

評価対象論文リスト(要因:乳製品、アウトカム:死亡)

評価判定日:2024/9/27

①既存の系統的レビュー・メタ解析・統合解析

1	Zhang M, Dong X, Huang Z, et al. Cheese consumption and multiple health outcomes: an umbrella review and updated meta-analysis of prospective studies. <i>Advances in Nutrition</i> . 2023;14(5):1170-1186. doi:10.1016/j.advnut.2023.06.007
2	Tutunchi H, Naghshi S, Naemi M, Naeini F, Esmailzadeh A. Yogurt consumption and risk of mortality from all causes, CVD and cancer: a comprehensive systematic review and dose-response meta-analysis of cohort studies. <i>Public Health Nutr</i> . 2023;26(6):1196-1209. doi:10.1017/S1368980022002385
3	Gao X, Jia H yi, Chen G chong, Li C yue, Hao M. Yogurt intake reduces all-cause and cardiovascular disease mortality: a meta-analysis of eight prospective cohort studies. <i>Chin J Integr Med</i> . 2020;26(6):462-468. doi:10.1007/s11655-020-3085-8
4	Cavero-Redondo I, Alvarez-Bueno C, Sotos-Prieto M, Gil A, Martinez-Vizcaino V, Ruiz JR. Milk and dairy product consumption and risk of mortality: an overview of systematic reviews and meta-analyses. <i>Advances in Nutrition</i> . 2019;10:S97-S104. doi:10.1093/advances/nmy128
5	Mazidi M, Mikhailidis DP, Sattar N, Howard G, Graham I, Banach M. Consumption of dairy product and its association with total and cause specific mortality – A population-based cohort study and meta-analysis. <i>Clinical Nutrition</i> . 2019;38(6):2833-2845. doi:10.1016/j.clnu.2018.12.015
6	Schwingshackl L, Schwedhelm C, Hoffmann G, et al. Food groups and risk of all-cause mortality: a systematic review and meta-analysis of prospective studies. <i>The American Journal of Clinical Nutrition</i> . 2017;105(6):1462-1473. doi:10.3945/ajcn.117.153148
7	Guo J, Astrup A, Lovegrove JA, Gijsbers L, Givens DI, Soedamah-Muthu SS. Milk and dairy consumption and risk of cardiovascular diseases and all-cause mortality: dose-response meta-analysis of prospective cohort studies. <i>Eur J Epidemiol</i> . 2017;32(4):269-287. doi:10.1007/s10654-017-0243-1
8	Tong X, Chen GC, Zhang Z, Wei YL, Xu JY, Qin LQ. Cheese consumption and risk of all-cause mortality: a meta-analysis of prospective studies. <i>Nutrients</i> . 2017;9(1):63. doi:10.3390/nu9010063
9	Mullie P, Pizot C, Autier P. Daily milk consumption and all-cause mortality, coronary heart disease and stroke: a systematic review and meta-analysis of observational cohort studies. <i>BMC Public Health</i> . 2016;16(1):1236. doi:10.1186/s12889-016-3889-9
10	Pimpin L, Wu JHY, Haskelberg H, Del Gobbo L, Mozaffarian D. Is butter back? A systematic review and meta-analysis of butter consumption and risk of cardiovascular disease, diabetes, and total mortality. <i>Schooling CM, ed. PLoS ONE</i> . 2016;11(6):e0158118. doi:10.1371/journal.pone.0158118
11	Larsson S, Crippa A, Orsini N, Wolk A, Michaëlsson K. Milk consumption and mortality from all causes, cardiovascular disease, and cancer: a systematic review and meta-analysis. <i>Nutrients</i> . 2015;7(9):7749-7763. doi:10.3390/nu7095363
12	Soedamah-Muthu SS, Ding EL, Al-Delaimy WK, et al. Milk and dairy consumption and incidence of cardiovascular diseases and all-cause mortality: dose-response meta-analysis of prospective cohort studies. <i>The American Journal of Clinical Nutrition</i> . 2011;93(1):158-171. doi:10.3945/ajcn.2010.29866
13	Ikehara S, Kimura T, Kakigano A, Sato T, Iso H; Japan Environment Children's Study Group. Association between maternal alcohol consumption during pregnancy and risk of preterm delivery: the Japan Environment and Children's Study. <i>BJOG</i> . 2019;126(12):1448-1454. doi:10.1111/1471-0528.15899
14	Ikeda M, Suzuki S. Habitual Alcohol Consumption during Pregnancy and Perinatal Outcomes. <i>J Nippon Med Sch</i> . 2015;82(3):163-165.
15	Murakami K, Obara T, Ishikuro M, Ueno F, Noda A, Kuriyama S. Associations of education and work status with alcohol use and cessation among pregnant women in Japan: the Tohoku Medical Megabank Project Birth and Three-Generation Cohort Study. <i>BMC Public Health</i> . 2021;21(1):1400. Published 2021 Jul 15. doi:10.1186/s12889-021-11461-w

## ②日本人集団の個別疫学研究

16	Ge S, Zha L, Sobue T, et al. Associations between dairy intake and mortality due to all-cause and cardiovascular disease: the Japan Public Health Center-based prospective study. <i>Eur J Nutr.</i> 2023;62(5):2087-2104. doi:10.1007/s00394-023-03116-w
17	Lu Y, Sugawara Y, Matsuyama S, Fukao A, Tsuji I. Association of dairy intake with all-cause, cancer, and cardiovascular disease mortality in Japanese adults: a 25-year population-based cohort. <i>Eur J Nutr.</i> 2022;61(3):1285-1297. doi:10.1007/s00394-021-02734-6
18	Nakanishi A, Homma E, Osaki T, et al. Association between milk and yogurt intake and mortality: a community-based cohort study (Yamagata study). <i>BMC Nutr.</i> 2021;7(1):33. doi:10.1186/s40795-021-00435-1
19	Sasakabe T, Wakai K, Ukawa S, et al. Food group intakes and all-cause mortality among a young older Japanese population of the same age : the New Integrated Suburban Seniority Investigation Project. February 2021. doi:10.18999/nagjms.83.1.169
20	Wang C, Yatsuya H, Tamakoshi K, Iso H, Tamakoshi A. Milk drinking and mortality: findings from the japan collaborative cohort study. <i>Journal of Epidemiology.</i> 2015;25(1):66-73. doi:10.2188/jea.JE20140081

■メタ解析、系統的レビュー

Reference			Include study					Design	Category	Relative risk (95% CI or p)	Weight	Magnitude of association	
Author	Title	Year	Ref No.	First author	Year	Study period	Study location	Event (*Definition)					
Zhang M, et al.	Cheese consumption and multiple health outcomes: an umbrella review and updated meta-analysis of prospective studies	2023					Global population (including Japanese)	Umbrella review and updated meta-analysis of prospective studies	<b>Cheese consumption</b>				
									Highest vs Lowest	<b>0.95 (0.92, 0.99)</b>		↓	
									Per 30-g/d intake level	<b>0.98 (0.96, 1.00)</b>		↓	
Iitunchi H, et al.	Yogurt consumption and risk of mortality from all causes, CVD and cancer: a comprehensive systematic review and dose-response meta-analysis of cohort studies	2023					Global population (including Japanese)	Meta-analysis of cohort studies	<b>Yogurt consumption</b>				
									Highest vs Lowest	<b>0.93 (0.89, 0.98)</b>		↓	
Guo J, et al.	Milk and dairy consumption and risk of cardiovascular diseases and all-cause mortality: dose-response meta-analysis of prospective cohort studies	2017					Global population (including Japanese)		<b>Total dairy (per 200 g/day)</b>			0.99 (0.96, 1.03)	–
									<b>High-fat dairy (per 200 g/day)</b>			0.96 (0.88, 1.05)	–
									<b>Low-fat dairy (per 200 g/day)</b>			1.01 (0.99, 1.03)	–
									<b>Milk (per 244 g/day)</b>			1.00 (0.93, 1.07)	–
									<b>Fermented dairy (per 20 g/day)</b>			<b>0.98 (0.97, 0.99)</b>	↓
									<b>Cheese (per 10 g/day)</b>			0.99 (0.96, 1.01)	–
									<b>Yogurt (per 50 g/day)</b>			0.97 (0.85, 1.11)	–

■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	<b>Magnitude of association</b>		
Author	Title	Year	Study period	Number of subjects	Source of subjects	Event followed	Number of incident cases or deaths							Participant 's race	
Ge S, et al.	Associations between dairy intake and mortality due to all-cause and cardiovascular disease: the Japan Public Health Center-based prospective study	2023	1995–2018	43,117 males and 50,193 females	JPHC study	All-cause mortality	14,211 deaths in males and 9547 deaths in females	Japanese	<b>Total dairy (males)</b>						
									Q1	3903	Ref				
									Q2	3302	<b>0.92 (0.88, 0.97)</b>	<b>&lt; 0.001</b>		↓	
									Q3	3372	<b>0.87 (0.83, 0.91)</b>				
									Q4	3634	<b>0.89 (0.85, 0.94)</b>				
									<b>Milk (males)</b>						
									Q1	3912	Ref				
									Q2	3269	0.97 (0.92, 1.01)	<b>&lt; 0.001</b>		↓	
									Q3	3335	<b>0.90 (0.86, 0.94)</b>				
									Q4	3695	<b>0.92 (0.88, 0.97)</b>				
									<b>Cheese (males)</b>						
									Q1	8131	Ref				
									Q2	2026	0.97 (0.92, 1.02)	0.79		–	
									Q3	1984	1.01 (0.96, 1.06)				
									Q4	2070	0.99 (0.94, 1.04)				
									<b>Fermented milk (yogurt and Yakult, males)</b>						
									Q1	6433	Ref				
									Q2	2639	1.00 (0.96, 1.05)	<b>0.02</b>	Age; study area; smoking status; alcohol frequency; body mass index; physical activity; hypertension with medication; self, reported diabetes; green tea; coffee; energyadjusted consumption of vegetables and fruits; total energy and total fat; menopausal status (only for women), and exogenous hormone use (only for women), and another dairy intake	↓	
									Q3	2535	0.95 (0.91, 1.005)				
									Q4	2604	<b>0.94 (0.90, 0.995)</b>				
									<b>Total dairy (females)</b>						
									Q1	2616	Ref				
									Q2	2197	0.97 (0.92, 1.03)	0.38		–	
									Q3	2250	0.96 (0.91, 1.02)				
									Q4	2484	0.97 (0.92, 1.03)				
									<b>Milk (females)</b>						
									Q1	2676	Ref				
									Q2	2141	1.01 (0.95, 1.07)	0.71		–	
Q3	2209	0.95 (0.90, 1.01)													
Q4	2521	1.00 (0.94, 1.06)													
<b>Cheese (females)</b>															
Q1	5772	Ref													
Q2	1241	<b>0.92 (0.86, 0.98)</b>	0.68		–										
Q3	1214	0.94 (0.88, 1.01)													
Q4	1320	0.99 (0.92, 1.05)													
<b>Fermented milk (yogurt and Yakult, females)</b>															
Q1	2589	Ref													
Q2	2287	<b>0.94 (0.88, 0.99)</b>	0.15		↓										
Q3	2323	0.95 (0.90, 1.02)													
Q4	2348	<b>0.93 (0.88, 0.99)</b>													

Lu Y, et al.	Association of dairy intake with all-cause, cancer, and cardiovascular disease mortality in Japanese adults: a 25-year population-based cohort	2022	1990–2015	34,161	Miyagi Cohort	All-cause mortality	6,498	Japanese	<b>Total dairy intake (males)</b>				Age, education level, BMI, smoking status, alcohol drinking status, history of diabetes, energy intake, fish intake, and vegetable and fruit intake	–		
									Q1	1102	Ref	0.328				
									Q2	1023	0.94 (0.87–1.03)					
									Q3	956	0.98 (0.90–1.07)					
									Q4	1273	0.93 (0.85–1.01)					
									<b>Milk (males)</b>						0.339	–
									Almost never/1–2 times/mo	1131	Ref					
									1–2 times/week	635	0.97 (0.88–1.06)					
									3–4 times/week	632	0.93 (0.84–1.02)					
									Almost daily	1956	0.96 (0.89–1.04)	0.253			–	
									<b>Yogurt (males)</b>							
									Almost never	2680	Ref					
									1–2 times/mo	883	<b>0.91 (0.84–0.98)</b>					
									1–2 times/wk	458	<b>0.90 (0.81–0.99)</b>					
									3 times/week/Almost daily	333	1.04 (0.92–1.17)					
									<b>Cheese (males)</b>						0.356	–
									Almost never	2276	Ref					
									1–2 times/mo	1345	<b>0.89 (0.83–0.96)</b>					
									1–2 times/wk	523	0.96 (0.87–1.05)					
									3 times/week/Almost daily	210	1.05 (0.91–1.22)	0.574			–	
									<b>Total dairy intake (females)</b>							
Q1	659	Ref														
Q2	518	0.98 (0.87–1.10)														
Q3	731	1.05 (0.94–1.17)														
Q4	614	1.00 (0.89–1.12)														
<b>Milk (females)</b>				0.633	–											
Almost never/1–2 times/mo	527	Ref														
1–2 times/week	295	1.00 (0.87–1.16)														
3–4 times/week	355	0.97 (0.84–1.11)														
Almost daily	1345	1.02 (0.92–1.14)	0.146	–												
<b>Yogurt (females)</b>																
Almost never	987	Ref														
1–2 times/mo	612	0.91 (0.83–1.01)														
1–2 times/wk	538	0.94 (0.85–1.05)														
3 times/week/Almost daily	385	0.92 (0.81–1.03)														
<b>Cheese (females)</b>				0.016	↓											
Almost never	1385	Ref														
1–2 times/mo	685	<b>0.89 (0.81–0.98)</b>														
1–2 times/wk	324	<b>0.88 (0.78–1.00)</b>														
3 times/week/Almost daily	128	0.89 (0.74–1.07)														
Nakanishi A, et al.	Association between milk and yogurt intake and mortality: a community-based cohort study (Yamagata study)	2021	2009–2015	14,264	Yamagata study	All-cause mortality	265	Japanese	<b>Yogurt intake</b>				Age, gender, hypertension, diabetes mellitus, smoking, alcohol consumption, body mass index, education period	↓ ↓		
									None	99	Ref					
									Low	41	0.72 (0.48–1.07)					
									Moderate	76	<b>0.70 (0.49–0.99)</b>					
									High	49	<b>0.62 (0.42–0.91)</b>					
									<b>Milk intake</b>							
									None	68	Ref					
									Low	27	0.68 (0.41–1.09)					
Moderate	74	<b>0.67 (0.46–0.97)</b>														
High	96	1.06 (0.75–1.50)														
Sasakabe T, et al.	Food group intakes and all-cause mortality among a young older Japanese population of the same age: the New Integrated	2021	1996–2015	1,324 men and 1,338 women	NISSIN Project	All-cause mortality	339	Japanese	<b>Milk and dairy products (males)</b>				Energy intake, survey year, body mass index, smoking status, drinking status, walking time, sleeping time, education levels, employment status, vitamin	–		
									Q1	71	Ref					
									Q2	49	0.73 (0.50–1.06)					
									Q3	59	0.85 (0.60–1.22)					
									Q4	54	0.98 (0.67–1.42)					
<b>Milk and dairy products (females)</b>																

Suburban Seniority Investigation Project		WUJICII							Q1	39	Ref		employment status, vitamin supplement use, hypertension, and diabetes mellitus.	↓ ↓ ↓
									Q2	26	0.70 (0.42–1.17)	<b>0.003</b>		
									Q3	26	0.66 (0.40–1.10)			
									Q4	15	<b>0.40 (0.22–0.75)</b>			
<b>Milk (males)</b>														
									Never	2813	Ref		Age, smoking status, drinking status, physical activity, sleeping duration, body mass index, education level, participation in health checkups, green-leafy vegetable intake, and history of hypertension, diabetes, and liver disease	↓
									1–2 times/month	951	<b>0.92 (0.86–0.99)</b>	0.09		
									1–2 times/week	1669	<b>0.91 (0.85–0.96)</b>			
									3–4 times/week	1547	<b>0.89 (0.84–0.96)</b>			
									Almost everyday	5223	<b>0.93 (0.89–0.98)</b>			
<b>Milk (females)</b>														
									Never	2137	Ref			
									1–2 times/month	594	1.00 (0.91–1.05)	0.15		–
									1–2 times/week	1215	0.98 (0.91–1.05)			
									3–4 times/week	1206	<b>0.91 (0.85–0.98)</b>			
									Almost everyday	4420	0.96 (0.91–1.01)			

Wang C, et al. Milk drinking and mortality: findings from the Japan collaborative cohort study

2015

1988–2009

94 980

JACC study

All-cause mortality

21 775

Japanese