4 (7 <sup>th</sup> to 10 <sup>th</sup> ) and the lowest four deciles assigned values -4 to -1 (1 <sup>st</sup> to 4 <sup>th</sup> ) and summed to obtain the INFLA score.
Metabolic disorder	Having the number of abnormalities $\geq 3$ of: Glucose Random glucose level $\geq 11.1$ mmol/L or glycated hemoglobin (HbA1c) level $\geq 48.0$ mmol/mol High-density lipoprotein cholesterol Men: $<1.0$ mmol/L; Women: $<1.3$ mmol/L Triglycerides $\geq 1.7$ mmol/L Obesity Waist; Men: $\geq 102$ cm; Women: $\geq 88$ cm Hypertension $\geq 130/85$ mmHg

**Table S3. Missing numbers and rates of covariables**

<b>Covariables</b>	<b>Missing number</b>	<b>Missing rate (%)</b>
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Townsend deprivation index	226	0.12
Body mass index	513	0.27
Education	903	0.48
Race	70	0.04
Smoking status	69	0.04
Physical activity	1,828	0.97
Depression	8,722	4.65
Cancer history	478	0.25
INFLA score	16,003	8.54
Metabolic disorder	43,975	23.45

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**Table S4. Baseline characteristics of participants with and without dietary information collected from the Oxford WebQ.**

Characteristic	Dietary information from the Oxford WebQ	
	With (n=210,988)	Without (n=291,473)
Age, mean (SD )	56.08 (7.95)	56.85 (8.18)
Females, n (%)	116,225 (55.1)	157,128 (53.9)
Townsend deprivation index, median (IQR )	-1.57 (2.88)	-1.09 (3.23)
Body mass index, mean (SD )	26.96 (4.66)	27.78 (4.88)
College degree and above, n (%)	89,744 (42.7)	71,402 (25.3)
White, n (%)	201,266 (95.4)	271,391 (93.4)
Smoking status, n (%)		
Current	17,032 (8.1)	37,996 (13.1)
Previous	74,870 (35.5)	98,174 (33.8)
Never	119,002 (56.4)	154,495 (53.2)
Regular physical activity, n (%)	166,386 (79.6)	217,809 (77.4)
Cancer history	15,969 (7.6)	22,645 (7.8)
Depression symptoms, n (%)	8841 (4.4)	19,071 (7.2)
Cardiovascular disease, n (%)	64,335 (30.5)	104,453 (35.8)
Diabetes, n (%)	9224 (4.4)	18,333 (6.3)
Stroke, n (%)	3284 (1.6)	7089 (2.4)
INFLA	-0.65 (6.03)	0.41 (6.11)

**Table S5. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to food components in MIND diet <sup>a</sup>**

Food component	Score	Inflammatory bowel disease		Crohn's disease		Ulcerative colitis	
		HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>
Green leafy vegetables	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
	0.5	1.07 (0.91, 1.26)	0.412	0.84 (0.61, 1.15)	0.271	1.18 (0.97, 1.43)	0.091
	1	0.88 (0.72, 1.08)	0.219	0.95 (0.67, 1.35)	0.776	0.85 (0.67, 1.09)	0.198
Other vegetables	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
	0.5	0.60 (0.31, 1.16)	0.129	0.54 (0.17, 1.78)	0.315	0.63 (0.29, 1.38)	0.249
	1	1.05 (0.85, 1.30)	0.642	1.02 (0.70, 1.49)	0.922	1.07 (0.83, 1.38)	0.614
Berries	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
	0.5	0.91 (0.65, 1.28)	0.588	0.65 (0.32, 1.33)	0.239	1.03 (0.70, 1.51)	0.894
	1	0.96 (0.79, 1.15)	0.635	0.92 (0.66, 1.29)	0.636	0.97 (0.78, 1.21)	0.799
Nuts	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
	0.5	0.86 (0.70, 1.06)	0.151	0.84 (0.57, 1.22)	0.358	0.87 (0.68, 1.11)	0.264
	1	0.86 (0.65, 1.15)	0.317	0.99 (0.60, 1.64)	0.965	0.81 (0.57, 1.15)	0.245
Olive oil	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
	1	0.93 (0.81, 1.07)	0.289	0.86 (0.67, 1.11)	0.243	0.96 (0.81, 1.13)	0.618
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Butter	0.5	0.97 (0.81, 1.17)	0.764	0.94 (0.68, 1.31)	0.728	0.99 (0.79, 1.22)	0.895
	1	0.85 (0.69, 1.04)	0.114	0.81 (0.56, 1.17)	0.264	0.87 (0.68, 1.10)	0.244
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Cheese	0.5	<b>0.81 (0.65, 1.00)</b>	<b>0.047</b>	0.88 (0.59, 1.31)	0.530	<b>0.78 (0.61, 1.00)</b>	<b>0.050</b>
	1	0.85 (0.70, 1.04)	0.110	0.94 (0.65, 1.36)	0.749	0.82 (0.65, 1.03)	0.090
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Whole grains	0.5	0.91 (0.78, 1.06)	0.223	1.17 (0.89, 1.52)	0.262	<b>0.82 (0.68, 0.98)</b>	<b>0.028</b>
	1	0.84 (0.62, 1.13)	0.252	0.73 (0.39, 1.36)	0.317	0.88 (0.62, 1.24)	0.449
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Fish	0.5	1.26 (0.65, 2.43)	0.499	0.43 (0.06, 3.07)	0.399	1.65 (0.82, 3.34)	0.161
	1	0.88 (0.76, 1.01)	0.077	0.79 (0.60, 1.03)	0.086	0.92 (0.77, 1.09)	0.327
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Beans	0.5	0.92 (0.73, 1.16)	0.500	0.93 (0.61, 1.41)	0.723	0.92 (0.70, 1.21)	0.567
	1	0.91 (0.74, 1.12)	0.392	0.95 (0.66, 1.39)	0.805	0.90 (0.70, 1.15)	0.388

	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Poultry	0.5	0.98 (0.74, 1.30)	0.896	0.89 (0.52, 1.51)	0.661	1.02 (0.73, 1.43)	0.892
	1	1.01 (0.87, 1.18)	0.883	0.95 (0.71, 1.26)	0.720	1.04 (0.86, 1.25)	0.678
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Red meat	0.5	1.19 (0.92, 1.55)	0.187	1.28 (0.80, 2.04)	0.313	1.16 (0.85, 1.58)	0.355
	1	0.95 (0.81, 1.10)	0.481	1.02 (0.77, 1.34)	0.898	0.92 (0.77, 1.10)	0.352
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Fried foods	0.5	<b>0.80 (0.65, 0.98)</b>	<b>0.032</b>	0.77 (0.52, 1.12)	0.171	0.81 (0.63, 1.04)	0.096
	1	0.88 (0.74, 1.05)	0.152	0.83 (0.61, 1.14)	0.254	0.90 (0.74, 1.11)	0.333
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Sweets	0.5	0.99 (0.68, 1.44)	0.962	0.56 (0.24, 1.26)	0.160	1.22 (0.80, 1.86)	0.348
	1	0.95 (0.78, 1.15)	0.575	<b>0.63 (0.43, 0.93)</b>	<b>0.021</b>	1.11 (0.88, 1.40)	0.375
	0	1 (Ref.)		1 (Ref.)		1 (Ref.)	
Wine	0.5	0.95 (0.72, 1.23)	0.680	0.81 (0.48, 1.36)	0.428	1.00 (0.74, 1.37)	0.977
	1	<b>0.81 (0.66, 0.98)</b>	<b>0.034</b>	0.91 (0.64, 1.28)	0.574	<b>0.77 (0.60, 0.97)</b>	<b>0.030</b>

*Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; HR, hazard ratios; CI, confidence interval.

<sup>a</sup> Models are adjusted for age, sex, Townsend deprivation index, body mass index, education, race, smoking status, physical activity, cancer history, total energy, and total sugar.



**Table S6. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident Crohn's disease based on Montreal classification according to tertiles of MIND diet score <sup>a</sup>**

MIND diet score	L1 (Small bowel disease or terminal ileitis)			L2 (Colon)		
	Cases/person-years	HR (95% CI)	P	Cases/person-years	HR (95% CI)	P
Per 3-point increment		0.71 (0.47, 1.06)	0.092		1.30 (0.85, 1.99)	0.235
Tertile 1	33/683,251	1 (Ref.)		11/683,077	1 (Ref.)	
Tertile 2	18/765,961	0.59 (0.34, 1.04)	0.069	24/765,983	1.45 (0.76, 2.75)	0.258
Tertile 3	13/556,758	0.58 (0.30, 1.14)	0.116	11/556,741	1.24 (0.59, 2.60)	0.563
P value for trend	□		0.141	□		0.665
	<b>L3/LX (Ileocecal Crohn's disease or location not defined)</b>					□
MIND diet score	Cases/person-years	HR (95% CI)	P			
Per 3-point increment		<b>0.66 (0.50, 0.86)</b>	<b>0.002</b>			
Tertile 1	61/683,446	1 (Ref.)				
Tertile 2	53/766,242	0.79 (0.55, 1.13)	0.188			
Tertile 3	26/556,850	<b>0.53 (0.33, 0.84)</b>	<b>0.007</b>			
P value for trend	□		<b>0.006</b>	□	□	□

*Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; HR, hazard ratios; CI, confidence interval.

<sup>a</sup> Models are adjusted for age, sex, Townsend deprivation index, body mass index, education, race, smoking status, physical activity, cancer history, total energy, and total sugar.

**Table S7. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident ulcerative colitis based on Montreal classification according to tertiles of MIND diet score <sup>a</sup>**

MIND diet score	E1 (Ulcerative proctitis)			E2 (Left-sided UC)		
	Cases/person-years	HR (95% CI)	<i>P</i>	Cases/person-years	HR (95% CI)	<i>P</i>
Per 3-point increment		1.00 (0.68, 1.47)	0.986		0.89 (0.61, 1.30)	0.544
Tertile 1	24/683,185	1 (Ref.)		31/683,229	1 (Ref.)	
Tertile 2	33/766,049	1.38 (0.80, 2.36)	0.244	21/765,965	0.76 (0.44, 1.31)	0.327
Tertile 3	13/556,755	0.79 (0.39, 1.60)	0.511	19/556,803	0.95 (0.52, 1.74)	0.871
<i>P</i> value for trend			0.873			0.748
MIND diet score	E3 (Extensive UC)			EX (Extent not defined)		
	Cases/person-years	HR (95% CI)	<i>P</i>	Cases/person-years	HR (95% CI)	<i>P</i>
Per 3-point increment		0.64 (0.41, 1.01)	0.053		0.87 (0.74, 1.02)	0.096
Tertile 1	25/683,190	1 (Ref.)		161/683,994	1 (Ref.)	
Tertile 2	22/765,988	0.83 (0.46, 1.49)	0.534	127/766,682	<b>0.78 (0.62, 0.98)</b>	<b>0.036</b>
Tertile 3	6/556,710	<b>0.39 (0.16, 0.91)</b>	<b>0.030</b>	93/557,268	0.81 (0.62, 1.05)	0.113
<i>P</i> value for trend	□		<b>0.025</b>			0.109

*Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; HR, hazard ratios; CI, confidence interval; UC, ulcerative colitis.

<sup>a</sup> Models are adjusted for age, sex, Townsend deprivation index, body mass index, education, race, smoking status, physical activity, cancer history, total energy, and total sugar.

**Table S8. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to tertiles of MIND diet score stratified by age, sex, and body mass index <sup>a</sup>**

MIND diet score	Inflammatory bowel disease			Crohn's disease			Ulcerative colitis		
	Cases/person-years	HR (95% CI)	<i>P</i>	Cases/person-years	HR (95% CI)	<i>P</i>	Cases/person-years	HR (95% CI)	<i>P</i>
<b>Age</b>									
<b>Age ≥ 65</b>									
Per 3-point increment		<b>0.64 (0.48, 0.86)</b>	<b>0.003</b>		0.62 (0.37, 1.04)	0.073		<b>0.65 (0.46, 0.92)</b>	<b>0.015</b>
Tertile 1	59/108,467	1 (Ref.)		18/108,181	1 (Ref.)		41/108,345	1 (Ref.)	
Tertile 2	53/126,761	0.81 (0.56, 1.19)	0.286	17/126,546	0.80 (0.41, 1.57)	0.514	36/126,651	0.82 (0.52, 1.29)	0.392
Tertile 3	26/89,313	<b>0.57 (0.35, 0.91)</b>	<b>0.020</b>	7/89,174	0.45 (0.18, 1.11)	0.082	19/89,273	0.62 (0.35, 1.10)	0.102
<i>P</i> value for trend			<b>0.020</b>			0.084			0.099
<b>Age &lt; 65</b>									
Per 3-point increment		0.89 (0.79, 1.01)	0.063		0.83 (0.66, 1.04)	0.106		0.92 (0.79, 1.06)	0.244
Tertile 1	287/576,787	1 (Ref.)		87/575,557	1 (Ref.)		200/576,189	1 (Ref.)	
Tertile 2	245/641,098	0.86 (0.72, 1.02)	0.083	78/639,970	0.89 (0.65, 1.22)	0.465	167/640,527	0.84 (0.68, 1.04)	0.109
Tertile 3	155/468,483	<b>0.79 (0.65, 0.98)</b>	<b>0.028</b>	43/467,814	0.72 (0.49, 1.06)	0.096	112/468,216	0.83 (0.65, 1.05)	0.122
<i>P</i> value for trend			<b>0.022</b>			0.099			0.095
<i>P</i> value for interaction <sup>b</sup>			0.614			0.827			0.737
<b>Sex</b>									
<b>Female</b>									
Per 3-point increment		<b>0.85 (0.72, 0.99)</b>	<b>0.041</b>		<b>0.68 (0.51, 0.91)</b>	<b>0.009</b>		0.93 (0.77, 1.13)	0.479
Tertile 1	143/298,683	1 (Ref.)		48/298,100	1 (Ref.)		95/298,344	1 (Ref.)	
Tertile 2	151/432,814	0.82 (0.65, 1.04)	0.099	50/432,119	0.81 (0.54, 1.22)	0.315	101/432,449	0.83 (0.62, 1.10)	0.189
Tertile 3	113/380,757	<b>0.74 (0.57, 0.95)</b>	<b>0.020</b>	26/380,214	<b>0.50 (0.31, 0.83)</b>	<b>0.007</b>	87/380,595	0.85 (0.63, 1.16)	0.310
<i>P</i> value for trend			<b>0.020</b>			<b>0.007</b>			0.313
<b>Male</b>									
Per 3-point increment		<b>0.84 (0.71, 0.99)</b>	<b>0.032</b>		0.93 (0.69, 1.25)	0.635		<b>0.80 (0.66, 0.97)</b>	<b>0.025</b>
Tertile 1	203/386,570	1 (Ref.)		57/385,638	1 (Ref.)		146/386,190	1 (Ref.)	

Tertile 2	147/335,045	0.86 (0.70, 1.07)	0.186	45/334,397	0.91 (0.61, 1.36)	0.645	102/334,728	0.85 (0.65, 1.09)	0.204
Tertile 3	68/177,040	0.77 (0.58, 1.02)	0.065	24/176,774	0.93 (0.57, 1.52)	0.771	44/176,894	<b>0.70 (0.50, 0.99)</b>	<b>0.044</b>
<i>P</i> value for trend			<b>0.048</b>			0.710			<b>0.034</b>
<b><i>P</i> value for interaction</b>			0.647			0.103			0.725
<b>Body mass index</b>									
<b>BMI ≥ 30</b>									
Per 3-point increment		0.81 (0.64, 1.02)	0.067		0.78 (0.53, 1.15)	0.214		0.82 (0.62, 1.09)	0.173
Tertile 1	97/175,809	1 (Ref.)		31/175,410	1 (Ref.)		66/175,585	1 (Ref.)	
Tertile 2	75/152,543	0.93 (0.69, 1.27)	0.656	31/152,251	1.19 (0.71, 1.97)	0.510	44/152,330	0.81 (0.55, 1.20)	0.292
Tertile 3	32/88,552	0.70 (0.46, 1.06)	0.094	9/88,427	0.61 (0.28, 1.30)	0.201	23/88,497	0.75 (0.46, 1.22)	0.248
<i>P</i> value for trend			0.115			0.365			0.196
<b>BMI &lt; 30</b>									
Per 3-point increment		<b>0.85 (0.75, 0.97)</b>	<b>0.014</b>		0.79 (0.62, 1.01)	0.060		0.87 (0.75, 1.02)	0.086
Tertile 1	249/509,445	1 (Ref.)		74/508,327	1 (Ref.)		175/508,949	1 (Ref.)	
Tertile 2	223/615,316	<b>0.81 (0.68, 0.98)</b>	<b>0.029</b>	64/614,265	0.76 (0.54, 1.07)	0.118	159/614,848	0.84 (0.67, 1.04)	0.111
Tertile 3	149/469,244	<b>0.75 (0.61, 0.93)</b>	<b>0.009</b>	41/468,561	<b>0.66 (0.44, 0.99)</b>	<b>0.044</b>	108/468,992	0.79 (0.61, 1.02)	0.068
<i>P</i> value for trend			<b>0.006</b>			0.060			0.057
<b><i>P</i> value for interaction</b>			0.590	□		0.244	□		0.993

*Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; HR, hazard ratios; CI, confidence interval.

<sup>a</sup> Adjusted for all covariates in Model 2 except for the one defining subgroup.

<sup>b</sup> Multiplicative interactions were tested by adding multiplicative interaction terms into the model.

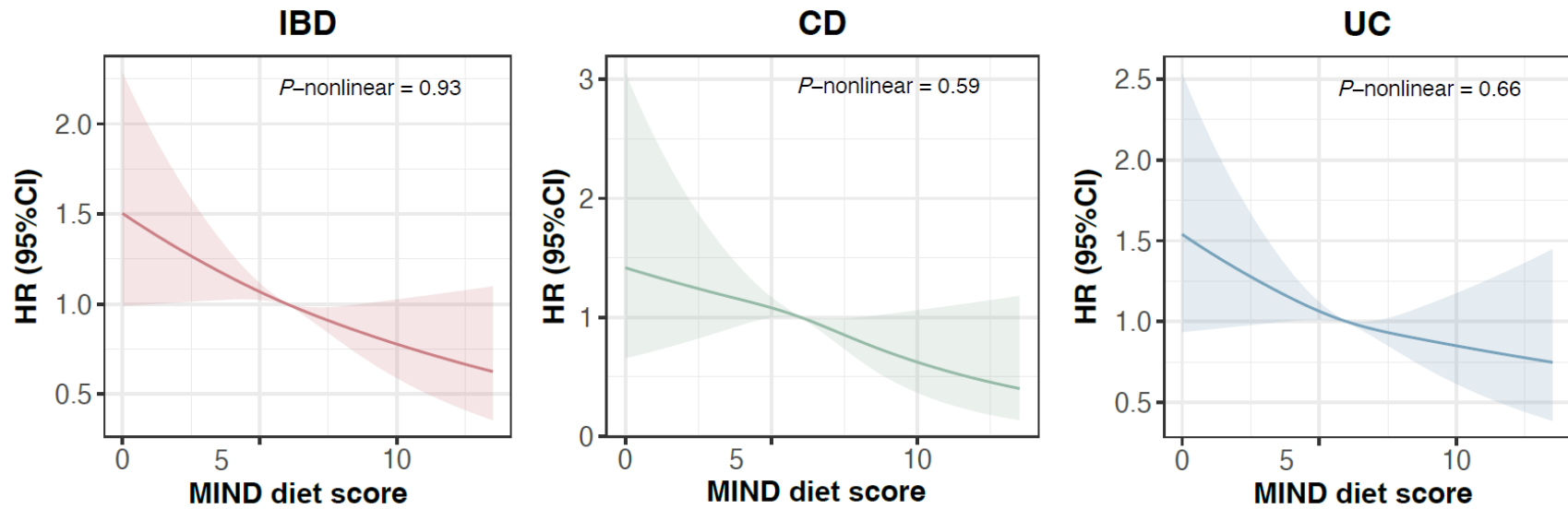
**Table S9. Multivariable-adjusted hazard ratios and 95% confidence intervals for incident inflammatory bowel disease and its subtypes according to tertiles of MIND diet score in the sensitivity analysis <sup>a</sup>**

	MIND diet score	Additionally adjusted for cardiovascular diseases		Additionally adjusted for diabetes		Additionally adjusted for stroke		Additionally adjusted for depression symptoms	
		HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>
<b>Inflammatory bowel disease</b>	Per 3-point increment	<b>0.84 (0.75, 0.94)</b>	<b>0.003</b>	<b>0.84 (0.75, 0.94)</b>	<b>0.002</b>	<b>0.84 (0.75, 0.94)</b>	<b>0.003</b>	<b>0.84 (0.75, 0.94)</b>	<b>0.002</b>
	Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)		1 (Ref.)	
	Tertile 2	<b>0.84 (0.72, 0.99)</b>	<b>0.037</b>	<b>0.84 (0.72, 0.99)</b>	<b>0.036</b>	<b>0.84 (0.72, 0.99)</b>	<b>0.036</b>	<b>0.84 (0.72, 0.99)</b>	<b>0.036</b>
	Tertile 3	<b>0.75 (0.62, 0.90)</b>	<b>0.003</b>	<b>0.75 (0.62, 0.90)</b>	<b>0.002</b>	<b>0.75 (0.62, 0.90)</b>	<b>0.002</b>	<b>0.75 (0.62, 0.90)</b>	<b>0.002</b>
	<i>P</i> value for trend		<b>0.002</b>		<b>0.002</b>		<b>0.002</b>		<b>0.002</b>
			<b>With missing data multiple imputed</b>		<b>Excluded new cases in first 3 years follow-up</b>		<b>Performed inverse probability weights</b>		
			<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	
	Per 3-point increment	<b>0.86 (0.77, 0.97)</b>	<b>0.012</b>	<b>0.81 (0.72, 0.92)</b>	<b>0.001</b>	<b>0.84 (0.75, 0.94)</b>	<b>0.002</b>		
	Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)			
	Tertile 2	0.86 (0.73, 1.01)	0.065	0.87 (0.74, 1.03)	0.105	<b>0.85 (0.72, 0.99)</b>	<b>0.041</b>		
Tertile 3	<b>0.78 (0.64, 0.94)</b>	<b>0.010</b>	<b>0.71 (0.58, 0.87)</b>	<b>0.001</b>	<b>0.75 (0.62, 0.91)</b>	<b>0.003</b>			
<i>P</i> value for trend		<b>0.008</b>		<b>0.001</b>		<b>0.002</b>			
<b>Crohn's disease</b>			<b>Additionally adjusted for cardiovascular diseases</b>		<b>Additionally adjusted for diabetes</b>		<b>Additionally adjusted for stroke</b>		<b>Additionally adjusted for depression symptoms</b>
			<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>
	Per 3-point increment	<b>0.79 (0.64, 0.97)</b>	<b>0.026</b>	<b>0.79 (0.64, 0.97)</b>	<b>0.023</b>	<b>0.79 (0.64, 0.97)</b>	<b>0.025</b>	<b>0.79 (0.64, 0.97)</b>	<b>0.024</b>
	Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)		1 (Ref.)	
	Tertile 2	0.87 (0.66, 1.16)	0.344	0.87 (0.65, 1.15)	0.333	0.87 (0.66, 1.16)	0.339	0.87 (0.65, 1.16)	0.335
	Tertile 3	<b>0.67 (0.47, 0.95)</b>	<b>0.024</b>	<b>0.66 (0.47, 0.94)</b>	<b>0.022</b>	<b>0.66 (0.47, 0.94)</b>	<b>0.023</b>	<b>0.66 (0.47, 0.94)</b>	<b>0.022</b>
	<i>P</i> value for trend		<b>0.026</b>		<b>0.023</b>		<b>0.024</b>		<b>0.024</b>
			<b>With missing data multiple imputed</b>		<b>Excluded new cases in first 3 years follow-up</b>		<b>Performed inverse probability weights</b>		
			<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	<b>HR (95% CI)</b>	<b><i>P</i></b>	
	Per 3-point increment	0.82 (0.67, 1.01)	0.064	<b>0.76 (0.61, 0.95)</b>	<b>0.015</b>	<b>0.79 (0.64, 0.98)</b>	<b>0.033</b>		
Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)				
Tertile 2	0.90 (0.67, 1.19)	0.446	0.86 (0.64, 1.15)	0.309	0.87 (0.65, 1.15)	0.327			
Tertile 3	0.71 (0.50, 1.01)	0.053	<b>0.63 (0.43, 0.92)</b>	<b>0.016</b>	<b>0.66 (0.46, 0.94)</b>	<b>0.021</b>			

		0.058		0.017		0.024		
MIND diet score	Additionally adjusted for cardiovascular diseases	Additionally adjusted for diabetes		Additionally adjusted for stroke		Additionally adjusted for depression symptoms		
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
Per 3-point increment	<b>0.86 (0.75, 0.99)</b>	<b>0.033</b>	<b>0.86 (0.75, 0.99)</b>	<b>0.032</b>	<b>0.86 (0.75, 0.99)</b>	<b>0.032</b>	<b>0.86 (0.75, 0.99)</b>	<b>0.032</b>
Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)		1 (Ref.)	
Tertile 2	0.83 (0.69, 1.01)	0.060	0.83 (0.69, 1.01)	0.059	0.83 (0.69, 1.01)	0.059	0.83 (0.69, 1.01)	0.059
Tertile 3	<b>0.78 (0.63, 0.98)</b>	<b>0.033</b>	<b>0.78 (0.63, 0.98)</b>	<b>0.032</b>	<b>0.78 (0.63, 0.98)</b>	<b>0.032</b>	<b>0.78 (0.62, 0.98)</b>	<b>0.032</b>
P value for trend		<b>0.024</b>		<b>0.023</b>		<b>0.023</b>		<b>0.023</b>
MIND diet score	With missing data multiple imputed	Excluded new cases in first 3 years follow-up		Performed inverse probability weights				
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P		
Per 3-point increment	0.88 (0.77, 1.01)	0.074	<b>0.84 (0.72, 0.97)</b>	<b>0.016</b>	<b>0.86 (0.75, 0.98)</b>	<b>0.025</b>		
Tertile 1	1 (Ref.)		1 (Ref.)		1 (Ref.)			
Tertile 2	0.85 (0.70, 1.02)	0.086	0.88 (0.71, 1.07)	0.203	0.84 (0.69, 1.02)	0.075		
Tertile 3	0.81 (0.65, 1.01)	0.067	<b>0.75 (0.58, 0.95)</b>	<b>0.020</b>	<b>0.79 (0.63, 0.99)</b>	<b>0.044</b>		
P value for trend		<b>0.050</b>		<b>0.019</b>		<b>0.032</b>		

*Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; HR, hazard ratios; CI, confidence interval.

<sup>a</sup> Models are adjusted for age, sex, Townsend deprivation index, body mass index, education, race, smoking status, physical activity, cancer history, total energy, and total sugar.



**Figure S1. Restricted cubic spline of the association between MIND diet score and risk of IBD, CD, and UC.** *Abbreviations:* MIND, Mediterranean-Dietary Approaches to Stop Hypertension Intervention for Neurodegenerative Delay; IBD, inflammatory bowel disease; CD, Crohn's disease; UC, ulcerative colitis; HR, hazard ratios; CI, confidence interval.