Supplementary Material

Associations Between Caffeine Consumption, Cognitive Decline, and Dementia: A Systematic Review

Supplementary Table 1. The PRISMA checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	NA
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Table 1
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	4
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	4
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	4

Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	5
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	6
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	6
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	5
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	NA
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	7
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	Table 1
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	Supplementary Table 3
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	Table 1
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	NA
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	8
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	NA
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	14
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	16
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	17
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	NA

Supplementary Table 2. Studies excluded on full-text level (n=44)

References	Reason for exclusion
1. An, R., Liu, G., Khan, N., Yan, H., & Wang, Y. (2019). Dietary Habits and Cognitive Impairment Risk Among Oldest-Old Chinese. *Journals of Gerontology Series B-Psychological Sciences and Social Sciences*, *74*(3), 474–483. https://doi.org/10.1093/geronb/gbw170	Sharing population with another study
2. Bawa, S. (2009). The significance of polyphenols in the prevention of neurodegenerative diseases. *Agro Food Industry Hi-Tech*, *20*(1), 42–46.	Study design
3. Borgwardt, S., Hammann, F., Scheffler, K., Kreuter, M., Drewe, J., & Beglinger, C. (2012). Neural effects of green tea extract on dorsolateral prefrontal cortex. *European Journal of Clinical Nutrition*, *66*(11), 1187–1192. https://doi.org/10.1038/ejcn.2012.105	No suitable cognitive outcome measure
4. Caparros-Lefebvre, D., Elbaz, A., & Grp, C. P. S. (1999). Possible relation of atypical parkinsonism in the French West Indies with consumption of tropical plants: a case-control study. *Lancet*, *354*(9175), 281–286. https://doi.org/10.1016/S0140-6736(98)10166-6	Non-caffeine effect
5. Carmichael, O. T., Pillai, S., Shankapal, P., McLellan, A., Kay, D. G., Gold, B. T., & Keller, J. N. (2018). A Combination of Essential Fatty Acids, Panax Ginseng Extract, and Green Tea Catechins Modifies Brain fMRI Signals in Healthy Older Adults. *The Journal of Nutrition, Health & Aging*, *22*(7), 837–846. https://doi.org/10.1007/s12603-018-1028-2	Combined intervention
6. Chin, A.-V., Robinson, D. J., O'Connell, H., Hamilton, F., Bruce, I., Coen, R., Walsh, B., Coakley, D., Molloy, A., Scott, J., Lawlor, B. A., & Cunningham, C. J. (2008). Vascular biomarkers of cognitive performance in a community-based elderly population: the Dublin Healthy Ageing study. *Age and Ageing*, *37*(5), 559–564. https://doi.org/10.1093/ageing/afn144	Non-caffeine effect
7. Commenges, D., Scotet, V., Renaud, S., Jacqmin-Gadda, H., Barberger-Gateau, P., & Dartigues, J. F. (2000). Intake of flavonoids and risk of dementia. *European Journal of Epidemiology*, *16*(4), 357–363. https://doi.org/10.1023/A:1007614613771	Combined intervention
8. Eskelinen, M. H., & Kivipelto, M. (2010). Caffeine as a protective factor in dementia and Alzheimer's disease. *Journal of Alzheimer's Disease*, *20 Suppl 1*, S167-74. https://doi.org/10.3233/JAD-2010-1404	Study design
9. Feng, L., Chong, M.-S., Lim, W.-S., Gao, Q., Nyunt, M. S. Z., Lee, T.-S., Collinson, S. L., Tsoi, T., Kua, E.-H., & Ng, T.-P. (2016). Tea consumption reduces the incidence of neurocognitive disorders: findings from the Singapore Longitudinal Aging Study. *Journal of Nutrition Health & Aging*, *20*(10), 1002–1009. https://doi.org/10.1007/s12603-016-0687-0	Sharing population with another study

10. Feng, L., Gwee, X., Kua, E.-H., & Ng, T.-P. (2010). Cognitive function and tea consumption in community dwelling older Chinese in Singapore. *Journal of Nutrition Health & Aging*, *14*(6), 433–438.	Sharing population with another study
11. Haller, S., Montandon, M.-L., Rodriguez, C., Moser, D., Toma, S., Hofmeister, J., & Giannakopoulos, P. (2017). Caffeine impact on working memory-related network activation patterns in early stages of cognitive decline. *Neuroradiology*, *59*(4), 387–395. https://doi.org/10.1007/s00234-017-1803-5	No suitable cognitive outcome measure
12. Haller, S., Montandon, M.-L., Rodriguez, C., Moser, D., Toma, S., Hofmeister, J., Sinanaj, I., Lovblad, K.-O., & Giannakopoulos, P. (2014). Acute caffeine administration effect on brain activation patterns in mild cognitive impairment. *Journal of Alzheimer's Disease*, *41*(1), 101–112. https://doi.org/10.3233/JAD-132360	No suitable cognitive outcome measure
13. Hosking, D. E., Nettelbeck, T., Wilson, C., & Danthiir, V. (2014). Retrospective lifetime dietary patterns predict cognitive performance in community-dwelling older Australians. *The British Journal of Nutrition*, *112*(2), 228–237. https://doi.org/10.1017/S0007114514000646	Combined intervention
14. Kim, J. W., Byun, M. S., Yi, D., Lee, J. H., Jeon, S. Y., Jung, G., Lee, H. N., Sohn, B. K., Lee, J.-Y., Kim, Y. K., Shin, S. A., Sohn, C.-H., & Lee, D. Y. (2019). Coffee intake and decreased amyloid pathology in human brain. *Translational Psychiatry*, *9*(1), 270. https://doi.org/10.1038/s41398-019-0604-5	No suitable cognitive outcome measure
15. Kim, J., Yu, A., Choi, B. Y., Nam, J. H., Kim, M. K., Oh, D. H., & Yang, Y. J. (2015). Dietary Patterns Derived by Cluster Analysis are Associated with Cognitive Function among Korean Older Adults. *Nutrients*, *7*(6), 4154–4169. https://doi.org/10.3390/nu7064154	Combined intervention
16. Koppelstaetter, F., Poeppel, T. D., Siedentopf, C. M., Ischebeck, A., Kolbitsch, C., Mottaghy, F. M., Felber, S. R., Jaschke, W. R., & Krause, B. J. (2010). Caffeine and cognition in functional magnetic resonance imaging. *Journal of Alzheimer's Disease*, *20 Suppl 1*, S71-84. https://doi.org/10.3233/JAD-2010-1417	Study design
17. Kwok, M. K., Leung, G. M., & Schooling, C. M. (2016). Habitual coffee consumption and risk of type 2 diabetes, ischemic heart disease, depression and Alzheimer's disease: a Mendelian randomization study. *Scientific Reports*, *6*, 36500. https://doi.org/10.1038/srep36500	Non-caffeine effect
18. Kyle, J., Fox, H. C., & Whalley, L. J. (2010). Caffeine, cognition, and socioeconomic status. *Journal of Alzheimer's Disease*, *20 Suppl 1*, S151-9. https://doi.org/10.3233/JAD-2010-1409	Sharing population with another study
19. Lang, R., Dieminger, N., Beusch, A., Lee, Y.-M., Dunkel, A., Suess, B., Skurk, T., Wahl, A., Hauner, H., & Hofmann, T. (2013). Bioappearance and pharmacokinetics of bioactives upon coffee consumption. *Analytical and Bioanalytical Chemistry*, *405*(26), 8487–8503. https://doi.org/10.1007/s00216-013-7288-0	No suitable cognitive outcome measure
20. Laurin, D., Masaki, K. H., Foley, D. J., White, L. R., & Launer, L. J. (2004). Midlife dietary intake of antioxidants and risk of late-life incident dementia: the Honolulu-Asia Aging Study. *American*	Combined intervention

Journal of Epidemiology, *159*(10), 959–967. https://doi.org/10.1093/aje/kwh124	
21. Lefevre-Arbogast, S., Gaudout, D., Bensalem, J., Letenneur, L., Dartigues, J.-F., Hejblum, B. P., Feart, C., Delcourt, C., & Samieri, C. (2018). Pattern of polyphenol intake and the long-term risk of dementia in older persons. *Neurology*, *90*(22), E1979–E1988. https://doi.org/10.1212/WNL.0000000000005607	Combined intervention
22. Low, D. Y., Lefèvre-Arbogast, S., González-Domínguez, R., Urpi-Sarda, M., Micheau, P., Petera, M., Centeno, D., Durand, S., Pujos-Guillot, E., Korosi, A., Lucassen, P. J., Aigner, L., Proust-Lima, C., Hejblum, B. P., Helmer, C., Andres-Lacueva, C., Thuret, S., Samieri, C., & Manach, C. (2019). Diet-Related Metabolites Associated with Cognitive Decline Revealed by Untargeted Metabolomics in a Prospective Cohort. *Molecular Nutrition & Food Research*, *63*(18), e1900177. https://doi.org/10.1002/mnfr.201900177	Non-caffeine effect
23. Moreira, A., Diógenes, M. J., de Mendonça, A., Lunet, N., & Barros, H. (2016). Chocolate Consumption is Associated with a Lower Risk of Cognitive Decline. *Journal of Alzheimer's Disease*, *53*(1), 85–93. https://doi.org/10.3233/JAD-160142	Non-caffeine effect
24. Moss, M., Jones, R., Moss, L., Cutter, R., & Wesnes, K. (2016). Acute consumption of Peppermint and Chamomile teas produce contrasting effects on cognition and mood in healthy young adults. *Plant Science Today*, *3*(3), 327–336. https://doi.org/10.14719/pst.2016.3.3.246	Non-caffeine effect
25. Nutaitis, A. C., Tharwani, S. D., Serra, M. C., Goldstein, F. C., Zhao, L., Sher, S. S., Verble, D. D., & Wharton, W. (2019). Diet as a Risk Factor for Cognitive Decline in African Americans and Caucasians with a Parental History of Alzheimer's Disease: A Cross-Sectional Pilot Study Dietary Patterns. *The Journal of Prevention of Alzheimer's Disease*, *6*(1), 50–55. https://doi.org/10.14283/jpad.2018.44	Non-caffeine effect
26. Okubo, H., Inagaki, H., Gondo, Y., Kamide, K., Ikebe, K., Masui, Y., Arai, Y., Ishizaki, T., Sasaki, S., Nakagawa, T., Kabayama, M., Sugimoto, K., Rakugi, H., & Maeda, Y. (2017). Association between dietary patterns and cognitive function among 70-year-old Japanese elderly: a cross-sectional analysis of the SONIC study. *Nutrition Journal*, *16*(1), 56. https://doi.org/10.1186/s12937-017-0273-2	Combined intervention
27. Park, J., Han, J. W., Lee, J. R., Byun, S., Suh, S. W., Kim, J. H., & Kim, K. W. (2020). Association between lifetime coffee consumption and late life cerebral white matter hyperintensities in cognitively normal elderly individuals. *Scientific Reports*, *10*(1), 421. https://doi.org/10.1038/s41598-019-57381-z	No suitable cognitive outcome measure
28. Park, S.-K., Jung, I.-C., Lee, W. K., Lee, Y. S., Park, H. K., Go, H. J., Kim, K., Lim, N. K., Hong, J. T., Ly, S. Y., & Rho, S. S. (2011). A Combination of Green Tea Extract and L-Theanine Improves Memory and Attention in Subjects with Mild Cognitive Impairment: A Double-Blind Placebo-Controlled Study. *Journal of*	Non-caffeine effect

Medicinal Food, *14*(4), 334–343. https://doi.org/10.1089/jmf.2009.1374	
29. Pin, N. T. (2016). Cognitive Health of Older Persons in Longitudinal Ageing Cohort Studies. *Sains Malaysiana*, *45*(9), 1351–1355.	Study design
30. Ritchie, K., Ancelin, M. L., Amieva, H., Rouaud, O., & Carriere, I. (2014). The association between caffeine and cognitive decline: examining alternative causal hypotheses. *International Psychogeriatrics*, *26*(4), 581–590. https://doi.org/10.1017/S1041610213002469	No suitable cognitive outcome measure
31. Ritchie, K., Artero, S., Portet, F., Brickman, A., Muraskin, J., Beanino, E., Ancelin, M.-L., & Carrière, I. (2010). Caffeine, cognitive functioning, and white matter lesions in the elderly: establishing causality from epidemiological evidence. *Journal of Alzheimer's Disease, 20 Suppl 1*, S161-6. https://doi.org/10.3233/JAD-2010-1387	Sharing population with another study
32. Robinson, J. L., Hunter, J. M., Reyes-Izquierdo, T., Argumedo, R., Brizuela-Bastien, J., Keller, R., & Pietrzkowski, Z. J. (n.d.). Cognitive short- and long-term effects of coffee cherry extract in older adults with mild cognitive decline. *Aging Neuropsychology and Cognition*. https://doi.org/10.1080/13825585.2019.1702622	Non-caffeine effect
33. Rodriguez-Bailon, M., Garcia-Moran, T., Montoro-Membila, N., Rodenas-Garcia, E., Arnedo Montoro, M., & Funes Molina, M. J. (2017). Positive and Negative Consequences of Making Coffee among Breakfast Related Irrelevant Objects: Evidence from MCI, Dementia, and Healthy Ageing. *Journal of the International Neuropsychological Society*, *23*(6), 481–492. https://doi.org/10.1017/S135561771700025X	Non-caffeine effect
34. Rubio-Perez, J. M., Albaladejo, M. D., Zafrilla, P., Vidal-Guevara, M. L., & Morillas-Ruiz, J. M. (2016). Effects of an antioxidant beverage on biomarkers of oxidative stress in Alzheimer's patients. *European Journal of Nutrition*, *55*(6), 2105–2116. https://doi.org/10.1007/s00394-015-1024-9	No suitable cognitive outcome measure
35. Schmidt, A., Hammann, F., Wölnerhanssen, B., Meyer-Gerspach, A. C., Drewe, J., Beglinger, C., & Borgwardt, S. (2014). Green tea extract enhances parieto-frontal connectivity during working memory processing. *Psychopharmacology*, *231*(19), 3879–3888. https://doi.org/10.1007/s00213-014-3526-1	No suitable cognitive outcome measure
36. Shirai, Y., Kuriki, K., Otsuka, R., Kato, Y., Nishita, Y., Tange, C., Tomida, M., Imai, T., Ando, F., & Shimokata, H. (2019). Association between green tea intake and risk of cognitive decline, considering glycated hemoglobin level, in older Japanese adults: the NILS-LSA study. *Nagoya Journal of Medical Science*, *81*(4), 655–666. https://doi.org/10.18999/nagjms.81.4.655	Combined intervention
37. Su, N., Li, W., Li, X., Wang, T., Zhu, M., Liu, Y., Shi, Y., & Xiao, S. (2017). The Relationship between the Lifestyle of the Elderly in Shanghai Communities and Mild Cognitive Impairment. *Shanghai Archives of Psychiatry*, *29*(6), 352–357. https://doi.org/10.11919/j.issn.1002-0829.217059	Sharing population with another study

38. Tomata, Y., Kakizaki, M., Nakaya, N., Tsuboya, T., Sone, T., Kuriyama, S., Hozawa, A., & Tsuji, I. (2012). Green tea consumption and the risk of incident functional disability in elderly Japanese: the Ohsaki Cohort 2006 Study. *American Journal of Clinical Nutrition*, *95*(3), 732–739. https://doi.org/10.3945/ajcn.111.023200	No suitable cognitive outcome measure
39. Travassos, M., Santana, I., Baldeiras, I., Tsolaki, M., Gkatzima, O., Sermin, G., Yener, G. G., Simonsen, A., Hasselbalch, S. G., Kapaki, E., Mara, B., Cunha, R. A., Agostinho, P., Blennow, K., Zetterberg, H., Mendes, V. M., Manadas, B., & de Mendon, A. (2015). Does Caffeine Consumption Modify Cerebrospinal Fluid Amyloid-β Levels in Patients with Alzheimer's Disease? *Journal of Alzheimer's Disease: JAD*, *47*(4), 1069–1078. https://doi.org/10.3233/JAD-150374	No suitable cognitive outcome measure
40. Walters, E. R., & Lesk, V. E. (2015). Time of day and caffeine influence some neuropsychological tests in the elderly. *Psychological Assessment*, *27*(1), 161–168. https://doi.org/10.1037/a0038213	Sharing population with another study
41. Wang, H., Sun, W., Chang, Y., Wu, Z., Xu, Y., Wang, E., Wang, L., & Yi, P. (2019). Effect of green tea consumption on human brain function in resting-state functional MRI. *Asia Pacific Journal of Clinical Nutrition*, *28*(4), 740–746. https://doi.org/10.6133/apjcn.201912_28(4).0010	No suitable cognitive outcome measure
42. Wesnes, K. A., Barrett, M. L., & Udani, J. K. (2013). An evaluation of the cognitive and mood effects of an energy shot over a 6 h period in volunteers. A randomized, double-blind, placebo controlled, cross-over study. *Appetite*, *67*, 105–113. https://doi.org/10.1016/j.appet.2013.04.005	Combined intervention
43. West, R. K., Ravona-Springer, R., Livny, A., Heymann, A., Shahar, D., Leroith, D., Preiss, R., Zukran, R., Silverman, J. M., & Schnaider-Beeri, M. (2019). Age Modulates the Association of Caffeine Intake With Cognition and With Gray Matter in Elderly Diabetics. *The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*, *74*(5), 683–688. https://doi.org/10.1093/gerona/gly090	Combined intervention
44. Zhao, J., Zhang, X., & Li, Z. (2019). The Relationship between Cognitive Impairment and Social Vulnerability among the Elderly: Evidence from an Unconditional Quantile Regression Analysis in China. *International Journal of Environmental Research and Public Health*, *16*(19). https://doi.org/10.3390/ijerph16193684	Non-caffeine effect

Supplementary Table 3. Risk of bias assessment for specific domains of ROBINS-I tool

	Bias							
Study	**Confounding**	**Selection**	**Classification**	**Deviations**	**Missing**	**Measurements**	**Reporting**	**Overall**
Assessment	Corrected Measured correctly Switching groups	Patient characteristics Start of intervention = start of study Correction for selection bias	Intervention defined Defined at start Affected by knowledge of outcome	Deviations intended intervention Unbalanced groups Co-interventions balanced Completed Adherence	Outcome available Participants excluded Balanced between groups Results robust to missing data	Influenced by intervention received Assessors aware of intervention Comparable across intervention groups Systematic errors	Selective reporting of outcomes Multiple analyses Subgroups	
Al-khateeb et al. 2014	PY	PN	PN	NI	PN	PY	PN	Moderate
Arab et al. 2011	N	N	PN	PY	PN	PN	PN	Low
Arab et al. 2016	Y	PY	PN	PY	PN	PY	PN	Serious
Araújo et al. 2015	N	PY	PN	PY	N	PN	PN	Low
Araújo et al. 2016	N	PN	N	PY	N	PY	N	Low
Beydoun et al. 2014	N	N	PN	PN	PN	PN	PN	Low
Boot et al., 2013	PN	N	PN	PY	PN	PN	PN	Low
Broe et al. 1990	PY	PY	N	PY	PN	PN	N	Moderate
Cao et al. 2012	Y	PN	PN	PN	PN	PN	PN	Moderate
Chen et al. 2012	N	PN	PN	PY	PN	PN	PN	Low
Chin et al. 2008	N	PN	PN	Y	PY	PN	PN	Moderate
Cho et al. 2018	PN	PY	PY	NA	PN	PN	PN	Moderate
Chuang et al. 2019	N	N	PN	PY	PN	PN	PY	Low
Corley et al. 2010	N	N	PN	PN	PY	PN	PN	Low
Dai et al. 2006	PN	PY	PN	PY	PN	PN	PN	Moderate
Dong et al. 2020	N	N	PN	PY	PN	PN	PN	Low
Driscoll et al. 2016	N	PY	PN	PY	PN	PY	PN	Moderate
Eskelinen et al. 2009	N	N	PN	PY	N	PY	N	Low
Feng et al. 2012	N	PY	PN	PY	PN	PY	PN	Moderate
Feng et al. 2018	PN	PN	PN	PN	N	PN	N	Low
Fischer et al. 2018	PN	PN	PY	PY	N	PN	PN	Moderate
Gelber et al. 2011	N	PN	PN	PY	PN	PN	N	Low
Gu et al. 2018	N	PN	PN	PY	PN	PN	PN	Low

Haller et al. 2018	N	PY	N	PY	PY	PN	PN	Moderate
Huang et al. 2009	N	PY	PN	PY	PN	PY	PY	Moderate
Ide et al. 2014	Y	PN	PN	PN	PY	PY	N	Moderate
Ide et al. 2016	N	PN	N	PY	PY	N	N	Low
Iranpour et al. 2019	PN	N	PN	PY	PN	PN	PN	Low
Jarvis, 1993	PN	N	PN	PY	PY	PN	PN	Moderate
Johnson-Kozlow et al. 2002	N	PN	PN	PY	PY	PN	PY	Moderate
Kitamura et al. 2016	N	PN	PN	PY	PY	PN	PY	Moderate
Konishi et al. 2018	PY	N	N	PN	PN	PN	PN	Low
Kuriyama et al. 2006	N	PN	PN	PY	PN	PN	PN	Low
Laitala et al. 2009	PN	N	N	PY	PN	PN	PY	Low
Lammi et al. 1989	Y	PY	PN	PY	PN	PN	PY	Serious
Larsson & Wolk, 2018	N	PN	N	PY	N	PN	N	Low
Lee et al. 2017	N	N	N	PY	PN	PN	PN	Low
Lesk et al. 2009	N	PN	PN	N	PN	PN	PN	Low
Lindsay et al. 2002	PN	PN	PN	PN	PN	PN	N	Low
Maia & de Mendonça, 2002	Y	PN	PN	PY	PN	N	N	Moderate
Mirza et al. 2014	N	PN	PN	PY	PN	N	PN	Low
Ng et al. 2008	N	PN	PN	PY	PN	PN	PN	Low
Noguchi-Shinohara et al. 2014	N	PN	PN	PY	PN	PN	PN	Low
Nurk et al. 2009	N	PN	PN	PY	PN	PN	PN	Low
Paganini-Hill et al. 2016	PN	PY	N	PY	N	PN	PN	Low
Richie et al., 2007	N	PN	PN	PN	PN	PN	PN	Low
Santos et al. 2010	N	PN	PN	PY	PN	PN	PY	Moderate
Shen et al. 2015	N	N	PN	PY	N	PN	N	Low
Shirai et al. 2020	N	N	PN	PY	PN	PY	PN	Low
Smith, 2009	PN	PN	PN	Y	PY	PN	PN	Moderate
Solfrizzi et al. 2015	N	N	PN	PY	PN	PN	PN	Low
Sugiyama et al. 2016	N	N	PN	PY	PN	PN	PN	Low
Tomata et al. 2016	N	N	PN	PY	PN	N	PN	Low
Tyas et al. 2001	N	PN	PN	PN	PN	PN	PN	Low
Valls-Pedret et al. 2012	PN	PN	PY	PY	PN	PN	PN	Moderate
van Boxtel et al. 2003	N	PN	PN	PY	PN	PN	N	Low
van Gelder et al. 2007	N	N	PN	PY	PN	PN	PN	Low
Vercambre et al. 2013	N	PY	PN	PY	PN	PN	PN	Moderate
Walters & Lesk, 2016	PN	N	PN	PY	PY	N	PN	Low
Wang et al. 2017	PY	PN	PN	Y	PN	PN	PY	Moderate

Wu et al. 2011	PN	N	PN	PN	PN	PN	N	Low
Xu et al. 2018	PN	PN	PY	PY	PN	PN	PY	Moderate
Yang et al. 2016	PN	PN	PN	PY	PN	PN	N	Low

Possible answers: NA (not applicable) NI (not assessable due to lack of info) N (no bias) PN (possibly no bias [uncertain]) PY (possibly bias [uncertain]) Y (bias)

5-point Likert scale: N -2 PN -1 NI/NA 0 PY 1 Y 2; lower (negative scores are better) and the higher the score, the more bias