



Question: What is the relationship between dietary patterns and risk of dementia/cognitive impairment/Alzheimer's disease?

Table 2. Summary of studies examining the relationship between dietary patterns and age-related cognitive impairment, dementia, and Alzheimer's disease

Author, Year Study Design; Location (Cohort) Risk of Bias*	Sample Size (Gender; Age) Number of cases; Duration of Follow-up	Dietary Patterns**	Results	Summary of Findings
Cherbuin, 2012 Prospective Cohort Study (PCS); Australia Personality & Total Health (PATH) Through Life study Risk of Bias: 2/26	N=2,000 (51% women; Age=63y) 10 mild cognitive impairment, 19 dementia, 37 any-mild cognitive disorder cases; 4y	Mediterranean diet score (MeDi)	Dementia: There were no significant associations between MeDi and cognitive impairment (NS).	There was no association between consumption of a Mediterranean diet, measured using the MeDi, and cognitive impairment.
Eskelinen, 2011 PCS; Finland (COSMOS) Risk of Bias: 6/26	N=385 (62% women; Age=57y) cases NR; 5y	Healthy-diet index (Modified version of the Mediterranean diet score)	Dementia: <i>High scores vs. low scores on the healthy-diet index were associated with lower risk of dementia:</i> OR=0.12 (95% CI=0.02-0.85) Alzheimer's Disease: <i>High scores vs. low scores on the healthy-diet index were associated with lower risk of Alzheimer's disease:</i> OR=0.08 (95% CI=0.01-0.89).	High adherence to a healthy-diet index (higher vegetables/roots, berries/fruits, bread, fish, coffee, MUFAs and PUFAs from milk products/spreads, use of vegetable oil/margarine for cooking/baking; and lower sausage foods, eggs, candies, sweet soft drinks, sugar in coffee/tea, salty fish, SFA from milk products/spread, salt added at the table) was associated with lower risk of developing dementia and Alzheimer's disease.
Feart, 2009 Prospective Cohort Study (PCS); France (Three-City Cohort) Risk of Bias: 2/26	N=1,410 (63% female; Age=76y) 66 cases of Alzheimer's Disease; 5y	Mediterranean diet score (MDS)	Age-Related Cognitive Impairment: <ul style="list-style-type: none"> • <i>MMSE (global cognition):</i> Higher MDS score was associated with few errors on the MMSE over time ($\beta=-0.006$, 95% CI=-0.01 to -0.0003; P for trend=0.04) • <i>IST (verbal fluency/speed), BVRT (visual memory), FCSRT (verbal episodic memory):</i> NS Dementia: There were no significant associations	Higher adherence to a Mediterranean diet (assessed using the MDS) was associated with fewer MMSE errors (i.e., global cognition). However, Mediterranean diet adherence was not associated with other measures of cognitive performance. Mediterranean diet adherence was not associated with risk of dementia or Alzheimer's



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			between MDS and risk of dementia (NS) Alzheimer's Disease: There were no significant associations between MDS and risk of Alzheimer's Disease (NS).	Disease
Gardener, 2014 PCS; Australia (Australian Imaging, Biomarkers, and Lifestyle Study) Risk of Bias: 2/26	N=527 N/A cases; 3y	Australian-Style Mediterranean Diet (AusMeDi) • "Western" • "Prudent" (Factor Analysis)	Cognitive decline: <i>AusMeDi</i> , "Western," "Prudent": No associations between any of the dietary patterns examined and change in global cognitive score (NS).	Adherence to the Australian Mediterranean Diet, a "Western" dietary pattern, or a "Prudent" pattern was not associated with cognitive decline.
Gu, 2010 (J Alz Dis) PCS; US (WHICAP) Risk of Bias: 4/26	N=1,219 (67% women; Age=77y) 118 cases of Alzheimer's Disease; 4y	Mediterranean diet score (MeDi)	Alzheimer's Disease: There were no significant associations between MeDi and risk of Alzheimer's Disease (NS, P for trend <0.06).	There was no association between consumption of a Mediterranean diet, measured using the MeDi, and risk of Alzheimer's Disease.
Gu, 2010 (JAMA Neuro) PCS; US (Washington Heights-Inwood Columbia Aging Project (WHICAP)) Risk of Bias: 4/26	N=2,148 (68% women; Age=77y) 253 cases of Alzheimer's Disease; 4y	"Carotenoid Rich Dietary Pattern" Reduced Rank Regression Response variables: SFA, MUFA, omega-3 PUFA, omega-6 PUFA, vitamin E, vitamin B ₁₂ , folate	Alzheimer's Disease: There were no differences in AD risk between those in the lowest tertile of dietary pattern adherence compared to the middle tertile (NS) Risk of AD was lower in the highest tertile of dietary patterns adherence compared to the lowest: (HR=0.62 (95% CI=0.43-0.89; P for trend=0.01).	Adherence to a dietary pattern higher in salad dressing, nuts, fish, tomatoes, poultry, cruciferous vegetables, fruits, and dark and green leafy vegetables, and lower in high-fat dairy, red meat, organ meat, and butter was associated with lower risk of Alzheimer's disease compared to those who were least adherent.



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Kesse-Guyot, 2014 PCS; France (SU.VI.MAX 2) Risk of Bias: 4/26	N=2,983 (46% women; Age=55y) N/A cases; 13y	“Carotenoid Rich Dietary Pattern” Reduced Rank Regression <i>Response variables:</i> Plasma carotenoid concentrations	Age-Related Cognitive Impairment: Higher adherence to a carotenoid-rich dietary pattern (T3 v T1) was associated with better scores on the: <ul style="list-style-type: none"> • <i>Composite cognitive performance scores:</i> Mean difference=1.04 (95% CI=0.20-1.87; P for trend=0.02) • <i>RI-48 task:</i> Mean difference=0.90 (95% CI=0.01-1.79; P for trend=0.05) • <i>Backward digit span task:</i> Mean difference=1.00 (95% CI=0.12-1.89; P for trend=0.03) • <i>Trail making test:</i> Mean difference =1.09 (95% CI=0.25-1.94; P for trend=0.01) • <i>Semantic fluency task:</i> Mean difference=1.00 (95% CI=0.12 -1.88; P for trend=0.03) Forward digit span or phonemic fluency tasks: NS.	Adherence to a "carotenoid rich" dietary pattern (i.e., Higher in salad dressing, nuts, fish, tomatoes, poultry, cruciferous vegetables, fruits, and dark and green leafy vegetables, and lower in high-fat dairy, red meat, organ meat, and butter) was associated with better overall cognitive performance, as well as several individual neurocognitive tasks.
Kesse-Guyot, 2013 PCS; France (SU.VI.MAX 2) Risk of Bias: 4/26	N=3,083 (46% women; Age=65y) N/A cases; 13y	Mediterranean diet score (MDS) Mediterranean-style dietary pattern score (MSDPS)	Age-Related Cognitive Impairment: MDS: <ul style="list-style-type: none"> • <i>Backward Digit Span:</i> Lower adherence was associated with poorer performance (High vs. low; -0.64 (95% CI=-1.60-0.32; P=0.03) • <i>Composite cognitive score, RI-48 cued recall, forward digit span, trail-making, semantic fluency, or phonemic fluency:</i> NS. 	Adherence to Mediterranean dietary patterns (i.e., MDS, MSDPS) was not associated with global cognitive performance, or with most measures of neurocognitive function examined. MDS was associated with improvement on the backward digit span, and the MSDPS was associated with better phonemic fluency.



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			<p>MSDPS:</p> <ul style="list-style-type: none"> • <i>Phonemic Fluency</i>: Lower adherence was associated with poorer performance (High vs. low; -1.00 (95% CI=-1.85 to -0.15; P=0.048) • <i>Composite cognitive score, RI-48 cued recall, forward digit span, trail-making, semantic fluency, or phonemic fluency</i>: NS. 	
<p>Kesse-Guyot, 2012 PCS; France (SU.VI.MAX 2) Risk of Bias: 4/26</p>	<p>N=3,054 (46% women; Age=52y) N/A cases; 13y</p>	<ul style="list-style-type: none"> • "Healthy Pattern" • "Traditional Pattern" <p>(Principal component analysis)</p>	<p>Age-Related Cognitive Impairment:</p> <p>Global cognitive function:</p> <ul style="list-style-type: none"> • <i>"Healthy"</i>: Higher adherence associated with lower risk of global cognitive impairment: Q4 vs. Q1: OR=0.61 (95% CI=0.42-0.88, P for trend=0.001), but only in those with low energy intake (P=0.02). • <i>"Traditional"</i>: NS <p>Verbal memory:</p> <ul style="list-style-type: none"> • <i>"Healthy"</i>: Higher adherence associated with lower risk of verbal memory impairment (P for trend=0.01), but only in those with low energy intake (P=0.04). • <i>"Traditional"</i>: NS <p>Executive functioning: <i>"Healthy" and "Traditional"</i>: NS.</p>	<p>Adherence to a "Healthy" dietary pattern (i.e., fruit (fresh and dried), whole grains, fresh dairy products, vegetables, breakfast cereal, tea, vegetable fat, nuts, and fish) in middle life may help preserve global cognitive function, especially verbal memory, when total energy intake is regulated.</p>
<p>Kesse-Guyot, 2011 PCS; France</p>	<p>N=3,054 (46% women; Age=52y)</p>	<p>French National Nutrition and Health Program Guideline Score (PNNS-GS)</p>	<p>Age-Related Cognitive Impairment:</p> <p>Higher adherence to the PNNS-GS (Q4 vs. Q1) was associated with improvement the:</p>	<p>A long-term positive association was observed between adherence to French nutritional recommendations (PNNS-GS) in midlife and cognitive performance (in particular, for verbal</p>



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(SU.VI.MAX 2) Risk of Bias: 4/26	N/A cases; 13y		<ul style="list-style-type: none"> • <i>RI-48 cued recall task</i> ($\beta=0.29$ (95% CI=0.05-0.53, $P<0.05$)) • <i>Semantic fluency</i> ($\beta=0.27$ (95% CI=0.03-0.50, $P<0.05$)) • <i>Phonemic fluency</i> ($\beta=0.25$ (95% CI=0.01-0.48, $P<0.05$)) • <i>Verbal memory</i> ($\beta=0.44$ (95% CI=0.20-0.68, $P<0.05$)) <p>Trail-making test, Forward digit span, Backward digit span, Executive function: NS</p> <p>Verbal memory: Higher adherence to the PNNS-GS (Q4 vs. Q1) was associated with improvement in verbal memory ($\beta=0.44$ (95% CI=0.20-0.68, $P<0.05$)).</p> <p>Individual PNNS-GS Components: Results were not changed when fruit, vegetables, seafood, or alcohol were removed from the PNNS-GS.</p>	memory performance) in young elderly
Koyama, 2014 PCS; US (Health, Aging, and Body Comp Study) Risk of Bias: 2/26	N=2,326 (51% women; Age=75y) N/A cases; 8 y	Mediterranean diet score (MedDiet)	<p>Age-Related Cognitive Impairment:</p> <ul style="list-style-type: none"> • <i>MedDiet: High vs. Low:</i> A higher MedDiet scores (vs. lower) was associated with slower cognitive decline in both blacks (0.22 (95% CI 0.05-0.39), $P=0.01$), but not in whites (NS). • <i>MedDiet: Per 5pt Increase:</i> For each 5 pt increase in MedDiet score, cognitive decline decreased in blacks (0.08 (95% CI 0.01-0.15), $P=0.02$), but not in whites (NS). 	Stronger adherence to a Mediterranean diet (MedDiet) was associated with reduced rate of cognitive decline among black, but not white, older adults.
Martinez-Lapiscina, 2013	Initial N=1055 Final N=522 Attrition: 50%	<ul style="list-style-type: none"> • MedDiet + Olive oil • MedDiet + Nuts • Low-fat diet 	<p>Age-Related Cognitive Impairment:</p> <ul style="list-style-type: none"> • <i>MedDiet+Olive oil had higher global cognitive function</i> 	Consuming a Mediterranean diet, with the addition of either nuts or olive oil, was associated with improved global cognition



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RCT; Spain (PREDIMED- NAVARRA) Risk of Bias: 6/28	(55% women; Age=67y) 60 mild cognitive impairment cases, 35 dementia cases; 6.5y		<i>scores than control</i> (MMSE: 0.62 (95% CI=0.18-1.05, P=0.005); CDT: 0.51 (95% CI=0.20-0.82, P=0.001) <ul style="list-style-type: none"> • <i>MedDiet+Nuts had higher global cognitive function scores than control</i> (MMSE: 0.57 (95% CI=0.11-1.03, P=0.015); CDT: 0.33 (95% CI=0.003-0.67, P=0.048) • There were no differences in global cognitive between the MedDiet+Olive oil and MedDiet+Nuts groups (NS). Dementia: There were no differences in risk of mild cognitive impairment or dementia between intervention groups (NS).	compared to consuming a low-fat diet.
Nicolas, 2000 PCS; France (Toulouse Aging Process Study) Risk of Bias: 5/26	N=96 (76% women; Age=76y) N/A cases; 13y	Healthy Diet Indicator (HDI)	Age-Related Cognitive Impairment: There were no significant associations between HDI score and cognitive function (NS).	There was no association between scores on the HDI and any measure of cognitive function.
Olsson, 2014 PCS; Sweden (Uppsala Study) Risk of Bias: 4/26	N=1,038 84 Alzheimer’s disease, 143 dementia, 198 cognitive impairment cases; 12y	Healthy Diet Indicator (HDI) modified Mediterranean diet score (MDS)	There were no significant associations the HDI or MDS and cognitive decline, dementia, or Alzheimer’s disease (NS).	Adherence to the Healthy Diet Indicator or the modified Mediterranean diet score was not associated with risk of cognitive impairment, dementia, or Alzheimer’s disease.
Ozawa, 2013 PCS; Japan (Hisayama Study) Risk of Bias: 2/26	N=1,006 (43% female; Age=68y) 271 all-cause dementia, and	Reduced rank regression response variables: SFA, MUFA, PUFA, vitamin C, potassium, calcium	Dementia: <i>All-cause dementia:</i> Higher adherence (Q4 vs. Q1) was associated with lower risk of all-cause dementia (HR=0.66 (95%	Adherence to a dietary pattern higher in soybeans and soybean products, green vegetables, other vegetables, algae, and milk and dairy products, and lower in rice was associated with lower risk of all-cause dementia (particularly among non-diabetics),



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	88 vascular dementia cases, 144 cases of Alzheimer’s disease; 15y		<p>CI=0.46-0.95, P for trend=0.02).</p> <p>When analyzed by diabetes status, results were significant for those without diabetes (HR=0.52 (95% CI=0.35-0.78, P for trend<0.001).</p> <p><i>Vascular dementia:</i></p> <p>Higher adherence (Q4 v Q1) was associated with lower risk of vascular dementia (HR=0.45 (95% CI=0.22-0.91, P for trend=0.02).</p> <p>When analyzed by diabetes status, results were significant for those with diabetes (HR=0.32 (95% CI=0.13-0.76, P for trend=0.01).</p> <p>Alzheimer’s Disease:</p> <p>Adherence to the dietary pattern was not associated with risk of Alzheimer’s Disease (NS).</p> <p>When analyzed by diabetes status, higher adherence to the dietary pattern (Q4 vs. Q1) was associated with lower risk of Alzheimer’s Disease among those without diabetes (HR=0.49 (95% CI=0.29-0.82, P for trend=0.01).</p>	vascular dementia (especially among diabetics), and Alzheimer’s disease (in those without diabetes).
<p>Parrot, 2013 PCS; France (NuAge Study)</p>	<p>N=920 (44% women; Age=74y) N/A cases; 3y</p>	<ul style="list-style-type: none"> • "Prudent" • "Western" <p>(Principal component analysis)</p>	<p>Age-Related Cognitive Impairment:</p> <ul style="list-style-type: none"> • <i>“Prudent”</i>: Higher adherence associated with less cognitive decline in those with low composite socioeconomic position (β: 0.25, 95% CI=0.00094- 	Higher adherence to a "Prudent" dietary pattern (vegetables, fruits, fish, poultry, lower-fat dairy products) was related to less cognitive decline among those with lower socioeconomic position.



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Risk of Bias: 2/26			0.50, P=0.042) • “Western”: Higher adherence associated with more cognitive decline in those with low education (β : -0.23, 95% CI=-0.43 to -0.032, P=0.032).	Higher adherence to a "Western" dietary pattern (meats, potatoes, processed foods, higher-fat dairy products) was related to more cognitive decline among those with less education.
Psaltopoulou, 2008 PCS; Greece European Prospective Investigation into Cancer and Nutrition (EPIC-Greece) Risk of Bias: 7/26	N=732 (65% women; Age=>60y) N/A cases; 6.4 to 12.6y	Mediterranean diet score	Age-Related Cognitive Impairment: There were no significant associations between adherence to the Mediterranean diet and cognitive function (NS).	Adherence to the Mediterranean diet was not associated with cognitive function.
Roberts, 2010 PCS; US Risk of Bias: 6/26	N=1,141 (44% women; Age=83y) 93 mild cognitive impairment, 23 dementia cases; 2y	Mediterranean diet score (MeDi)	Dementia: There were no significant associations between adherence to the Mediterranean diet and risk of mild cognitive impairment or dementia (NS).	Adherence to the Mediterranean diet was not associated with mild cognitive impairment or dementia.
Samieri, 2013 (Epidemiology) PCS; US	N=6,174 (100% women; Age=72y)	Alternate Mediterranean Diet Score	Age-Related Cognitive Impairment: There were no significant associations between Alternate Mediterranean Diet Score and cognitive function (NS) or verbal memory (NS).	Adherence to the Mediterranean diet was not associated with cognitive function.



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(Women’s Health Study) Risk of Bias: 4/26	N/A cases; 6.4 to 12.6y			
Samieri, 2013 (J Nutrition) PCS; US (Nurse’s Health Study) Risk of Bias: 4/26	N=16,058 (100% women; Age=74y) N/A cases; 6.4 to 12.6y	Alternate Mediterranean diet score (A-MeDi)	Age-Related Cognitive Impairment: Higher long-term A-MeDi score was associated with better performance (Q1 vs. Q5) on the: <i>TICS:</i> HR=0.06 (95% CI=0.01, 0.11; P for trend= 0.004) <i>Global cognition:</i> HR=0.05 (95% CI=0.01, 0.08; P for trend=0.002) <i>Verbal memory:</i> HR=0.06 (95% CI=0.03, 0.10; P for trend<0.001) There were no significant associations between scores on the A-Medi and risk of cognitive decline (NS).	Long-term consumption of a Mediterranean diet (measured using the A-MeDi) was related to moderately better cognitive performance but not with cognitive change /decline.
Samieri, 2013 (Ann Int Med) PCS; US (Nurse’s Health Study) Risk of Bias: 4/26	N=10,670 (100% women; Age=59y) N/A cases; 15y	Alternative Healthy Eating Index-2010 (AHEI-2010) Alternate Mediterranean Diet (A-MeDi) Score	Dementia: There were no significant associations between scores on the AHEI-2010 and risk of cognitive impairment (NS). There were no significant associations between scores on the a-MeDi and risk of cognitive impairment (NS).	Adherence to the Dietary Guidelines or the Mediterranean diet was not associated with cognitive impairment.
Scarmeas, 2006 PCS; US (WHICAP) Risk of Bias: 3/26	N=1,759 (68% women; Age=77y) 262 cases of Alzheimer’s Disease; 4y	Mediterranean diet score (MeDi)	Alzheimer’s Disease: • MeDi as continuous variable: Higher adherence was associated with lower risk of AD (HR=0.91 (95% CI=0.83–0.98; P for trend=0.015) • MeDi as a categorical variable: Higher adherence was associated with lower risk of AD, T1 vs. T3 (HR=0.60	Adherence to the Mediterranean diet was associated with lower risk of Alzheimer’s Disease



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			(95% CI=0.42–0.87, P for trend=0.007).	
Scarmeas, 2009 PCS; US (WHICAP) Risk of Bias: 2/26	N=1,393 (68% women; Age=77y) 275 mild cognitive impairment cases, 106 cases of Alzheimer’s Disease; 4y	Mediterranean diet score (MeDi)	Dementia: <ul style="list-style-type: none"> • <i>MeDi as continuous variable:</i> Higher adherence associated with lower risk of MCI, T1 vs. T3 (HR=0.92 (95% CI=0.85–0.99, P for trend=0.04) • <i>MeDi as a categorical variable:</i> Higher adherence associated with lower risk of MCI, T1 vs. T3 (HR=0.72 (95% CI=0.52-1.00, P for trend=0.05). Alzheimer’s Disease: <ul style="list-style-type: none"> • <i>MeDi as continuous variable:</i> Adherence was not associated with risk of AD (NS) • <i>MeDi as a categorical variable:</i> Higher adherence was associated with lower risk of AD, T1 vs. T3 (HR=0.52 (95% CI=0.30-0.91, P for trend=0.02). 	Adherence to the Mediterranean diet was associated with lower risk of mild cognitive impairment and Alzheimer’s Disease
Shatenstein, 2012 PCS; France (NuAge Study) Risk of Bias: 2/26	N=1,488 (53% women; Age74y) N/A cases; 3y	Canadian Healthy Eating Index (C-HEI)	Age-Related Cognitive Impairment: There were no significant associations between the Canadian Healthy Eating Index and cognitive decline (NS).	Adherence to the Canadian Food Guide was not associated with cognitive function
Smith, 2010 RCT; US Risk of Bias: 5/28	Initial N=144 Final N=124 Attrition=14% (64% women; Age=52y)	<ul style="list-style-type: none"> • DASH diet alone (DASH-A) • DASH+weight management (DASH+WM) • Usual care control (UC) 	Age-Related Cognitive Impairment: Executive function memory learning (EFML) improved in DASH+WM vs. UC controls (Effect Size: 0.21 [95% CI: 0.03 to 0.39], P=0.008); DASH-A vs. UC: NS. Psychomotor speed improved in DASH+WM vs. UC	The DASH diet, combined with aerobic exercise and reduced calories, was associated with improved EFML and psychomotor speed performance relative to controls. The beneficial effects in the DASH+WM group were particularly pronounced for individuals with higher levels of IMT at baseline. Individuals



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	N/A cases; 4-month parallel-group intervention		controls (ES: 0.18 [95% CI: 0.02 to 0.33], P=0.02), and in DASH-A vs. UC (ES: 0.15 [95% CI: 0.00 to 0.30], P=0.04). -Neurocognitive improvements appear to be mediated by increased aerobic fitness and weight loss. -Participants with greater intima-medial thickness and higher SBP had greater EFML improvements in the DASH-WM group.	who ate the DASH diet without losing weight or exercising exhibited improved psychomotor speed performance relative to controls, although EFML was not improved. The improvements in EFML in the DASH+WM group were mediated by improved cardiorespiratory fitness, whereas improvements in psychomotor speed were mediated by weight loss.
Tangney, 2011 PCS; US Chicago Health and Aging Project (CHAP) Risk of Bias: 7/26	N=3,790 (62% women; Age=75y) N/A cases; 7.6y	<ul style="list-style-type: none"> • MedDiet score (with all types of alcohol considered) • MedDiet score-Wine (only wine considered) • Healthy Eating Index - 2005 (HEI-2005) 	Age-Related Cognitive Impairment: <ul style="list-style-type: none"> • <i>MedDiet</i>: Higher adherence (tertile 1 vs. 3) was associated with less cognitive decline: ($\beta=0.0014$ (SEE=0.0004); P-value=0.0004) • <i>MedDiet score-Wine</i>: Higher adherence (tertile 1 vs. 3) was associated with less cognitive decline: ($\beta=0.0014$ (SEE=0.0004); P-value=0.0009) • <i>HEI-2005</i>: Adherence to the HEI-2005 was not associated with cognitive decline (NS). 	Higher adherence to a Mediterranean-type diet (measured using the MedDiet score) was associated with less cognitive decline. Adherence to the HEI-2005 was not associated with cognitive change.
Titova, 2013 PCS; Sweden Prospective Investigation of the Vasculature in Uppsala Seniors (PIVUS) Risk of Bias: 3/26	N=194 (49% women; Age=70y) N/A cases; 5y	Mediterranean diet score (MeDi)	Age-Related Cognitive Impairment: Cognitive function was not associated with MeDi score (NS). Individual dietary pattern components: <ul style="list-style-type: none"> • Increased consumption of meat and meat products was associated with lower cognitive function ($\beta=-0.26$ (P<0.001)) • Other components (alcohol, milk and milk products, PUFAs/SFAs, vegetables and legumes, fruits, cereals and potatoes, and fish) were not associated with 	Adherence to a Mediterranean diet (MeDi) was not associated with cognitive function. When controlling for the rest of the dietary pattern components, higher intake of meat and meat products was associated with lower cognitive function.



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			cognitive function (NS).	
Tsivgoulis, 2013 PCS; US REasons for Geographic and Racial Differences in Stroke (REGARDS) Risk of Bias: 2/26	N=17,478 (57% women; Age=64y) 1,248 mild cognitive impairment cases; 4y	Mediterranean diet score (MeD)	Dementia: Total sample: <i>Higher adherence (scores of 0-4 vs. 5-9) was associated with a lower risk of incident cognitive impairment: HR =0.87 (95% CI=0.76-1.00; P=0.0460).</i> Interaction with diabetes: <ul style="list-style-type: none"> • In those without diabetes, higher adherence (scores of 0-4 vs. 5-9) was associated with a lower risk of incident cognitive impairment: HR=0.81 (95% CI=0.70-94, P=0.0066) • In those with diabetes, adherence to the MeD was not associated with risk of incident cognitive impairment (NS). 	Higher adherence to a Mediterranean-type diet (measured using the MeD score) was associated with lower risk of cognitive impairment, particularly among those without diabetes.
Wengreen, 2013 PCS; US (Cache County Utah) Study on Memory and Aging) Risk of Bias: 3/26	N=3,580 (44% women; Age=74y) N/A cases; 11y	<ul style="list-style-type: none"> • DASH diet score • Mediterranean diet score 	Age-Related Cognitive Impairment: Rate of cognitive decline was not associated with DASH diet score or Mediterranean diet score (NS).	Adherence to the DASH or Mediterranean diet was not associated with cognitive decline.



Question: What is the relationship between dietary patterns and risk of dementia/cognitive impairment/Alzheimers disease?

Table 2. Summary of studies examining the relationship between dietary patterns and age-related cognitive impairment, dementia, and Alzheimer’s disease

Author, Year Study Design; Location (Cohort) Risk of Bias*	Sample Size (Gender; Age) Number of cases; Duration of Follow-up	Dietary Patterns**	Results	Summary of Findings
Wengreen, 2009 PCS; US (Cache County Utah) Study on Memory and Aging) Risk of Bias: 4/26	N=3,634 (57% women; Age=74y) N/A cases; 11y	<ul style="list-style-type: none"> Recommended food score (RFS) Non-recommended food score (non-RFS) 	Age-Related Cognitive Impairment: <ul style="list-style-type: none"> RFS: Higher RFS score was associated with less cognitive decline: Q1: -5.15 points; Q2: -3.98; Q3: -4.91; Q4: -3.41; P for trajectory=0.0013 Non-RFS was not associated with cognitive decline (NS). 	Adherence to a dietary pattern that provided a variety of foods recommended in the current Dietary Guidelines for Americans (measured using the RFS) was associated with less cognitive decline. Scores on the non-RFS were not associated with cognitive decline.

*Risk of Bias as determined using the Nutrition Evidence Library Bias Assessment Tool

**Additional details regarding the dietary patterns, as reported by the authors, are found in the “Description of Evidence” section of the Evidence Portfolio