

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Assignment of food groups to food items in the food frequency questionnaire, for the Mediterranean Diet Score and the Diet Quality Index, and description of calculation of the indices.

<u>Food item in food frequency questionnaire</u>	<u>Mediterranean Diet Score food group*</u>	<u>Diet Quality Index food group*</u>
Skim or low fat milk (8 oz. glass)	D	D
Whole milk (8 oz. glass)	D	D
Yogurt (1 cup)	D	D
Ice cream (1/2 cup)	Sw	Sw
Cottage or ricotta cheese (1/2 cup)	D	D
Other cheese e.g., American, cheddar, etc., plain or as part of a dish (1 slice or 1 oz. serving)	D	D
Margarine (pat), added to food or bread; exclude use in cooking	—	—
Butter (pat), added to food or bread; exclude use in cooking	—	—
Fresh apples or pears(1)	F	F
Oranges (1)	F	F
Orange juice (small glass)	F	F
Peaches, apricots, plums, or nectarines (1 fresh or 1/2 cup canned)	F	F
Bananas (1)	F	F
Cantaloupe (1/4 melon)	F	F
Avocado (1) or guacamole (1 cup)	F	F
Other fruits, fresh, frozen, or canned (1/2 cup)	F	F
Tomatoes (1) or tomato juice (small glass)	V	V
String beans (1/2 cup)	V	V
Broccoli (1/2 cup)	V	V
Cabbage, cauliflower, or brussel sprouts (1/2 cup)	V	V
Carrots, raw (1/2 carrot or 2-4 sticks)	V	V
Carrots, cooked (1/2 cup)	V	V
Corn (1 ear or 1/2 cup frozen, canned)	V	V
Peas or lima beans (1/2 cup frozen, canned)	V	V
Yams or sweet potatoes (1/2 cup)	V	V
Spinach or collard greens, cooked (1/2 cup)	V	V
Refried Beans (1 cup)	L	—
Beans or lentils, baked or dried (1/2 cup)	L	—
Yellow (winter) squash (1/2 cup)	V	V
Raw chile peppers, jalapeno (1)	V	V
Salsa (1 cup)	V	V
Eggs (1)	—	—

eTable 1. Assignment of food groups to food items in the food frequency questionnaire, for the Mediterranean Diet Score and the Diet Quality Index, and description of calculation of the indices (cont.).

<u>Food item in food frequency questionnaire</u>	<u>Mediterranean Diet Score food group*</u>	<u>Diet Quality Index food group*</u>
Chicken or turkey (4-6 oz.)	M	—
Bacon (2 slices)	M	—
Hot dogs (1)	M	—
Processed meats, e.g., sausage, salami, bologna, chorizo, etc. (piece or slice)	M	—
Liver (3-4 oz.)	M	—
Chicken Livers (1 oz.)	M	—
Organ meats, Barbacoa, Menudo, sweetbreads, tongue, intestines (3-4 oz.)	M	—
Hamburger (1 patty)	M	—
Beef, pork, lamb or cabrito as a sandwich or mixed dish, e.g., stew, casserole, lasagna, etc.	M	—
Beef, pork, lamb or cabrito as a main dish, e.g., steak, roast, ham, etc. (4-6 oz.)	M	—
Fish (3-5 ozs.)	Fish	—
Chocolate (1 oz.)	Sw	Sw
Candy without chocolate (1 oz.)	Sw	Sw
Pie (slice)	Sw	Sw
Cake (slice)	Sw	Sw
Cookies (1)	Sw	Sw
White bread (slice), including pita bread	G	G
Dark bread (slice), including wheat pita bread	G	G
French fried potatoes (4 ozs.)	G	
Potatoes, baked, boiled (1) or mashed (1 cup)	G	V
Rice or pasta e.g., spanish rice, spaghetti, noodles, etc. (1 cup)	G	G
Tortilla (1)	G	G
Potato chips or corn chips (small bag or 1 oz.)	—	—
Nuts (small packet or 1 oz.)	F	—
Peanut butter (1 Tbs)	F	—
Oil and vinegar dressing e.g., Italian (1 Tbs)	—	—
<u>Food items not in food frequency questionnaire</u>		
Cereal	G	G
Non-diet sodas (12 oz)	Sw	Sw

* D=Dairy, F=Fruits, V=Vegetables, L=Legumes, M=Meat, Fish=Fish, Sw=Sweets, G=Grains

eTable 1. Assignment of food groups to food items in the food frequency questionnaire, for the Mediterranean Diet Score and the Diet Quality Index, and description of calculation of the indices (cont.).

Detailed description of calculation of the indices:

The fruit, vegetable, and grains components were similar for the two indices, with the following exceptions. The MDS included nuts and peanut butter in the fruits component, and it included French fried potatoes and potatoes baked, boiled or mashed in the grains component. The DQI included potatoes baked, boiled or mashed in the vegetables component and did not include French fried potatoes in any component.

The MDS used in these analyses is different from the original MDS in that it 1) excludes the ethanol component, given that the original MDS considers ethanol intake beneficial, which conflicts with pregnancy-related advice; 2) uses frequencies of servings per day rather than total gm/day to score the components, given that servings/day is more readily interpreted; 3) scores the components in quartiles, rather than above/below the median, to capture more variability in intake; and 4) includes a component that reflects intake of sweets. Intake of sweets has not typically been included in MDSs, but the Mediterranean Diet pyramid recommends limited intake of desserts and sweetened sodas (<http://www.oldwayspt.org/mediterranean-diet-pyramid>).

The DQI used in these analyses is different from the original DQI as follows: 1) it scores each component based on quartiles rather than on how close a mother's intake was to current recommendations, so that whereas the same basic components were included, these were scored differently; 2) it includes a component that reflects intake of sweets, because USDA guidelines recommend that intake of sweets be limited (the 1992 Food Pyramid recommended limiting teaspoons of sugar consumed; the 2000 Dietary Guidelines recommended limiting intake of "high-sugar foods"; and the 2005 Dietary Guidelines recommend moderate intake of beverages and foods that are high in sugar); and 3) it does not include a component reflecting meal patterns (frequency of meals and snacks), because such data were not available.

For components reflecting food groups, servings per day were calculated as: $[(\sum(\text{servings/day} \times \text{gm/serving for each food item in the group}) / (\text{mean gm/serving of all the foods in the group}))]$. For sweets, the calculation was modified as follows due to the high gm/serving of sodas: $[(\sum(\text{servings/day} \times \text{gm/serving for each non-soda sweet food item}) / (\text{mean gm/serving of all foods in the group}) + \text{servings/day of soda}]$. Dividing the sums by mean serving sizes of all foods in each group provided a way to account for variability in portion sizes of various food items within a common food group (e.g., milk versus cheese). The component scores were ranked by quartile, based on the distribution among controls; the values of 0-3 were assigned to the quartiles for healthful components, and 3-0 for less healthful components. For example, being in the highest quartile of sweets received a score of 0, whereas being in the highest quartile of vegetables received a score of 3. The component scores were then summed to provide final values for the MDS and DQI.

eTable 2. Correlation of the Mediterranean Diet Score (MDS) and the Diet Quality Index (DQI) with food groups and other nutritional factors, among 6,601 controls.

Food group or nutrient	Correlation with MDS	Correlation with DQI
Legumes (servings/day) ¹	0.39	n.a.
Grains 1 (servings/day) ^{1,*}	0.26	n.a.
Grains 2 (servings/day) ^{2,*}	n.a.	0.64
Fruits and nuts (servings/day) ^{1,*}	0.42	n.a.
Fruits only (servings/day) ^{2,*}	n.a.	0.58
Vegetables 1 (servings/day) ^{1,*}	0.48	n.a.
Vegetables 2 (servings/day) ^{2,*}	n.a.	0.52
Fish (servings/day) ¹	0.35	n.a.
Meat (servings/day) ¹	-0.04	n.a.
Dairy (servings/day) ¹	-0.17	n.a.
Fats ratio ^{1□}	0.48	n.a.
% Calories from fat ²	n.a.	-0.36
Sweets (servings/day) ^{1,2}	-0.20	0.01
Glycemic index	-0.26	-0.21
Beta-Carotene	0.41	0.47
Calcium (mg/day) ²	-0.02	0.59
Choline (mg/day)	0.25	0.55
Iron (mg/day) ²	0.27	0.66
Folate (DFE/day) ²	0.29	0.69
Riboflavin (mg/day)	0.13	0.70
Vitamin B ₁₂ (µg/day)	0.11	0.45
Vitamin C (mg/day)	0.42	0.60
Zinc (mg/day)	0.14	0.58
Energy (kcal/day)	0.15	0.58

¹ Component of the MDS.

² Component of the DQI.

* The food items included in these food groups were slightly different for the MDS and DQI (see Methods for details).

□ Ratio of mono-unsaturated to saturated fatty acid intake.

DFE = dietary folate equivalents (see Methods)

eTable 3. Adjusted differences in means of the Mediterranean Diet Score (MDS) and the Diet Quality Index (DQI), based on characteristics of control mothers (n=6186 with complete data).

	n	Adjusted difference in means (95% CI) ¹	
		MDS	DQI
Race-ethnicity			
Non-Hispanic white	3874	Reference	Reference
Black	733	0.59 (0.29, 0.88)	-0.73 (-1.08, -0.38)
Hispanic	1204	2.90 (2.61, 3.19)	1.31 (0.97, 1.65)
Other	375	1.90 (1.53, 2.27)	1.03 (0.59, 1.47)
Education			
Less than high school	891	-0.70 (-0.98, -0.41)	-1.10 (-1.44, -0.76)
Equal to high school	1524	-0.49 (-0.71, -0.27)	-0.81 (-1.07, -0.56)
Greater than high school	3771	Reference	Reference
Smoking²			
None	4984	Reference	Reference
Any	1202	-0.59 (-0.82, -0.36)	-1.21 (-1.49, -0.94)
Drinking²			
None	3865	Reference	Reference
Any	2321	0.08 (-0.11, 0.27)	-0.24 (-0.46, -0.02)
Folic acid-containing vitamin/mineral supplement use²			
None	1338	-0.36 (-0.58, -0.14)	-0.56 (-0.82, -0.30)
Any	4848	Reference	Reference
Body mass index (kg/m²)			
Underweight (<18.5)	339	-0.12 (-0.51, 0.26)	-0.21 (-0.66, 0.25)
Normal weight (18.5-24.9)	3462	Reference	Reference
Overweight (25.0-29.9)	1376	-0.02 (-0.23, 0.20)	0.04 (-0.22, 0.29)
Obesity (>=30.0)	1009	-0.40 (-0.64, -0.16)	-0.55 (-0.84, -0.27)
Energy intake (per 100 kcal)	6186	0.05 (0.04, 0.06)	0.47 (0.45, 0.48)

¹ Represents the mean difference in MDS or DQI between categories (or values) of each covariate, after adjusting for all other covariates in the table, as well as study center.

² From one month before through two months after conception.