

WEB MATERIAL

Web Table 1. Scoring Criteria for HEI-2005, HEI-2010 and AHEI-2010.

	Component: minimum to maximum standards (maximum points) ^{a,b}		
	HEI-2005 (total score: 100)	HEI-2010 (total score: 100)	AHEI-2010 (total score: 110)
Vegetables			
Total vegetables	0 to 1.1 cup/1,000 kcal (5)	0 to 1.1 cup/1,000 kcal (5)	
Dark green and orange vegetables and legumes	0 to 0.4 cup/1,000 kcal (5)		
Greens and beans		0 to 0.2 cup/1,000 kcal (5)	
Vegetables (not including potatoes)			0 to 5 servings (10)
Fruit			
Total fruit (including fruit juice)	0 to 0.8 cup/1,000 kcal (5)	0 to 0.8 cup/1,000 kcal (5)	
Whole fruit (named Fruit in AHEI)	0 to 0.4 cup/1,000 kcal (5)	0 to 0.4 cup/1,000 kcal (5)	0 to 4 servings (10)
Grains			
Whole grains	0 to 1.5 oz/1,000 kcal (5)	0 to 1.5 oz/1,000 kcal (10)	0 to 5 oz (10)
Total grains	0 to 3.0 oz/1,000 kcal (5)		
Refined grains		4.3 to 1.8 oz/1,000 kcal (10)	
Dairy			
Milk (renamed Dairy in HEI-2010)	0 to 1.3 cup/1,000 kcal (10)	0 to 1.3 cup/1,000 kcal (10)	
Protein foods (meat, beans, peas, seafood, nuts)			
Meat and beans (renamed Total Protein Foods in HEI-2010)	0 to 2.5 oz/1,000 kcal (10)	0 to 2.5 oz/1,000 kcal (5)	
Seafood and plant proteins		0 to 0.8 oz/1,000 kcal (5)	
Nuts and legumes			0 to 1 serving (10)
Red/processed meat			1.5 to 0 serving (10)
Oils and fat			
Oils	0 to 12 g/1,000 kcal (10)		
Fatty acids, ratio of (PUFAs + MUFAs) to SFAs		1.2 to 2.5 (10)	
Long chain (n-3) fats (EPA + DHA)			0 to 250 mg (10)
PUFA (not include EPA or DHA intake)			2% to 10% of energy (10)
Saturated fats	15% to 7% of energy (10) ^c		
Trans fat			4 to 0.5 % of energy (10)
Sodium	2.0 to 0.7 g/1,000 kcal (10) ^c	2.0 to 1.1 g/1,000 kcal (10)	Highest to lowest decile (10)
Alcohol and other empty calories			

Calories from SoFAAS	50% to 20% of energy (20)	
Empty calories ^d		50% to 19% of energy (20)
Sugar-sweetened beverages and fruit juice		1 to 0 serving (10)
Alcohol		0.5-1.5 to 2.5 drinks (10)

AHEI, Alternate Healthy Eating Index; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; HEI, Healthy Eating Index; MUFA, monounsaturated fatty acids; PUFA, polyunsaturated fatty acid; SoFAAS, solid fats, alcoholic beverages, and added sugars.

^aNumbers are inclusive unless otherwise specified. For example, 0 to 5 servings represents min score was given to 0 serving and max score was given to those ≥ 5 servings.

^bIntakes between min and max standards are scored proportionately except for Saturated fats and Sodium in HEI-2005.

^cIn HEI-2005, Saturated fats and Sodium get a score of 8 with $<10\%$ total energy and <1.1 g/1,000 kcal, respectively. Intakes between the standards for score 0 to 8 and 8 to 10 are scored proportionately.

^dCalories from solid fat, alcohol, and added sugar; threshold for counting alcohol is >13 g/1,000 kcal

Web Table 2. Associations between Dietary Quality Indices and Ovarian Cancer Risk Among All Participants and Stratified by Menopausal Status in the Propensity-Score (PS) Matched Sample, AACES 2010-14^{a,b}

	No. of Cases	No. of Controls	PS Model	
			OR	95% CI
<i>Healthy Eating Index-2005</i>				
All women ^c				
Q1	97	91	1	Referent
Q2	93	88	0.99	0.66, 1.49
Q3	90	90	0.94	0.62, 1.41
Q4	78	89	0.82	0.54, 1.25
<i>p</i> -trend				0.35
Per 10 points increase			0.92	0.80, 1.06
Premenopausal				
Q1	33	29	1	Referent
Q2	23	23	0.88	0.41, 1.89
Q3	18	21	0.75	0.34, 1.68
Q4	22	20	0.97	0.44, 2.12
<i>p</i> -trend				0.79
Per 10 points increase			0.95	0.73, 1.23
Postmenopausal				
Q1	64	62	1	Referent
Q2	70	65	1.04	0.64, 1.70
Q3	72	69	1.01	0.63, 1.63
Q4	56	69	0.79	0.48, 1.29
<i>p</i> -trend				0.36
Per 10 points increase			0.91	0.77, 1.08
<i>Healthy Eating Index-2010</i>				
All women ^c				
Q1	108	91	1	Referent
Q2	93	88	0.89	0.59, 1.33
Q3	87	90	0.81	0.54, 1.22
Q4	70	89	0.66	0.44, 1.01
<i>p</i> -trend				0.05
Per 10 points increase			0.86	0.75, 0.99
Premenopausal				
Q1	34	29	1	Referent
Q2	21	22	0.81	0.37, 1.77
Q3	20	24	0.71	0.33, 1.54
Q4	21	18	1.00	0.45, 2.22
<i>p</i> -trend				0.80
Per 10 points increase			0.92	0.72, 1.17
Postmenopausal				
Q1	74	62	1	Referent
Q2	72	66	0.91	0.57, 1.47
Q3	67	66	0.85	0.53, 1.37

Q4	49	71	0.57	0.35, 0.95
<i>p</i> -trend				0.04
Per 10 points increase			0.84	0.71, 0.99
<i>Alternate Healthy Eating Index-2010</i>				
All women ^c				
Q1	112	90	1	Referent
Q2	87	89	0.79	0.52, 1.18
Q3	92	90	0.82	0.55, 1.23
Q4	67	89	0.60	0.40, 0.92
<i>p</i> -trend				0.03
Per 10 points increase			0.80	0.69, 0.92
Premenopausal				
Q1	30	27	1	Referent
Q2	29	27	0.97	0.46, 2.02
Q3	17	19	0.81	0.35, 1.86
Q4	20	20	0.90	0.40, 2.02
<i>p</i> -trend				0.71
Per 10 points increase			0.94	0.73, 1.22
Postmenopausal				
Q1	82	63	1	Referent
Q2	58	62	0.72	0.44, 1.17
Q3	75	71	0.81	0.51, 1.29
Q4	47	69	0.52	0.32, 0.86
<i>p</i> -trend				0.02
Per 10 points increase			0.75	0.63, 0.88

CI, confidence interval; OR, odds ratio; PS, propensity score

^aPropensity score nearest-neighbor matching included 5-year age group, state of residents, education, parity, oral contraceptive use, menopause status, tubal ligation, first-degree family history of breast/ovarian cancer, body mass index, physical activity and total energy intake.

^b P_{trend} was tested by treating the median value of each quartile as a continuous variable in the corresponding logistic regression model.

^cMedian score (range) from Q1 to Q4 of HEI-2005: 49.4 (36.4-54.0), 58.2 (54.1-61.9), 65.7 (62.0-69.6) and 74.9 (69.7-88.2); HEI-2010: 50.0 (29.8-55.3), 59.3 (55.4-62.7), 66.3 (62.8-70.8) and 77.0 (70.9-91.9); AHEI-2010: 42.7 (27.9-46.4), 49.7 (46.5-52.6), 56.1 (52.7-60.2) and 69.2 (60.3-86.8)

Web Table 3. Association of Dietary Quality Indices and Ovarian Cancer Risk by Histology among All, Pre- and Post-Menopausal Women, AACES 2010-14^a

Histology	Case <i>n</i> (%)	Control <i>n</i>	HEI-2005			HEI-2010			AHEI-2010		
			per 10 points increase			per 10 points increase			per 10 points increase		
			OR	95% CI	<i>P</i> _{het}	OR	95% CI	<i>P</i> _{het}	OR	95% CI	<i>P</i> _{het}
All women											
Serous	239 (57.6)	629	0.93	0.79, 1.09	0.57	0.88	0.75, 1.03	0.72	0.78	0.66, 0.91	0.15
Endometrioid	52 (12.5)	629	0.92	0.67, 1.28		0.84	0.61, 1.15		0.91	0.67, 1.23	
Premenopausal											
Serous	52 (46.9)	193	0.99	0.69, 1.42	0.93	1.02	0.72, 1.45	0.59	0.99	0.70, 1.39	0.60
Endometrioid	25 (22.5)	193	0.82	0.50, 1.36		0.79	0.50, 1.23		0.80	0.51, 1.25	
Postmenopausal											
Serous	187 (61.5)	436	0.90	0.75, 1.08	0.69	0.82	0.68, 0.98	0.67	0.69	0.57, 0.83	0.17
Endometrioid	27 (8.9)	436	0.92	0.58, 1.45		0.77	0.48, 1.25		0.82	0.53, 1.29	

AHEI, Alternate Healthy Eating Index; HEI, Healthy Eating Index

^aModel adjusted for age, region, education, parity, oral contraceptive use, menopause status, tubal ligation, first-degree family history of breast/ovarian cancer, body mass index, physical activity and total energy intake

Web Table 4. Association of Each Component Score of the Healthy Eating Index-2005 with Ovarian Cancer Risk Among All and by Menopausal Status, AACES 2010-14

	Criteria for		Index specific OR (95% CI) ^{a,b}		
	minimum score	maximum score	Among all Ca:Co (415/629)	Pre-menopausal (111/193)	Post-menopausal (304/436)
Healthy Eating Index-2005 component (max points)					
Total vegetables (5), cup eq./per 1,000 kcal	0	≥1.1	0.79 (0.69, 0.90)	0.71 (0.54, 0.94)	0.81 (0.69, 0.94)
Dark green and orange vegetables and legumes (5), cup eq./per 1,000 kcal	0	≥0.4	0.86 (0.77, 0.96)	0.84 (0.68, 1.04)	0.85 (0.75, 0.97)
Total fruit (5), ^c cup eq./ 1,000 kcal	0	≥0.8	1.14 (1.02, 1.27)	1.18 (0.94, 1.47)	1.13 (1.00, 1.29)
Whole fruit (5), cup eq./ per 1,000 kcal	0	≥0.4	1.00 (0.90, 1.12)	1.13 (0.91, 1.41)	0.94 (0.82, 1.07)
Whole grains (5), oz eq./per 1,000 kcal	0	≥1.5	1.04 (0.93, 1.16)	1.01 (0.78, 1.29)	1.05 (0.93, 1.19)
Total grains (5), oz eq./per 1,000 kcal	0	≥3.0	1.06 (0.92, 1.21)	0.97 (0.72, 1.30)	1.11 (0.95, 1.30)
Milk (10), cup eq./1,000 kcal	0	≥1.3	1.06 (1.00, 1.12)	1.10 (0.96, 1.25)	1.05 (0.98, 1.12)
Meat and beans (10), oz eq./1,000 kcal	0	≥2.5	0.91 (0.82, 1.00)	0.77 (0.63, 0.94)	0.95 (0.85, 1.07)
Oils (10), g/1,000 kcal	0	≥12	0.99 (0.92, 1.05)	0.99 (0.86, 1.13)	0.98 (0.91, 1.06)
Saturated fat (10), ^b % of energy	≥15	≤7	1.01 (0.96, 1.06)	1.02 (0.93, 1.13)	0.99 (0.94, 1.05)
Sodium (10), ^b g/1,000 kcal	≥2.0	≤0.7	1.03 (0.97, 1.10)	1.05 (0.93, 1.19)	1.03 (0.95, 1.11)
Calories from solid fat, alcohol, and added sugar (20), ^b % of energy	≥50	≤20	0.98 (0.95, 1.01)	1.01 (0.94, 1.07)	0.97 (0.93, 1.00)

AHEI, Alternate Healthy Eating Index; HEI, Healthy Eating Index

^aModel adjusted for age, region, education, parity, oral contraceptive use, menopause status, tubal ligation, first-degree family history of breast/ovarian cancer, body mass index, physical activity, total energy intake, and the overall index score without the component under study.

^bEstimates for 1-score increase. For components that were reverse scored, higher score indicates lower intake.

^cTotal fruit includes fruit juice, whole fruit does not.