

評価対象論文リスト(要因:食物繊維、アウトカム:糖尿病)

評価判定日:2024/4/24

①既存の系統的レビュー・メタ解析・統合解析

1	Schulze MB, Schulz M, Heidemann C, Schienkiewitz A, Hoffmann K, Boeing H. Fiber and magnesium intake and incidence of type 2 diabetes: a prospective study and meta-analysis. <i>Arch Intern Med.</i> 2007;167(9):956-965. doi:10.1001/archinte.167.9.956
2	Wang PY, Fang JC, Gao ZH, Zhang C, Xie SY. Higher intake of fruits, vegetables or their fiber reduces the risk of type 2 diabetes: A meta-analysis. <i>J Diabetes Investig.</i> 2016;7(1):56-69. doi:10.1111/jdi.12376
3	Neuenschwander M, Ballon A, Weber KS, et al. Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies. <i>BMJ.</i> 2019;366:l2368. Published 2019 Jul 3. doi:10.1136/bmj.l2368
4	Yao B, Fang H, Xu W, et al. Dietary fiber intake and risk of type 2 diabetes: a dose-response analysis of prospective studies. <i>Eur J Epidemiol.</i> 2014;29(2):79-88. doi:10.1007/s10654-013-9876-x

②日本人集団の個別疫学研究

5	Kimura Y, Yoshida D, Hirakawa Y, et al. Dietary fiber intake and risk of type 2 diabetes in a general Japanese population: The Hisayama Study. <i>J Diabetes Investig.</i> 2021;12(4):527-536. doi:10.1111/jdi.13377
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■系統的レビュー・メタ解析・統合解析

No	Author	Title	Year	Study location	Category	Relative risk (95% CI)	Magnitude of association
1	Schulze, MB., et al	Fiber and magnesium intake and incidence of type 2 diabetes: a prospective study and meta-analysis.	2007	US, Finland, Australia, Germany	Total fiber Q1 Q2 Q3 Q4 Q5 Soluble fiber Q1 Q2 Q3 Q4 Q5 Insoluble fiber Q1 Q2 Q3 Q4 Q5	Ref. 1.08 (0.88–1.34) 0.99 (0.80–1.23) 0.94 (0.76–1.17) 0.86 (0.68–1.09) Ref. 0.86 (0.70–1.07) 0.98 (0.79–1.21) 0.87 (0.70–1.09) 0.79 (0.63–0.98) Ref. 1.05 (0.85–1.29) 0.89 (0.72–1.11) 0.92 (0.74–1.14) 0.83 (0.65–1.05)	– – – – – – – – ↓ – – – – –
2	Wang, PY., et al	Higher intake of fruits, vegetables or their fiber reduces the risk of type 2 diabetes: A meta-analysis.	2016	US, Finland, Australia, Germany, British, Caucasian, Japanese American, Native Hawaiian, Taiwanese	Fruit fiber (g/day) Lowest Highest Vegetable fiber (g/day) Lowest Highest	Ref. 1.00 (0.99–1.02) Ref. 0.94 (0.86–1.03)	– –
3	Neuenschwander, M., et al	Role of diet in type 2 diabetes incidence: umbrella review of meta-analyses of prospective observational studies.	2019	Since it is an umbrella review of 58 systematic reviews with meta-analyses of prospective	Total fiber (per 10g/day) Soluble fiber (per 10g/day) Insoluble fiber (per 10g/day)	0.91 (0.87 to 0.96) 0.70 (0.47 to 1.04) 0.73 (0.62 to 0.86)	↓ – ↓

4	Yao, B., et al	Dietary fiber intake and risk of type 2 diabetes: a dose-response analysis of prospective studies.	2014	US, Finland, Australia, Germany, Taiwan, Sweden, Britain, Netherlands	Total dietary fiber (g/day)	Ref.	
					0		
					15	0.98 (0.90–1.06)	–
					20	0.97 (0.87–1.07)	–
					25	0.89 (0.80–0.99)	↓
					30	0.76 (0.65–0.88)	↓
					35	0.66 (0.53–0.82)	↓↓
					Cereal fiber (g/day)	Ref.	
					0		
					3	0.92 (0.88–0.96)	↓
					6	0.85 (0.77–0.91)	↓
					9	0.79 (0.73–0.86)	↓
					12	0.73 (0.64–0.82)	↓
					16	0.67 (0.55–0.82)	↓↓
					Fruit fiber (g/day)	Ref.	
					0		
					2	0.97 (0.92–1.03)	–
					4	0.95 (0.85–1.06)	–
					6	0.93 (0.83–1.04)	–
					10	0.90 (0.78–1.04)	–
					20	0.82 (0.57–1.20)	–
					Vegetable fiber (g/day)	Ref.	
					0		
3	1.03 (0.96–1.11)	–					
6	1.05 (0.93–1.18)	–					
9	1.00 (0.89–1.13)	–					
12	0.95 (0.83–1.10)	–					
15	0.88 (0.70–1.11)	–					
Soluble and insoluble fiber	Ref.						
Low							
High	0.85 (0.72–1.01)	–					
Insoluble fiber	Ref.						
Low							
High	0.75 (0.63–0.89)	↓					

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No	Author	Title	Year	Study period	Number of subjects for analysis	Source of subjects	Event followed	Definitions	Number of incident cases or deaths	Participant's race	Category	Number among cases	Relative risk (95%CI)	P for trend	Confounding variable considered	Magnitude of association	
5	Kimura, Y., et al	Dietary fiber intake and risk of type 2 diabetes in a general Japanese population: The Hisayama Study.	2021	December 1988–November 2002	1,892 participants (759 men; 1,133 women)	Residents of the Hisayama town	Incidence	Diabetes was defined as FPG more or equal 7.0 mmol/L or 2-h PG more or equal 11.1 mmol/L, or the use of antidiabetic medications.	participants (139 men and 141 women)	Japanese	Total dietary fiber Intake (g/1,000 kcal)	70	Ref.	0.02	Age, family history of diabetes mellitus, hypertension, body mass index, serum total cholesterol, serum high density lipoprotein cholesterol, log-transformed serum triglycerides, current smoking, current alcohol drinking, regular exercise, intakes of total energy, vitamin A, vitamin C, magnesium, polyunsaturated fatty acid : saturated fatty acid ratio, log-trans'formed homeostasis model assessment of insulin resistance and log-transformed high-sensitivity C-reactive protein (hs-CRP).	-	
											Q1	55	0.72 (0.50–1.03)				
											Q2	59	0.76 (0.52–1.12)				
											Q3	49	0.63 (0.41–0.96)				
											Q4	47	0.53 (0.31–0.90)				
											Soluble dietary fiber intake (g/1,000 kcal)	65	Ref.	0.01			-
											Q1	49	0.70 (0.48–1.03)				
											Q2	63	0.78 (0.54–1.14)				
											Q3	58	0.65 (0.44–0.97)				
											Q4	45	0.50 (0.30–0.82)				
											Insoluble dietary fiber intake (g/1,000 kcal)	76	Ref.	0.001			↓
											Q1	57	0.69 (0.48–0.99)				
											Q2	50	0.64 (0.43–0.95)				
											Q3	47	0.56 (0.37–0.86)				
											Q4	50	0.56 (0.34–0.94)				
Q5				↓↓													