

Supplementary Online Content

Healthy diet and asthma outcomes among elderly women from the French Asthma-E3N study

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eTable 1. Baseline characteristics of included and excluded women

eTable 2. Association between the AHEI-2010 diet score (tertiles) and uncontrolled asthma in 3 categories

eFigure 1. Associations of AHEI-2010, body mass index and the asthma symptom score using structural equation modeling (SEM)

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eTable 1. Baseline characteristics of included and excluded women

	Included (n=12,991)	Excluded dietary data ^a (n=3,708)	P	Age-adjusted p	Excluded asthma data (n=2,705)	P	Age-adjusted p
AHEI-2010, m (sd)	47.5 (8.2)	/	/	/	47.2 (8.1)	0.08	0.14
Component score of AHEI-2010, m (sd)							
Vegetables, servings/d	6.5 (2.7)	/	/	/	6.6 (2.8)	0.11	0.52
Fruits, servings/d	1.9 (1.0)	/	/	/	1.9 (1.1)	0.82	0.55
Cereal fibers, g/d	3.3 (3.2)	/	/	/	3.3 (3.2)	0.50	0.59
Sugar-sweetened drinks and fruit juice, servings/d	0.5 (0.6)	/	/	/	0.5 (0.6)	0.94	0.76
Nuts and legumes, servings/d	0.8 (0.7)	/	/	/	0.8 (0.7)	0.95	0.16
Red and processed meat, servings/d	1.1 (0.6)	/	/	/	1.2 (0.6)	0.02	0.0004
Long-chain n-3 fatty acids, mg/d	44.0 (29.9)	/	/	/	44.9 (31.5)	0.17	0.22
PUFA, % of energy	5.9 (1.6)	/	/	/	5.9 (1.6)	0.33	0.40
Sodium, mg/d	2,715 (781)	/	/	/	2,745 (784)	0.07	0.008
Alcohol, drinks/d	1.5 (1.6)	/	/	/	1.5 (1.6)	0.58	0.27
Age (years), m (sd)	63.3 (6.1)	65.1 (6.7)	<0.0001	/	65.1 (6.5)	<0.0001	/
Energy intake(kcal/d), m (sd)	2,279 (530)	/	/	/	2,290 (534)	0.33	0.02
Leisure-time physical activity, MET/week	61.2 (50.1)	58.5 (50.7)	0.01	0.69	58.1 (50.8)	0.006	0.02
Smoking status, n (%)			0.0001	0.09		0.35	0.04
Never smoker	6,326 (48.7)	1,516 (40.9)			1,279 (47.3)		
Occasional ex-smoker	1,477 (11.4)	299 (8.1)			297 (11.0)		
Regular ex-smoker	3,561 (27.4)	916 (24.7)			727 (26.9)		
Occasional current smoker	155 (1.2)	45 (1.2)			26 (1.0)		
Regular current smoker	630 (4.9)	201 (5.4)			152(5.6)		
Missing	842 (6.5)	731(19.7)			224 (8.3)		
Educational level, n (%)			<0.0001	<0.0001		<0.0001	<0.0001
< high school diploma	1,200 (9.2)	686 (18.5)			385 (14.2)		
High school to 2-level university	6527 (50.2)	1702 (45.9)			1296 (47.9)		
3- to 4-level university	2449 (18.9)	595 (16.1)			451 (16.7)		
≥ 5-level university	2429 (18.7)	557 (15.1)			449 (16.6)		
Missing	386 (3.0)	168 (4.5)			124 (4.6)		
Marital status, n (%)			<0.0001	0.005		0.02	0.08

No	2,069 (15.9)	684 (18.5)			472 (17.5)		
Yes	10,475 (80.6)	2,798 (75.5)			2,097 (77.5)		
Missing	447 (3.4)	226 (6.1)			136 (5.0)		
Having farmer parents, n (%)			0.15	0.39		0.71	0.80
No	11,236 (86.5)	2,907 (78.4)			2,325 (86.0)		
Yes	1,383 (10.7)	391 (10.5)			279 (10.3)		
Missing	372 (2.9)	410 (11.1)			101 (3.7)		
BMI (kg/m ²), n (%)			<0.0001	<0.0001		<0.0001	<0.0001
< 20	1,633 (12.6)	92 (2.5)			311 (11.5)		
[20-25[kg/m ²	7,270 (56.0)	277 (7.5)			1,444 (53.4)		
[25-30[kg/m ²	3,194 (24.6)	182 (4.9)			686 (25.4)		
≥ 30 kg/m ²	894 (6.9)	73 (2.0)			264 (9.8)		
Missing	0 (0)	3,084 (83.2)			0 (0)		
Asthma symptom score, n (%)			<0.0001	<0.0001		/	/
0	7,887 (50.3)	1,673 (45.1)			/		
1	3,445 (22.0)	716 (19.3)			/		
2	842 (5.4)	205 (5.5)			/		
3	407 (2.6)	115 (3.1)			/		
4	228 (1.5)	78 (2.1)			/		
5	182 (1.2)	57 (1.5)			/		
Missing	2,705 (17.2)	864 (23.3)					
Asthma control test, n (%)	<i>n</i> = 2,587	680	0.001	0.01		/	/
>19	1,431 (77.0)	334 (69.9)			/		
≤19	427 (23.0)	144 (30.1)			/		
Missing	729 (28.2)	202 (29.7)					
Multimorbidity-related medication profiles	<i>n</i> = 3,727	937	0.0002	0.003		/	/
Few multimorbidity	1550 (44.6)	335 (39.2)			/		
Allergic multimorbidity	1147 (33.0)	272 (31.9)			/		
Metabolic multimorbidity	777 (22.4)	247 (28.9)			/		
Missing	253 (6.8)	83 (8.9)					

^a Excluded women because they did not complete the food questionnaire in 1993 or in 2005, or had an implausibly high or low total energy intake in 1993 or in 2005. ^b Excluded women because they did not answer to the asthma symptom score questions.

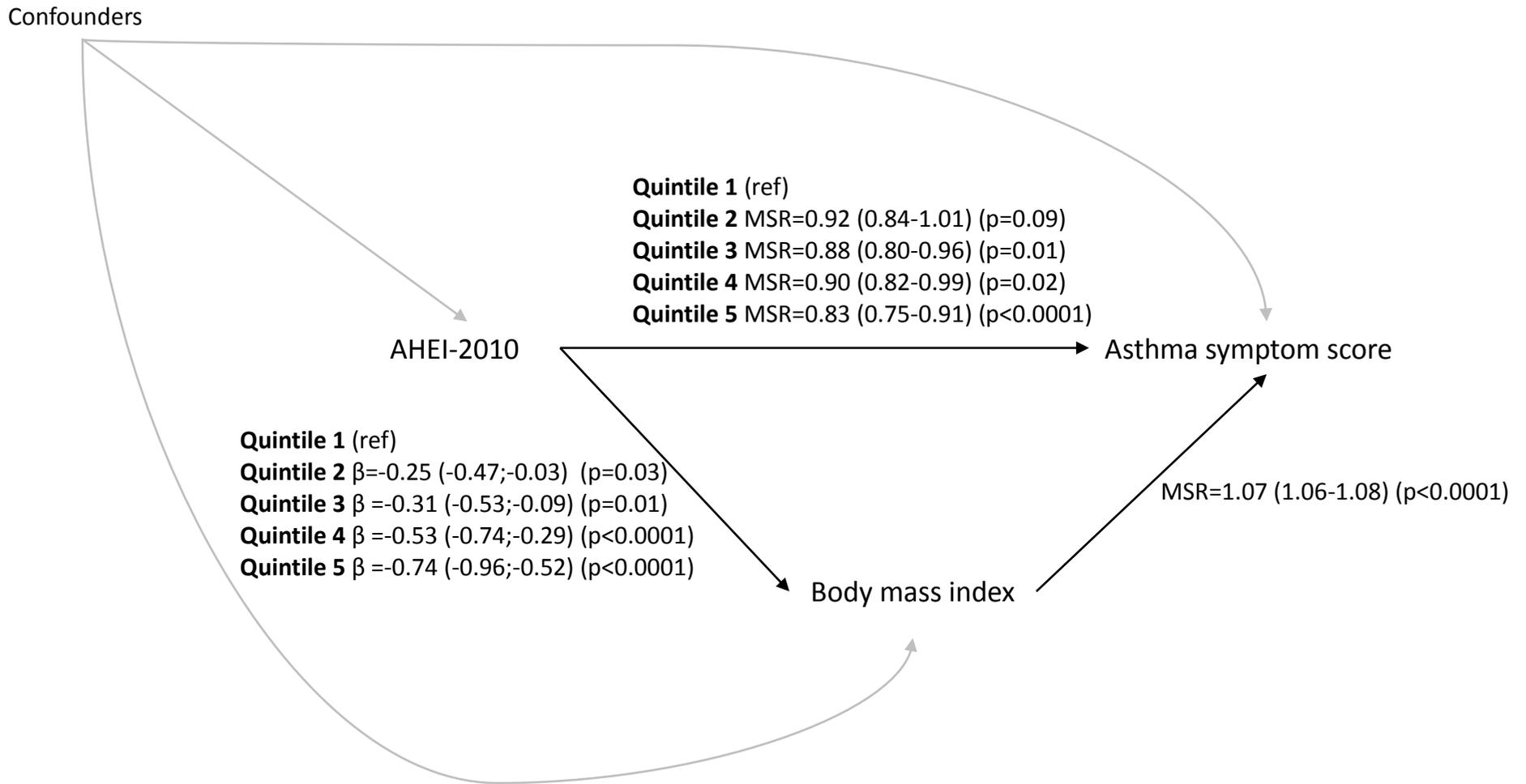
eTable 2. Association between the AHEI-2010 diet score (tertiles) and uncontrolled asthma in 3 categories

	Asthma control test								
	ACT ≥ 25 (controlled)			20 ≤ ACT ≤ 24 (partly controlled)			ACT ≤ 19 (poorly controlled)		
	n	AHEI-2010, m (sd)	OR (95% CI)	n	AHEI-2010, m (sd)	OR (95% CI)	n	AHEI-2010, m (sd)	OR (95% CI)
Age-adjusted model 1									
AHEI-2010 tertile 1	290	38.5 (4.3)	1.00 (ref)	398	38.1 (4.7)	1.00 (ref)	207	38.2 (4.1)	1.00 (ref)
AHEI-2010 tertile 2	303	47.4 (1.9)	1.00 (ref)	416	47.4 (2.0)	0.99 (0.76-1.28)	165	47.4 (2.1)	0.72 (0.54-0.97)
AHEI-2010 tertile 3	262	56.3 (4.1)	1.00 (ref)	374	56.1 (4.4)	1.00 (0.77-1.31)	172	55.8 (4.2)	0.82 (0.60-1.12)
P for trend						0.98			0.18
Multivariable-adjusted model 2#									
AHEI-2010 tertile 1	207	38.5 (4.3)	1.00 (ref)	207	38.1 (4.7)	1.00 (ref)	207	38.2 (4.1)	1.00 (ref)
AHEI-2010 tertile 2	165	47.4 (1.9)	1.00 (ref)	165	47.4 (2.0)	0.98 (0.76-1.28)	165	47.4 (2.1)	0.72 (0.53-0.97)
AHEI-2010 tertile 3	172	56.3 (4.1)	1.00 (ref)	172	56.1 (4.4)	1.02 (0.78-1.33)	172	55.8 (4.2)	0.86 (0.63-1.19)
P for trend						0.91			0.32

P for trend were calculated using the quintile median values.

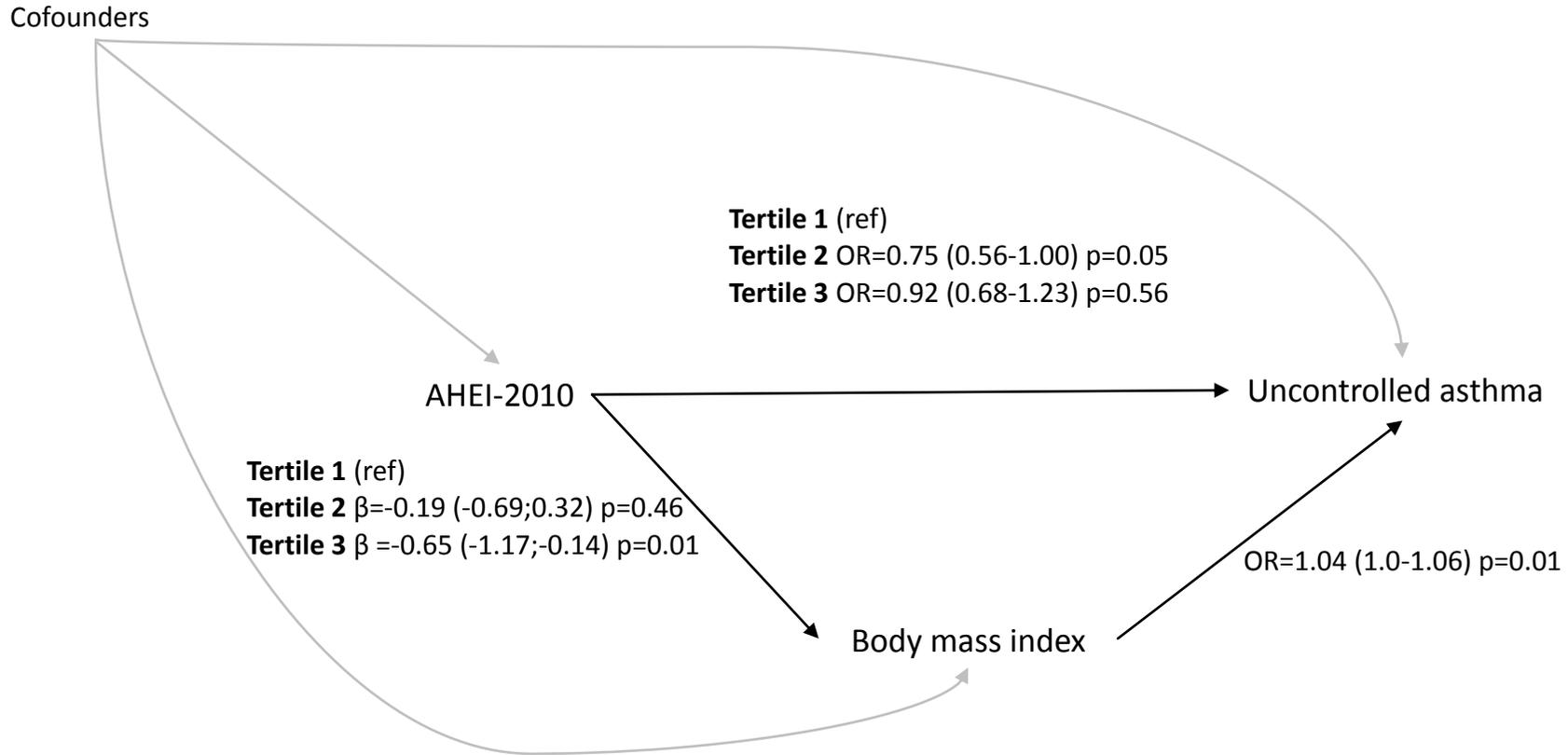
Multivariable-adjusted model 2 includes age, energy intake, physical activity, smoking, educational level, marital status and having farmer parents.

eFigure 1. Associations of AHEI-2010, body mass index and the asthma symptom score using SEM



Confounders: age, energy intake, physical activity, smoking, educational level, marital status, having farmer parents. AHEI-2010 in quintiles, body mass index as a continuous variable, and the asthma symptom score as a count variable. β : difference in the expected BMI according to quintiles of healthy diet (ref: unhealthier diet). MSR: mean score ratio; a change in the asthma score is reported for an increase/decrease of 1 quintile in the AHEI-2010 diet score or 1 kg/m² in BMI.

eFigure 2. Associations of AHEI-2010, body mass index and uncontrolled asthma using SEM



Cofounders: age, energy intake, physical activity, smoking, educational level, marital status, having farmer parents. AHEI-2010 in tertiles, body mass index as a continuous variable, and the asthma control as a binary variable. β : difference in the expected BMI according to tertiles of healthy diet (ref: unhealthier diet). OR: odds ratio; a change in the asthma score is reported for an increase/decrease of 1 tertile in the AHEI-2010 diet score or 1 kg/m² in BMI.