

## Web Material

### “Healthy Lifestyle During Early Pregnancy and Risk of Gestational Diabetes Mellitus”

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**Web Table 1.** AHEI-2010 Diet Score Components During Early Pregnancy Among Omega Study Participants ( $n = 3005$ ), Seattle, Washington, 1996–2008

Component	Criteria for	Criteria for	Mean (SD)	Min, Max
	Minimum Score (0)	Maximum Score (10)		
Vegetables, servings/day	0	$\geq 5$	4.1 (2.7)	0, 10
Fruit, servings/day	0	$\geq 4$	5.8 (2.8)	0, 10
Whole grains, g/day	0	$\geq 75$	0.9 (1.0)	0, 7.9
Sugar-sweetened beverages, servings/day	$\geq 1$	0	7.2 (3.5)	0, 10
Nuts, servings/day	0	$\geq 1$	2.7 (2.7)	0, 10
Red/processed meat, servings/day	$\geq 1.5$	0	5.9 (2.8)	0, 10
<i>Trans</i> -fat, % of energy	$\geq 4$	$\leq 0.5$	8.3 (0.9)	3.5, 10
Long-chain (n-3) fats, mg/day	0	$\geq 250$	10 (0)	10, 10
Polyunsaturated fatty acids, % of energy	$\leq 2$	$\geq 10$	5.6 (1.9)	0.4, 10
Sodium, mg/day	$\geq 4285$ (highest decile)	$\leq 1708$ (lowest decile)	4.6 (3.2)	0, 10
Total	0	100	55.2 (8.4)	23.0, 83.5

Abbreviations: AHEI-2010, Alternate Healthy Eating Index 2010; SD, standard deviation.

**Web Table 2.** Comparison of Full Omega Cohort and Analytical Sample, Seattle, Washington, 1996–2008

Characteristic	Full Cohort		Missing Lifestyle Score ( <i>n</i> = 1063)		Analytical Sample ( <i>n</i> = 3005)
	No. with	Mean (SD)	No. with	Mean (SD)	No. (%)
	Data	or No. (%)	Data	or No. (%)	
Age (years), mean (SD)	4550	33 (4.6)	1062	33 (5.1)	33 (4.3)
Prepregnancy BMI (kg/m <sup>2</sup> ), mean (SD)	4534	24 (5.0)	1047	25 (5.6)	23 (4.5)
Gestational weight gain by 20 weeks (kg), mean (SD)	4334	4.3 (2.8)	931	5.0 (2.3)	4.5 (2.2)
Race, <i>n</i> (%)	4550		1063		
White		3867 (85)		835 (79)	2640 (88)
Black		92 (2)		38 (4)	37 (1)
Asian		347 (8)		103 (10)	205 (7)
Other		244 (5)		87 (8)	123 (4)
High school education or more, <i>n</i> (%)	4226	4064 (96)	763	715 (94)	2830 (98)
Nulliparous, <i>n</i> (%)	4550	2753 (61)	1060	584 (55)	1913 (64)
Married, <i>n</i> (%)	4553	4122 (91)	1063	919 (86)	2792 (93)
History of GDM, <i>n</i> (%)	4281	70 (2)	985	22 (2)	28 (1)
Family history of diabetes, <i>n</i> (%)	4550	684 (15)	1063	186 (18)	400 (13)
Preeclampsia, <i>n</i> (%)	4504	127 (3)	1063	26 (2)	66 (2)
Prepregnancy BMI category	4602		1063		
Underweight (<18.5 kg/m <sup>2</sup> )		83 (2)		18 (2)	55 (2)
Normal weight (18.5-24.9 kg/m <sup>2</sup> )		3257 (71)		684 (64)	2259 (75)

Overweight (25-29.9 kg/m <sup>2</sup> )		769 (17)		207 (19)	474 (16)
Obese ( $\geq$ 30 kg/m <sup>2</sup> )		493 (11)		154 (14)	217 (7)
Gestational age at first prenatal visit (weeks), mean (SD)	4273	8.8 (2.1)	987	9.4 (7.8)	8.8 (1.9)
Healthy diet in early pregnancy, <i>n</i> (%)	4019	800 (20)	578	110 (19)	611 (20)
Physically active in early pregnancy, <i>n</i> (%)	3534	2295 (65)	283	149 (53)	1990 (66)
Nonsmoker during pregnancy, <i>n</i> (%)	4204	3957 (94)	745	682 (92)	2854 (95)
Low stress during early pregnancy, <i>n</i> (%)	4047	2167 (54)	605	295 (49)	1666 (55)

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Abbreviations: BMI, body mass index; GDM, gestational diabetes mellitus; SD, standard deviation.

**Web Table 3.** Associations of Healthy Lifestyle Components During Early Pregnancy and Risk of Gestational Diabetes Mellitus by Overweight/Obese Status Among Omega Study Participants, Seattle, Washington, 1996–2008

Lifestyle Component <sup>a</sup>	N (%) with Healthy Score	N (%) with	Unadjusted	Model 1	Model 2
		GDM	RR (95% CI)	RR <sup>b</sup> (95% CI)	RR <sup>c</sup> (95% CI)
Normal weight (18.5–24.9 kg/m <sup>2</sup> ) <sup>d</sup>		75 (3)			
Healthy diet	471 (21)	13 (3)	0.81 (0.45, 1.46)	0.80 (0.45, 1.45)	0.82 (0.46, 1.47)
Physically active	1526 (68)	49 (3)	0.93 (0.58, 1.48)	1.00 (0.63, 1.58)	1.03 (0.64, 1.64)
Nonsmoker	2163 (96)	70 (3)	0.67 (0.28, 1.61)	0.56 (0.23, 1.38)	0.61 (0.25, 1.49)
Low stress	1304 (58)	38 (3)	0.77 (0.50, 1.20)	0.79 (0.51, 1.22)	0.78 (0.50, 1.21)
Overweight/obese ( $\geq 25$ kg/m <sup>2</sup> ) <sup>d</sup>		63 (9)			
Healthy diet	129 (19)	11 (9)	0.91 (0.49, 1.69)	0.86 (0.46, 1.61)	0.90 (0.48, 1.67)
Physically active	432 (63)	36 (8)	0.81 (0.50, 1.32)	0.83 (0.52, 1.33)	0.84 (0.53, 1.34)
Nonsmoker	639 (92)	58 (9)	1.01 (0.43, 2.39)	0.80 (0.34, 1.92)	0.73 (0.31, 1.71)
Low stress	332 (48)	26 (8)	0.77 (0.48, 1.24)	0.83 (0.51, 1.33)	0.81 (0.50, 1.31)

Abbreviations: CI, confidence interval; AHEI-2010, Alternate Healthy Eating Index 2010; RR, relative risk.

<sup>a</sup> Criteria for healthy score: AHEI-2010 diet score  $\geq 62$  (healthy diet),  $\geq 150$  minutes/week of moderate/vigorous leisure time physical activity (physically active), never smoker or quit before pregnancy (nonsmoker), and Perceived Stress Scale score  $\leq 3$  (low stress).

<sup>b</sup> Model 1 adjusted for maternal age, race (white/other), nulliparity (yes/no), and all lifestyle components listed.

<sup>c</sup> Model 2 adjusted for all covariates in model 1 and prepregnancy body mass index.

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<sup>d</sup> Adjusted *P* values for interaction: model 1 (diet = 0.76, physical activity = 0.59, nonsmoking = 0.50, stress = 0.92), model 2 (diet = 0.66, physical activity = 0.60, nonsmoking = 0.61, stress = 0.97).

**Web Table 4.** Associations of Healthy Lifestyle Score during Early Pregnancy and Risk of Gestational Diabetes Mellitus by Overweight/Obese Status Among Omega Study Participants, Seattle, Washington, 1996–2008

Lifestyle Score	Normal Weight ( <i>n</i> = 2259) <sup>a,b</sup>			Overweight/Obese ( <i>n</i> = 691) <sup>a,b</sup>		
	No. (%)	Model 1	Model 2	No. (%)	Model 1	Model 2
	with GDM	RR <sup>c</sup> (95% CI)	RR <sup>d</sup> (95% CI)	with GDM	RR <sup>c</sup> (95% CI)	RR <sup>d</sup> (95% CI)
Linear score	75 (3)	0.83 (0.63, 1.09)	0.84 (0.65, 1.11)	63 (9)	0.83 (0.63, 1.10)	0.83 (0.63, 1.10)
No. of healthy lifestyle components						
0	1 (4)	1.73 (0.22, 13.91)	1.56 (0.20, 11.84)	3 (19)	10.21 (1.04, 100.07)	10.78 (1.11, 104.75)
1	15 (5)	1.59 (0.63, 4.01)	1.49 (0.59, 3.75)	13 (11)	3.97 (0.51, 30.69)	4.02 (0.52, 31.28)
2	28 (3)	1.02 (0.43, 2.45)	0.97 (0.41, 2.33)	24 (8)	3.13 (0.42, 23.58)	3.19 (0.42, 24.19)
3	25 (3)	0.92 (0.38, 2.24)	0.89 (0.37, 2.15)	22 (10)	3.81 (0.5, 28.74)	3.88 (0.51, 29.39)
4	6 (3)	Reference	Reference	1 (3)	Reference	Reference
<i>P</i> for trend		0.18	0.22		0.20	0.19
3 or less	69 (3)	Reference	Reference	62 (9)	Reference	Reference
4	6 (3)	0.94 (0.41, 2.16)	0.99 (0.43, 2.26)	1 (3)	0.28 (0.04, 2.02)	0.27 (0.04, 1.99)
2 or less	44 (4)	Reference	Reference	40 (9)	Reference	Reference
3 or more	31 (3)	0.80 (0.51, 1.25)	0.82 (0.52, 1.28)	23 (9)	0.95 (0.58, 1.56)	0.95 (0.58, 1.56)

Abbreviations: CI, confidence interval; RR, relative risk.

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<sup>a</sup> Model 1 *P* for interaction: linear = 0.94, categorical = 0.89, 4 vs. 3 or less healthy behaviors = 0.27, 3 or more vs. 2 or less healthy behaviors = 0.52.

<sup>b</sup> Model 2 *P* for interaction: linear = 0.96, categorical = 0.91, 4 vs. 3 or less healthy behaviors = 0.27, 3 or more vs. 2 or less healthy behaviors = 0.51.

<sup>c</sup> Model 1 adjusted for maternal age, race (white/other), and nulliparity (yes/no).

<sup>d</sup> Model 2 adjusted for all covariates in model 1 and prepregnancy body mass index.