

評価対象論文リスト(要因:野菜・果物、アウトカム:認知症・認知機能低下)

評価判定日:2024/3/28

①既存の系統的レビュー・メタ解析・統合解析

1	Loef M, Walach H. Fruit, vegetables and prevention of cognitive decline or dementia: A systematic review of cohort studies. <i>The Journal of nutrition, health and aging</i> . 2012;16(7):626-630. doi:10.1007/s12603-012-0097-x
2	Wu L, Sun D, Tan Y. Intake of fruit and vegetables and the incident risk of cognitive disorders: A systematic review and meta-analysis of cohort studies. <i>The Journal of nutrition, health and aging</i> . 2017;21(10):1284-1290. doi:10.1007/s12603-017-0875-6
3	Buckinx F, Aubertin-Leheudre M. Nutrition to prevent or treat cognitive impairment in older adults: a grade recommendation. <i>The Journal of Prevention of Alzheimer's Disease</i> . 2021;8(1):110-116. doi:10.14283/jpad.2020.40
4	Crichton GE, Bryan J, Murphy KJ. Dietary antioxidants, cognitive function and dementia - a systematic review. <i>Plant Foods Hum Nutr</i> . 2013;68(3):279-292. doi:10.1007/s11130-013-0370-0
5	Cao L, Tan L, Wang HF, et al. Dietary patterns and risk of dementia: a systematic review and meta-analysis of cohort studies. <i>Mol Neurobiol</i> . 2016;53(9):6144-6154. doi:10.1007/s12035-015-9516-4
6	Lee Y, Back JH, Kim J, et al. Systematic review of health behavioral risks and cognitive health in older adults. <i>International Psychogeriatrics</i> . 2010;22(2):174-187. doi:10.1017/S1041610209991189

②日本人集団の個別疫学研究

7	Kimura Y, Yoshida D, Ohara T, et al. Long-term association of vegetable and fruit intake with risk of dementia in Japanese older adults: the Hisayama study. <i>BMC Geriatr</i> . 2022;22(1):257. doi:10.1186/s12877-022-02939-2
8	Kitamura K, Watanabe Y, Nakamura K, et al. Modifiable factors associated with cognitive impairment in 1,143 Japanese outpatients: the project in sado for total health(Prost). <i>Dement Geriatr Cogn Disord Extra</i> . 2016;6(2):341-349. doi:10.1159/000447963

③有力な研究

9	Ritchie K, Carriere I, Ritchie CW, Berr C, Artero S, Ancelin ML. Designing prevention programmes to reduce incidence of dementia: prospective cohort study of modifiable risk factors. <i>BMJ</i> . 2010;341(aug05 2):c3885-c3885. doi:10.1136/bmj.c3885
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■コホート研究(コホートのプール解析含む)

Reference			Study subjects						Category	Number among cases	Relative risk (95%CI or p)	P for trend	Confounding variables considered	<u>Magnitude of association</u>	Comments
Author	Title	Year	Study period	Number of subjects	Source of subjects	Event followed	Number of incident cases or deaths	Participant's race							
Yasumi Kimura	Long-term association of vegetable and fruit intake with risk of dementia in Japanese older adults: the Hisayama study	2022	1988–2012	1071	residents aged 40 and older in the town of Hisayama, Fukuoka	dementia diagnosed according to DSM-III-R	759 subjects died, 464 subjects developed dementia	Japanese	Ref: Q1 (n = 267)	120	1.00	0.03	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	-	Dependent: total dementia (Hazard ratio) Independent: Vegetable intake
									Q2 (n = 268)	117	0.82 (0.65 – 1.09)				
									Q3 (n = 268)	111	0.80 (0.65 – 1.11)				
									Ref: Q1 (n = 267)	118	1.00	0.31	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	-	Dependent: total dementia (Hazard ratio) Independent: Fruit intake
									Q2 (n = 268)	116	0.87 (0.67 – 1.13)				
									Q3 (n = 268)	108	0.76 (0.58 – 0.99)				
									Q4 (n = 268)	122	0.90 (0.69 – 1.17)				
									Ref: Q1 (n = 267)	75	1.00	0.049	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	-	Dependent: Alzheimer's disease (Hazard ratio) Independent: Vegetable intake
									Q2 (n = 268)	72	0.75 (0.54 – 1.05)				
									Q3 (n = 268)	64	0.72 (0.52 – 1.03)				
									Q4 (n = 268)	75	0.69 (0.49 – 0.98)				

Ref: Q1 (n = 267)	69	1.00	0.56	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	Dependent: Alzheimer's disease (Hazard ratio) Independent: Fruit intake
Q2 (n = 268)	59	0.73 (0.51 – 1.04)	-		
Q3 (n = 268)	76	0.88 (0.63 – 1.23)	-		
Q4 (n = 268)	82	1.03 (0.74 – 1.44)	-		

Ref: Q1 (n = 267)	35	1.00	0.24	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	Dependent: Vascular dementia (Hazard ratio) Independent: Vegetable intake
Q2 (n = 268)	40	1.16 (0.73 – 1.84)	-		
Q3 (n = 268)	37	1.16 (0.72 – 1.86)	-		
Q4 (n = 268)	32	0.77 (0.44 – 1.21)	-		

Ref: Q1 (n = 267)	44	1.00	0.07	Adjusted for age, sex, educational level, history of stroke, diabetes, systolic blood pressure, use of antihypertensive agents, electrocardiogram abnormalities, total cholesterol, body mass index, current drinking, current smoking, regular exercise, and intakes of total energy, protein, fat, and carbohydrate	Dependent: Vascular dementia (Hazard ratio) Independent: Fruit intake
Q2 (n = 268)	38	0.79 (0.51 – 1.24)	↓		
Q3 (n = 268)	29	0.63 (0.39 – 1.02)	-		
Q4 (n = 268)	33	0.68 (0.43 – 1.09)	-		

Kaori Kitamura	Modifiable Factors Associated with Cognitive Impairment in 1,143 Japanese Outpatients: The Project in Sado for Total Health (PROST)	2016	between June 2008 and September 2014	1143	the patient registry of Sado General Hospital in Sado City, Sado Island	cognitive impairment (MMSE score <24)	246	Japanese	Ref: Every day (n = 1033)	230	1.00	0.616	Adjusted for age and sex	Dependent: MMSE score <24 (Odds ratio) Independent: Vegetable consumption
									3-6 times/week (n = 52)	7	1.26 (0.52 – 30.5)	-		
									1-2 times/week (n = 39)	7	1.54 (0.62 – 3.83)	↑		
									None (n = 18)	2	0.76 (0.16 – 3.66)	-		
									Ref: Every day (n = 584)	131	1.00	0.001		
3-6 times/week (n = 231)	38	0.86 (0.56 – 1.32)	-											

1-2 times/week (n = 207)	48	1.59 (1.04 – 2.43)
None (n = 120)	29	2.24 (1.31 – 3.81)

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