

Supplemental Material

Supplemental material is neither peer-reviewed nor thoroughly edited by CJASN. The authors alone are responsible for the accuracy and presentation of the material.

Mediterranean Style Diet and Kidney Function Loss in Kidney Transplant Recipients

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Supplemental Material Table of Contents

Supplemental Table 1: Overview of food items used to determine the Mediterranean Diet Score.

Supplemental Table 2. Association per component of the Mediterranean Diet Score on Graft Failure, Kidney Function Decline and Graft Loss.

Supplemental Table 3. Overview of food items used to determine the adapted Mediterranean Diet Score by Fung, *et al.*

Supplemental Table 4. Association of the Adapted Mediterranean Diet Score by Fung, *et al.* on Graft Failure, Kidney Function Decline and Graft Loss.

Supplemental Table 5. Association of the Mediterranean Diet Score on All-Cause Mortality.

Supplemental Table 6. Competing Risk analyses of the Mediterranean Diet Score on Graft Failure and Kidney Function Decline, considering death as a competing event.

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Supplemental Table 1. Overview of food items used to determine the Mediterranean Diet Score.

	Food group	Food items
1	Ratio mono-unsaturated:saturated fatty acids	-
2	Legumes, nuts and soy products	Legumes, soy products, peanuts (and coated peanuts), nuts
3	Cereals	Rusk, croissants, bread rolls, cereals, pasta, rice, bread, rye bread, raisin bread
4	Fruit	Citrus fruit, other fresh fruit, canned fruit
5	Vegetables	Green legumes, cruciferous vegetables, green-leafy vegetables, mushrooms, onion, peppers, vegetable juices
6	Meat products	Chicken, turkey, beef steak, beef blind finch, pork steak, pork chop, pork sausage, lamb or mutton, other meat, organ meat, sausage, minced meat, liver products, ham, luncheon meat, bacon.
7	Dairy products	Full milk, semi-skimmed milk, skimmed milk, buttermilk, other milk, 20+/30+ cheese, 40+ cheese, 48+ cheese, luxury fat cheese, less fat cheese, cheese used in hot meal, cheese as in between snack, full (fruit) yoghurt, yoghurt with probiotics, full custard and pudding, lean custard and pudding, full (fruit) cream cheese, semi-skimmed (fruit) cream cheese, ice cream, whipped cream, unknown type dairy drink, porridge, normal milk in coffee, coffee milk, coffee cream, cream used in hot meals, full fat milk beverages, semi-skimmed fat milk beverages, skimmed milk beverages, breakfast drink, butter, low-fat butter, beverages with probiotics, cholesterol-lowering yoghurt drinks
8	Fish	Shellfish, trout, mullet, plaice, other lean fish, salmon and other fatty fish, herring, fried fish, unknown fish species
9	Alcohol	Beer, wine, cocktails, spirits

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Supplemental Table 2. Association per component of the Mediterranean Diet Score on Graft Failure, Kidney Function Decline and Graft Loss.

Components	Median (IQR) intake	Graft Failure		Renal Function Decline		Graft Loss	
		< sex-specific median intake	< sex-specific median intake	< sex-specific median intake	< sex-specific median intake	< sex-specific median intake	< sex-specific median intake
		HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Ratio monounsaturated: saturated fatty acids	0.95 (0.84-1.07)	reference	0.70 (0.44-1.10)	reference	0.91 (0.64-1.30)	reference	0.82 (0.61-1.10)
Legumes and nuts	37 (23-58) g/d	reference	0.57 (0.36-0.91)	reference	0.71 (0.49-1.02)	reference	0.85 (0.63-1.13)
Cereals	175 (130-225) g/d	reference	1.13 (0.72-1.78)	reference	0.85 (0.59-1.21)	reference	0.66 (0.49-0.89)
Fruit	123 (66-232) g/d	reference	0.86 (0.55-1.35)	reference	1.10 (0.77-1.59)	reference	0.76 (0.56-1.01)
Vegetables	82 (54-123) g/d	reference	0.77 (0.49-1.20)	reference	0.94 (0.66-1.35)	reference	1.01 (0.75-1.35)
Fish	11 (4-20) g/d	reference	0.81 (0.52-1.27)	reference	0.87 (0.61-1.25)	reference	0.94 (0.71-1.26)
Meat products	93 (7-117) g/d	1.23 (0.79-1.96)	reference	1.10 (0.77-1.59)	reference	1.05 (0.79-1.41)	reference
Dairy products	362 (233-507) g/d	0.82 (0.52-1.29)	reference	0.94 (0.66-1.35)	reference	0.92 (0.69-1.23)	reference
Components	Median (IQR) intake	No moderate intake	Moderate intake	No moderate intake	Moderate intake	No moderate intake	Moderate intake
		HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Alcohol†	2.6 (0-11.1) g/d	reference	0.69 (0.41-1.17)	reference	0.61 (0.40-0.95)	reference	0.63 (0.44-0.89)

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Supplemental Table 3. Overview of food items used to determine the adapted Mediterranean Diet Score by Fung, *et al.*

	Food group	Food items
1	Ratio mono-unsaturated:saturated fatty acids	-
2	Legumes and soy products	Legumes, soy products, peanuts (and coated peanuts)
3	Nuts	Nuts
4	Whole grains	Bread, rye bread
5	Fruit	Citrus fruit, other fresh fruit, canned fruit
6	Vegetables	Green legumes, cruciferous vegetables, green-leafy vegetables, mushrooms, onion, peppers, vegetable juices
7	Red processed meat	Beef, blind finch, pork steak, pork chop, pork sausage, sausage, minced meat, liver products, ham, luncheon meat, bacon.
8	Fish	Shellfish, trout, mullet, plaice, other lean fish, salmon and other fatty fish, herring, fried fish, unknown fish species
9	Alcohol	Beer, wine, cocktails, spirits

Description of the Adapted Mediterranean Diet Score.

The Adapted Mediterranean Score is an adaptation of the traditional Mediterranean Diet Score to measure adherence to a Mediterranean-style diet in the US population. Based on the sex-specific median intake, subjects were assigned either 1 or 0 points per food component. For higher consumption of fruits, vegetables, nuts, legumes, whole grains, fish, and mono-unsaturated to saturated fatty acids ratio, moderate consumption of alcohol, and lower consumption of red/processed meat a score of 1 was assigned.

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Supplemental Table 4. Association of the Adapted Mediterranean Diet Score by Fung, *et al.* on Graft Failure, Kidney Function Decline and Graft Loss.

	Primary End Point		Secondary End Points			
	Graft Failure		Kidney Function Decline		Graft Loss	
N ⁰ Events	73		119		181	
	Hazard Ratio (95% CI)	P	Hazard Ratio (95% CI)	P	Hazard Ratio (95% CI)	P
Crude	0.76 (0.59-0.99)	0.04	0.73 (0.60-0.90)	0.003	0.79 (0.67-0.94)	0.006
Model 1	0.79 (0.61-1.03)	0.08	0.74 (0.60-0.91)	0.004	0.76 (0.64-0.89)	0.001
Model 2	0.78 (0.58-1.04)	0.09	0.69 (0.55-0.87)	0.001	0.72 (0.60-0.86)	< 0.001
Model 3	0.76 (0.56-1.02)	0.07	0.69 (0.55-0.87)	0.002	0.74 (0.62-0.88)	0.001
Model 4	0.75 (0.55-1.01)	0.06	0.68 (0.54-0.86)	0.001	0.72 (0.60-0.87)	< 0.001
Model 5	0.75 (0.56-1.01)	0.06	0.70 (0.56-0.88)	0.003	0.73 (0.61-0.87)	0.001
Model 6	0.74 (0.54-1.00)	0.05	0.68 (0.54-0.87)	0.002	0.71 (0.59-0.85)	< 0.001
Model 7	0.77 (0.57-1.05)	0.10	0.71 (0.56-0.90)	0.004	0.73 (0.61-0.88)	0.001

Model 1: Mediterranean Diet Score , age, sex, body surface area

Model 2: model 1 + primary renal disease, eGFR, 24-hr protein excretion, time since transplantation.

Model 3: model 2 + total HLA-mismatches, living donor kidney status, pre-emptive transplantation.

Model 4: model 3 + history of acute rejection, cytomegalovirus infection, hepatitis-C status.

Model 5: model 3 + calcineurin-inhibitor use, proliferation-inhibitor use, prednisolone use.

Model 6: model 3 + diabetes, systolic blood pressure, cardiovascular history, ACE-inhibitor, Angiotensin-II-receptor blocker, and thiazide diuretic.

Model 7: model 3 + smoking status, physical activity (SQUASH-score), energy intake, protein intake and weight gain 1 year after baseline.

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Supplemental Table 5. Association of the Mediterranean Diet Score on All-Cause Mortality.

All-Cause Mortality		
N ⁰ Events	129	
	Hazard Ratio (95% CI)	P-value
Crude	0.81 (0.67-0.99)	0.04
Model 1	0.80 (0.66-0.97)	0.03
Model 2	0.81 (0.66-0.98)	0.03
Model 3	0.84 (0.69-1.02)	0.08
Model 4	0.83 (0.68-1.02)	0.07
Model 5	0.86 (0.70-1.05)	0.13
Model 6	0.83 (0.67-1.02)	0.08
Model 7	0.83 (0.68-1.03)	0.09

Model 1: Mediterranean Diet Score , age, sex, body surface area

Model 2: model 1 + primary renal disease, eGFR, 24-hr protein excretion, time since transplantation.

Model 3: model 2 + total HLA-mismatches, living donor kidney status, pre-emptive transplantation.

Model 4: model 3 + history of acute rejection, cytomegalovirus infection, hepatitis-C status.

Model 5: model 3 + calcineurin-inhibitor use, proliferation-inhibitor use, prednisolone use.

Model 6: model 3 + diabetes, systolic blood pressure, cardiovascular history, ACE-inhibitor, Angiotensin-II-receptor blocker, and thiazide diuretic.

Model 7: model 3 + smoking status, physical activity (SQUASH-score), energy intake, protein intake and weight gain 1 year after baseline.

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Supplemental Table 6. Competing Risk analyses of the Mediterranean Diet Score on Graft Failure and Kidney Function Decline, considering death as a competing event.

N ⁰ Events	Graft failure		Kidney Function Decline	
	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>
	73		119	
Crude	0.76 (0.59-0.99)	0.04	0.77 (0.63-0.93)	0.007
Model 1	0.77 (0.59-0.99)	0.05	0.76 (0.63-0.93)	0.008
Model 2	0.73 (0.54-0.99)	0.04	0.68 (0.55-0.84)	0.001
Model 3	0.73 (0.54-0.99)	0.04	0.69 (0.56-0.86)	0.001
Model 4	0.73 (0.54-0.99)	0.04	0.68 (0.55-0.86)	0.001
Model 5	0.73 (0.54-0.99)	0.04	0.70 (0.56-0.87)	0.001
Model 6	0.69 (0.51-0.95)	0.02	0.72 (0.57-0.90)	0.005
Model 7	0.74 (0.54-1.00)	0.05	0.71 (0.57-0.89)	0.003

Model 1: Mediterranean Diet Score , age, sex, body surface area

Model 2: model 1 + primary renal disease, eGFR, 24-hr protein excretion, time since transplantation.

Model 3: model 2 + total HLA-mismatches, living donor kidney status, pre-emptive transplantation.

Model 4: model 3 + history of acute rejection, cytomegalovirus infection, hepatitis-C status.

Model 5: model 3 + calcineurin-inhibitor use, proliferation-inhibitor use, prednisolone use.

Model 6: model 3 + diabetes, systolic blood pressure, cardiovascular history, ACE-inhibitor, Angiotensin-II-receptor blocker, and thiazide diuretic.

Model 7: model 3 + smoking status, physical activity (SQUASH-score), energy intake, protein intake and weight gain 1 year after baseline.