

Supplemental Table 1. Body mass index and risk of diverticulitis stratified by age, smoking status, and physical activity (2008-2014)*

	No. of cases	Body mass index (kg/m ²)						P for interaction
		<22.5	22.5-24.9	25.0-27.4	27.5-29.9	30.0-34.9	≥35.0	
Age								0.58
Age <70 years	338	1 (ref)	1.28 (0.86, 1.89)	1.24 (0.83, 1.84)	1.43 (0.94, 2.16)	1.74 (1.18, 2.57)	1.63 (1.04, 2.57)	
Age ≥70 years	746	1 (ref)	1.00 (0.80, 1.26)	1.35 (1.09, 1.68)	1.33 (1.04, 1.71)	1.40 (1.09, 1.79)	1.31 (0.93, 1.85)	
Smoking status								0.16
Never	468	1 (ref)	0.96 (0.72, 1.28)	1.15 (0.87, 1.53)	1.33 (0.98, 1.82)	1.19 (0.87, 1.64)	1.31 (0.87, 1.96)	
Ever	608	1 (ref)	1.19 (0.91, 1.55)	1.47 (1.14, 1.91)	1.41 (1.05, 1.89)	1.85 (1.40, 2.43)	1.49 (1.04, 2.13)	
Physical activity†								0.62
<12 MET-h/week	513	1 (ref)	0.98 (0.71, 1.34)	1.28 (0.96, 1.72)	1.43 (1.05, 1.96)	1.41 (1.04, 1.91)	1.42 (0.99, 2.04)	
≥12 MET-h/week	477	1 (ref)	1.10 (0.84, 1.43)	1.30 (1.00, 1.70)	1.22 (0.88, 1.69)	1.46 (1.07, 2.01)	1.15 (0.69, 1.92)	

* Body mass index was updated every 2 years from 2008 to 2012. Models were adjusted for menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other nonsteroidal anti-inflammatory drug use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, calorie intake, dietary fiber intake, and red meat intake.

† Dichotomized according to median level of physical activity.

Supplemental Table 2. Body mass index and risk of diverticulitis using follow-up from 1990 to 2014*

	BMI (kg/m ²)						P for trend
	<22.5	22.5-24.9	25.0-27.4	27.5-29.9	30.0-34.9	≥35.0	
No. of cases	942	1107	1194	765	908	461	
Person-years	314910	317389	289433	179012	197472	93417	
Age	1 (ref)	1.18 (1.08, 1.29)	1.38 (1.27, 1.51)	1.42 (1.29, 1.56)	1.54 (1.41, 1.69)	1.69 (1.51, 1.89)	<0.001
Multivariate†	1 (ref)	1.15 (1.06, 1.26)	1.33 (1.22, 1.45)	1.34 (1.22, 1.48)	1.45 (1.32, 1.60)	1.59 (1.41, 1.79)	<0.001
Multivariate+diet‡	1 (ref)	1.15 (1.05, 1.26)	1.32 (1.21, 1.44)	1.34 (1.22, 1.48)	1.45 (1.32, 1.60)	1.58 (1.41, 1.78)	<0.001

* Body mass index as updated every 2 years from 1990 to 2012.

† Adjusted for menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other NSAID use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, and calorie intake.

‡ Further adjusted for dietary intake of fiber and red meat.

Supplemental Table 3. Waist circumference, waist-to-hip ratio and risk of diverticulitis using follow-up from 1990 to 2014*

	Q1	Q2	Q3	Q4	Q5	P for trend
Waist circumference (quintiles)						
No. of cases	531	752	935	849	1065	
Person-years	195964	211301	220415	181467	211707	
Age	1 (ref)	1.22 (1.09, 1.37)	1.39 (1.25, 1.55)	1.48 (1.33, 1.66)	1.57 (1.41, 1.75)	<0.001
Multivariate†	1 (ref)	1.21 (1.08, 1.35)	1.36 (1.21, 1.51)	1.43 (1.28, 1.60)	1.50 (1.34, 1.68)	<0.001
Multivariate+diet‡	1 (ref)	1.21 (1.08, 1.35)	1.35 (1.21, 1.50)	1.42 (1.26, 1.59)	1.49 (1.33, 1.66)	<0.001
Multivariate+diet+BMI	1 (ref)	1.16 (1.03, 1.30)	1.24 (1.10, 1.39)	1.26 (1.11, 1.43)	1.26 (1.10, 1.44)	<0.001
Waist-to-hip ratio (quintiles)						
No. of cases	589	715	897	915	1005	
Person-years	203221	203512	202935	203698	203711	
Age	1 (ref)	1.14 (1.02, 1.27)	1.37 (1.23, 1.52)	1.34 (1.21, 1.49)	1.43 (1.29, 1.59)	<0.001
Multivariate†	1 (ref)	1.11 (1.00, 1.24)	1.32 (1.19, 1.47)	1.27 (1.14, 1.41)	1.34 (1.20, 1.49)	<0.001
Multivariate+diet‡	1 (ref)	1.11 (0.99, 1.24)	1.31 (1.18, 1.46)	1.26 (1.13, 1.40)	1.33 (1.19, 1.48)	<0.001
Multivariate+diet+BMI	1 (ref)	1.08 (0.97, 1.21)	1.25 (1.13, 1.39)	1.18 (1.06, 1.31)	1.23 (1.10, 1.37)	<0.001

* Waist circumference and waist-to-hip ratio were assessed in 1986, 1996, and 2000. We updated and used the most recent information prior to the questionnaire cycle of interest.

† Adjusted for height, menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other nonsteroidal anti-inflammatory drug use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, and calorie intake.

‡ Further adjusted for dietary intake of fiber and red meat.

Supplemental Table 4. Weight change from age 18 to current and risk of diverticulitis stratified by various characteristics (2008-2014)*

	No. of cases	Weight change (kg)						P for interaction
		Loss ≥ 2.0	Loss or gain < 2.0	Gain 2.0-5.9	Gain 6.0-9.9	Gain 10.0-19.9	Gain ≥ 20.0	
Age								0.50
Age < 70 years	290	1.00 (0.42, 2.36)	1 (ref)	1.03 (0.49, 2.18)	1.62 (0.82, 3.17)	1.53 (0.81, 2.87)	1.78 (0.95, 3.35)	
Age ≥ 70 years	651	0.88 (0.57, 1.36)	1 (ref)	1.50 (1.02, 2.21)	1.18 (0.80, 1.75)	1.64 (1.16, 2.33)	1.70 (1.19, 2.43)	
BMI age 18 years								0.12
< 21 kg/m ²	510	1.10 (0.58, 2.09)	1 (ref)	1.60 (0.98, 2.62)	1.40 (0.86, 2.26)	1.48 (0.95, 2.32)	1.66 (1.05, 2.61)	
≥ 21 kg/m ²	431	0.81 (0.50, 1.33)	1 (ref)	1.14 (0.70, 1.87)	1.17 (0.72, 1.90)	1.81 (1.19, 2.75)	1.86 (1.22, 2.84)	
Smoking status								0.09
Never	404	1.05 (0.58, 1.90)	1 (ref)	1.65 (0.99, 2.75)	1.44 (0.86, 2.39)	1.64 (1.03, 2.62)	1.68 (1.04, 2.70)	
Ever	531	0.88 (0.52, 1.48)	1 (ref)	1.27 (0.79, 2.05)	1.28 (0.81, 2.04)	1.69 (1.11, 2.56)	1.87 (1.23, 2.85)	
Physical activity [†]								0.72
< 12 MET-h/week	454	0.88 (0.50, 1.57)	1 (ref)	1.26 (0.74, 2.13)	1.17 (0.70, 1.96)	1.38 (0.87, 2.19)	1.50 (0.95, 2.39)	
≥ 12 MET-h/week	420	0.98 (0.58, 1.68)	1 (ref)	1.48 (0.93, 2.36)	1.30 (0.82, 2.08)	1.62 (1.06, 2.48)	1.71 (1.10, 2.66)	

* Weight change from age 18 to current was calculated by subtracting weight at age 18 from updated weight in current questionnaire cycle. Models were adjusted for age, weight at age 18, height, menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other nonsteroidal anti-inflammatory drug use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, calorie intake, dietary fiber intake, and red meat intake.

[†] Dichotomized according to median level of physical activity.

Supplemental Table 5. 4-year weight change during follow-up and risk of diverticulitis (2008-2014)*

Weight change (kg)	Median (kg)	No. of cases	Person-years	Model 1†	Model 2‡
Loss \geq 5.0	-8.2	126	30911	0.86 (0.70, 1.07)	0.85 (0.68, 1.05)
Loss 4.9-1.0	-2.7	271	60844	1.02 (0.86, 1.20)	1.01 (0.86, 1.20)
Loss or gain <1.0	0	300	69363	1 (ref)	1 (ref)
Gain 1.0-4.9	2.3	240	54838	1.03 (0.86, 1.22)	1.02 (0.86, 1.21)
Gain \geq 5.0	7.7	90	19562	1.06 (0.84, 1.35)	1.04 (0.82, 1.32)
P for trend				0.14	0.14

* 4-year weight change during follow-up was calculated and updated using repeated weight assessments 4 years apart. We suspended updating weight change information when a participant quit smoking or reported a diagnosis of cancer, cardiovascular disease, or inflammatory bowel disease in the past 2 years. Results were essentially unchanged if we did not suspend updating.

† Model 1 was adjusted for age, body weight at the start of each time period, and height.

‡ Model 2 was further adjusted for menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other NSAID use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, calorie intake, fiber intake, and red meat intake.

Supplemental Table 6. 4-year weight change during follow-up and risk of diverticulitis stratified by body mass index (2008-2014)*

Weight change (kg)	Median (kg)	BMI <25 kg/m ²		BMI ≥25 kg/m ²	
		No. of cases	HR (95% CI)	No. of cases	HR (95% CI)
Loss ≥5.0	-8.2	18	0.73 (0.44, 1.20)	108	0.85 (0.66, 1.08)
Loss 4.9-1.0	-2.7	111	1.17 (0.91, 1.51)	160	0.92 (0.74, 1.14)
Loss or gain <1.0	0	131	1 (ref)	169	1 (ref)
Gain 1.0-4.9	2.3	95	1.10 (0.84, 1.44)	145	0.95 (0.76, 1.19)
Gain ≥5.0	7.7	24	1.15 (0.74, 1.78)	66	0.97 (0.73, 1.29)
P for trend			0.36		0.27
P for interaction				0.95	

* 4-year weight change during follow-up was calculated and updated using repeated weight assessments 4 years apart. We suspended updating weight change information when a participant quit smoking or reported a diagnosis of cancer, cardiovascular disease, or inflammatory bowel disease in the past 2 years. Models were adjusted for age, height, menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other NSAID use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, calorie intake, fiber intake, and red meat intake.

Supplemental Table 7. Body mass index and risk of recurrent and non-recurrent diverticulitis (2008-2014)*

	BMI (kg/m ²)					P for trend
	<22.5	22.5-24.9	25.0-27.4	27.5-29.9	≥30.0	
Recurrent diverticulitis						
No. of cases	41	37	53	42	67	
Age	1 (ref)	0.94 (0.60, 1.47)	1.37 (0.91, 2.06)	1.67 (1.08, 2.57)	1.58 (1.07, 2.35)	0.003
Multivariate†	1 (ref)	0.94 (0.60, 1.47)	1.36 (0.90, 2.06)	1.67 (1.08, 2.60)	1.62 (1.07, 2.44)	0.003
Multivariate+diet‡	1 (ref)	0.95 (0.60, 1.48)	1.38 (0.91, 2.10)	1.71 (1.10, 2.66)	1.66 (1.09, 2.51)	0.002
Non-recurrent diverticulitis						
No. of cases	166	162	186	117	215	
Age	1 (ref)	1.12 (0.90, 1.40)	1.34 (1.09, 1.65)	1.31 (1.03, 1.66)	1.49 (1.22, 1.84)	<0.001
Multivariate†	1 (ref)	1.11 (0.89, 1.38)	1.31 (1.06, 1.62)	1.28 (1.00, 1.63)	1.47 (1.18, 1.82)	<0.001
Multivariate+diet‡	1 (ref)	1.10 (0.89, 1.37)	1.30 (1.05, 1.61)	1.26 (0.99, 1.61)	1.44 (1.16, 1.79)	<0.001

* Body mass index was updated every 2 years from 2008 to 2012.

† Adjusted for menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other NSAID use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, and calorie intake.

‡ Further adjusted for dietary intake of fiber and red meat.

Supplemental Table 8. Body mass index and risk of surgery for diverticulitis (1992-2014)*

	BMI (kg/m ²)						P for trend
	<22.5	22.5-24.9	25.0-27.4	27.5-29.9	30.0-34.9	≥35.0	
No. of cases	90	107	139	86	95	42	
Person-years	285971	292088	272705	171239	190502	90852	
Age	1 (ref)	1.21 (0.92, 1.61)	1.67 (1.28, 2.18)	1.60 (1.19, 2.16)	1.61 (1.20, 2.15)	1.47 (1.02, 2.13)	0.002
Multivariate†	1 (ref)	1.23 (0.93, 1.63)	1.71 (1.30, 2.23)	1.65 (1.22, 2.24)	1.67 (1.24, 2.26)	1.56 (1.06, 2.30)	0.001
Multivariate+diet‡	1 (ref)	1.23 (0.93, 1.63)	1.71 (1.30, 2.24)	1.65 (1.22, 2.24)	1.67 (1.24, 2.26)	1.56 (1.06, 2.30)	0.002

* In 2012 and 2014 questionnaires, participants were asked if they had surgery for diverticulitis which dated back to 1992. Body mass index was updated every 2 years from 1992 to 2012.

† Adjusted for menopausal status and menopausal hormone use, vigorous activity, alcohol intake, smoking, aspirin use, other NSAID use, multivitamin use, acetaminophen use, physical examination, hypertension, hypercholesterolemia, and calorie intake.

‡ Further adjusted for dietary intake of fiber and red meat.