**Supplementary Materials**

**Supplementary Table 1.** Articles meeting criteria but not providing data for meta-analysis

|  | Study  (no. of subjects) | Study name (source) | Observation period, years (SD) | Cholesterol measures | Outcome | Outcome Measure(s) | Mean age, years (SD) | Female (%) | Education (years) |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Kalmijn et al., 1996 [1]  (n = 718) | Zutphen Elderly Study (Zutphen, the Netherlands) | Up to 8 years | TC, HDL-C | Cognitive decline | MMSE | APOE ε4 absent: 74.7 (4.2)  APOE ε4 present: 74.5 (4.3) | 0 | *APOE ε4*, absent (higher education): 25%  *APOE ε4*, present (higher education): 50% |
| 2 | Kivipelto et al., 2001## [2]  (n = 1,352) | N/A (Random sample studied within the framework of the North Karelia Project and the FINMONICA study during 1972, 1977, 1982, and 1987) | 21 | TC | MCI | MMSE, detailed neuropsychological evaluation, CDR Scale | MCI (midlife) = 51.7 (5.8)  MCI (late-life) = 72.8 (4.1)  No MCI (midlife) = 50.1 (6.0)  No MCI (late-life) = 71.0 (3.9) | 38.3%  No MCI females = 61.7% | MCI = 6.8 (2.04)  No MCI = 8.8 (3.5) |
| 3 | Tan, et al., 2003\* [3]  (n = 1,026) | Framingham Study (Framingham, Massachusetts) | Up to 40 years | TC, HDL-C | Incident AD | MMSE, CDR scale, DSM-IV, NINCDS-ADRDA | At exam 20 Men = 75.7 (5.2)  Women = 76.4 (5.4)  Total = 76.1 (5.3) | 63.0 | Data not available |
| 4 | Piguet et al., 2003 [4]  (n = 377) | Sydney Older Persons Study (Sydney, Australia) | 6 | TC | Cognitive decline | MMSE, ICD-9, DSM-IIIR | 80.4 (3.7) | 46.7 | 10.1 (1.9) |
| 5 | Karlamangla et al., 2004 [5]  (n = 267) | MacArthur Studies of Successful Aging (USA) | 4.5 | TC, HDL-C | Cognitive function | SPMSQ | 74 (median) | 58.4 | Data not available |
| 6 | Reitz et al., 2005 [6]  (n = 1,147) | (Random sample of Medicare recipients aged 65+ years, residing in Manhattan, USA) | 7 | Fasting TC and TG levels, HDL-C and LDL-C | Memory decline | Benton visual retention test, Selective reminding test | 76.3 (5.8) | 68.4 | 8.6 (4.6) |
| 7 | Komulainen et al., 2007 [7]  (n = 101) | N/A (women examined as part of a large population-based risk factor survey, North Karelia and other areas in Finland) | 12 | TC, HDL-C, LDL-C | Cognitive function | MMSE | Age at follow up. No metabolic syndrome = 74.9 (3.0)  Metabolic syndrome = 75.5 (3.0) | 100 | No metabolic syndrome = 9.0 (3.6)  Metabolic syndrome = 8.2 (3.7) |
| 8 | Stewart et al., 2007 [8]  (n = 1,027) | The Honolulu-Asia Aging Study (Japanese American men born on the island of Oahu, Hawaii) | 26 | TC | Incident dementia | DSM-IIIR, NINCDS-ADRDA | Total = 80.2 (4.2)  No dementia = 80.0 (4.0)  Incident dementia = 83.7 (4.9) | 0 | Total = 10.8 (3.1)  No dementia = 10.9 (3.0)  Incident dementia = 9.2 (3.5) |
| 9 | Artero et al., 2008 [9]  (n = 6892) | Three City Study (Bordeaux, Dijon and Montpellier, France) | 4 | TC | MCI, dementia | Benton Visual retention Test, the Trail Making Test, the Isaacs’ Set Test and a word recall, DSM-IV | MCI = 74.6 (5.7)  Normal = 73.1 (4.9) | MCI = 64.6  Normal = 56.6 | Low Edu (MCI) = 24.7%  Low Edu Normal = 22.5%  Medium Edu (MCI) = 62.2%  Medium Edu (Normal) = 54.2%  High Edu (MCI) = 13.1%  High Edu (Normal) = 24.3% |
| 10 | Mielke et al., 2008 [10]  (n = 436) | The Women’s Health and Ageing Study II (Baltimore, Maryland) | Up to 9 years | TC, HDL-C | Cognitive decline | MMSE, Trail Making Test, Hopkins Verbal Test Revised, Ourdue Pegboard | 74.5 (2.8) | 100 | 12.5 (3.3) |
| 11 | van Vliet et al., 2010 [11]  (n = 599) | Leiden 85-plus Study (the Netherlands) | 5 | TC, HDL-C | Cognitive decline | MMSE | 85 | Survivors = 72%  Non-survivors = 59% | Survivors (>6 years education) = 37.0%  Non-survivors (>6 years education) = 33.0% |
| 12 | Infurna, 2013[12]  (n = 4,177) | Health and Retirement Study (USA) | 4 | HDL-C | Memory change | Immediate and delayed free-recall tests | 67 (10.4) | 59% | 13 (3.0) |
| 13 | de Bruijn et al., 2014 [13]  (n = 984) | Rotterdam Study (Rotterdam, the Netherlands) | 8.7 (3.4) | TC, HDL-C | Dementia/AD | MMSE, GMS, CAMDEX, DSM-IIIR, NINCDS-ADRDA | Incident dementia = 72.0 (7.1) | 55.8 | Data not available |
| 14 | Yaffe et al., 2014 [14]  (n = 3,381) | Coronary Artery Risk Development in Young Adults (CARDIA) Study | 25 | TC | Cognitive Function | Digit Symbol Substitution Test, Stroop test, Rey Auditory Verbal Learning Test | 50.2 (3.6) | 56.4 | 15.5 (2.5) |
| 15 | Hogenkamp et al., 2014 [15]  (n = 652) | Uppsala Longitudinal Study of Adult Men (Uppsala County, Sweden) | 7 | HDL-C, LDL-C | Cognitive function | MMSE, Trail making tests A and B | 70 | 0 | Primary = 50.0%  Secondary = 32.0%  University = 18.0% |
| 16 | Thacker et al., 2014 [16]  (n = 17,761) | The Reasons for Geographic and Racial Differences in Stroke Study (South-east USA) | 4 | TC | Incident cognitive impairment | Six item screener and verbal learning, memory and fluency tests | Cognitive Impairment = 58.8  Not impaired = 57.3 | 55 | Cognitive impairment (high school graduate) = 24.3%  Not impaired (high school graduate) = 25.2% |
| 17 | Wendell et al., 2014 [17]  (n = 1601) | Baltimore Longitudinal Study of Aging (Baltimore, USA) | 6.4 (5.3) | TC | Neuropsychological function | Multiple tests including MMSE, Trail Making Test, Fluency tests and Boston Naming Test, CVLT | 54.4 (16.4) | 49 | 16.7 (2.5) |

\*Age at baseline unclear in manuscript

AD, Alzheimer’s disease; APOE, apolipoprotein; CAMDEX, Cambridge Mental Disorders of the Elderly Examination; CDR, Clinical Dementia Rating; CVLT, California Verbal Learning Test; DSM, Diagnostic and Statistical Manual of Mental Disorders; GMS, Geriatric Mental State; HDL-C, high density lipoprotein; ICD-9, 9th revision of the International Statistical Classification of Diseases and Related Health Problems; LDL-C, low density lipoprotein; MCI, mild cognitive impairment; MMSE, Mini-Mental State Examination; NINCDS-ADRDA, National Institute of Neurological and Communicative Disorders and Stroke and the Alzheimer's Disease and Related Disorders Association; SPMSQ, Short Portable Mental Status Questionnaire; TC, total cholesterol; TG, triglycerides

**Supplementary Table 2.** Descriptive statistics for baseline serum cholesterol measure for each study included in meta-analyses.

|  | Study  (no. of subjects) | Study name (source) | Mean serum cholesterol at baseline (SD) | Mean Serum Cholesterol Range at Baseline | Year of Baseline Serum Cholesterol Measurement |
| --- | --- | --- | --- | --- | --- |
| 1 | Yoshitake et al., 1995 [18]  (n = 828) | N/A (non-demented residents of Hisayama Town, Kyushu, Japan | Men  TC (mg/dl): 177 (34)  TG (mg/dl): 110 (79)  HDL (mg/dl): 50 (15)  LDL (mg/dl): 412 (121)  VLDL (mg/dl): 113 (126)  Women  TC (mg/dl): 198 (34)  TG (mg/dl): 110 (53)  HDL (mg/dl): 52 (14)  LDL (mg/dl): 490 (131)  VLDL (mg/dl): 113 (90) | N/A | 1985 |
| 2 | Hyman et al., 1996 [19]  (n = 1,899) | Iowa 65+ Rural Health Study (Iowa, USA) | Not provided | N/A | 1982 |
| 3 | Notkola et al., 1998 [20]  (n = 444) | Seven Countries Study (444 men in the Finnish Cohorts) | Men 6.6 mmol/l | N/A | 1959 |
| 5 | Slooter et al., 1999 [21]  (n = 244 (dementia cases, 1,002 controls) | Rotterdam Study (Rotterdam, the Netherlands) | TC (all dementia) mmol/L: 6.26 (1.16)  TC (controls) mmol/L: 6.69 (1.22)  HDL (all dementia) mmol/L: 1.34 (0.38)  HDL (controls) mmol/L: 1.34 (0.38) | N/A | Not provided |
| 6 | Kivipelto et al., 2001 [22]  (n = 1,449) | N/A (participants derived from random population-based samples in Kuopio and Joensuu, Eastern Finland) | Subjects with MCI  TC midlife: 7.2 (1.2) mmol/L  TC late-life: 5.9 (1.2)  Subjects without MCI  TC midlife: 6.7 (1.2)  TC late-life: 5.8 (1.0) | N/A | 1972 |
| 7 | Reitz et al., 2004 [23]  (n = 1,168) | N/A (Random sample of Medicare recipients aged 65+ years, residing in Manhattan, USA) | TC: 198.8 mg/dL (5.1 mmol/L)  Non-HDL-C: 151.4 mg/dL (3.9 mmol/L)  HDL-C: 47.4 mg/dL (1.2 mmol/L)  TG: 155.9 mg/dL (1.8 mmol/L)  LDL-C: 120.1 mg/dL (3.1 mmol/L) | N/A | 1992 |
| 8 | Solfrizzi et al., 2004 [24]  (n = 2,963; n = 1,555 without impairment and n = 121 with MCI) | Italian Longitudinal Study on Aging (Eight municipalities in Italy) | Normal Subjects  TC: 221.1 (40.9) mg/dL or 5.7 (1.1) mmol/L  HDL-L: 49.0 (11.2) mg/dL or 1.3 (0.3) mmol/L | N/A | 1992-1993, 1995-1996 |
| 9 | Li et al., 2005 [25]  (n = 2,112) | The Adult Changes in Thought Study (Seattle, USA) | Subjects with dementia  TC: 231.1 (39.0) mg/dL  Subjects without dementia  TC: 230.7 (37.7) mg/dL | N/A | 1994-1996 |
| 10 | Mielke et al., 2005 [26]  (n = 382) | N/A (Sample of 70-year old residents of Gothenburg, Sweden) |  | Quartile 1  TC age 70: 3.51-6.07 mmol/L or 136–234 mg/dL  TC age 75: 3.21–5.30 mmol/L or 124–204 mg/dL  TC age 79: 3.05–5.17 mmol/L or 118–199 (mg/dL)  TG age 70: 0.44–0.79 mmol/L or 39–70 (mg/dL)  TG age 75: 0.41–1.01 mmol/L or 36–89 (mg/dL)  TG age 79: 0.10–0.99 mmol/L or 9–88 mg/dL  Quartile 2  TC age 70: 6.08–7.18 mmol/L or 235–277 mg/dL  TC age 75: 5.31–6.12 mmol/L or 205–236 mg/dL  TC age 79: 5.18–6.10 mmol/L or 200–235 mg/dL  TG age 70:0.80–1.06 mmol/L or 71–93 mg/dL  TG age 75: 1.02–1.30 mmol/L or 90–115 mg/dL  TG age 79: 1.00–1.29 mmol/L or 89–114 mg/dL  Quartile 3  TC age 70: 7.19–8.02 mmol/L or 278–310 mg/dL  TC age 75: 6.13–7.02 mmol/L or 237–271 mg/dL  TC age 79: 6.11–6.81 mmol/L or 236–263 mg/dL  TG age 70: 1.07–1.43 mmol/L or 94–126 mg/dL  TG age 75: 1.31–1.78 mmol/L or 116–157 mg/dL  TG age 79: 1.30–1.69 mmol/L or 115–149 mg/dL  Quartile 4  TC age 70: 8.03–11.44 mmol/L or 311–442 mg/dL  TC age 75: 7.03–9.29 mmol/L or 272–359 mg/dL  TC age 79: 6.82–9.10 mmol/L or 264–352 mg/dL  TG age 70: 1.44–2.54 mmol/L or 127–225 mg/dL  TG age 75: 1.79–3.90 mmol/L or 158–345 mg/dL  TG age 79: 1.70–3.80 mmol/L or 150–336 mg/dL | 1901-1902 |
| 11 | Reitz et al., 2008 [27]  (n = 854) | N/A (Random sample of Medicare recipients aged 65+ years, residing in Manhattan, USA) | TC (mg/dl)  No MCI: 200.6 (41.2)  Incident total MCI: 195.5 (40.9)  HDL-C (mg/dl)  No MCI: 47.6 (15.8)  Incident total MCI: 46.9 (15.5)  TG (mg/dl)  No MCI: 163.5 (88.5)  Incident total MCI: 157.5 (87.5)  LDL-C (mg/dl)  No MCI: 120.2 (36.4)  Incident total MCI: 116.6 (34.3) | N/A | 1992 - 1994 |
| 12 | Raffaitan et al., 2009 [28]  (n = 7,738) | French Three City Study (Bordeaux, Dijon and Montpellier, France) | Not provided | N/A | 1999 - 2000 |
| 13 | Reitz et al., 2010 [29]  (n = 1,130) | N/A (Random sample of Medicare recipients aged 65+ years, residing in Manhattan, USA) | TC: 199.2 (38.2) mg/dL  HDL-C: 48.3 (14.6) mg/dL  Non-HDL-C: 150.9 (37.0) mg/dL | N/A | 1999 - 2001 |
| 14 | Mielke et al., 2010 [30]  (n = 1,462) | The Prospective Population Study of Women (Gothenburg, Sweden) | Mean cholesterol level by birth cohort  All-cause dementia  1968: 7.2 (1.0) mmol/L  1974: 7.2 (1.2) mmol/L  1980: 7.3 (1.2) mmol/L  1992: 6.4 (1.2) mmol/L  2000: 6.2 (1.3) mmol/L  No dementia  1968: 6.8 (1.1) mmol/L  1974: 6.9 (1.2) mmol/L  1980: 7.0 (1.2) mmol/L  1992: 6.3 (1.0) mmol/L  2000: 6.1 (1.0) mmol/L | N/A | 1968 - 1969 |
| 15 | Beydoun et al., 2011 [31]  (n = 1,604) | Baltimore Longitudinal Study of Aging (Baltimore, USA) | TC: 219.9 (40.6) mg/dl  HDL-C: 49.0 (13.0) mg/dl | N/A | 1958 |
| 16 | Ancelin et al., 2013 [32]  (n = 7,053) | French Three-City Study (Bordeaux, Dijon and Montpellier, France) | Men  TG: 1.28 mmol/l  TC: 5.52 mmol/l  LDL-C: 3.50 mmol/l  HDL-C: 1.44 mmol/l  Women  TG: 1.21 mmol/l  TC: 5.99 mmol/l  LDL-C: 3.70 mmol/l  HDL-C: 1.73 mmol/l | N/A | 1999 - 2001 |
| 17 | Taniguchi et al., 2014 [33]  (n = 682) | N/A (sample of participants aged 70+ years who lived in Kusatsu, Japan in 2002) | Cognitive decline  TC: 201 (34) mg/dL  HDL-C: 59.0 (14.0) mg/dL  TG: 139 (68) mg/dL  No cognitive decline  TC: 207 (34) mg/dL  HDL-C: 62.4 (15.8) mg/dL  TG: 135 (90) mg/dL | N/A | 2002 |
| 18 | Toro et al., 2014 [34]  (n = 381) | Interdisciplinary Longitudinal Study on Adults Development and Ageing (Germany) | TC in those with AD: 246.1 (40.7) mg/dl  TC in those with MCI: 247.0 (43.8) mg/dl  TC in cognitively healthy participants: 233.0 (38.0) mg/dl | N/A | 1993 - 1994 |

DDL

HDL-C, high density lipoprotein; LDL-C, low density lipoprotein; MCI, mild cognitive impairment; TC, total cholesterol; TG, triglycerides; VLDL, very low density lipoprotein

**REFERENCES**

[1] Kalmijn S, Feskens E, Launer L, Kromhout D (1996) Cerebrovascular disease, the apolipoprotein e4 allele, and cognitive decline in a community-based study of elderly men. *Stroke* **27**, 2230-2235.

[2] Kivipelto M, Helkala E-L, Laakso MP, Hänninen T, Hallikainen M, Alhainen K, Soininen H, Tuomilehto J, Nissinen A (2001) Midlife vascular risk factors and Alzheimer's disease in later life: longitudinal, population based study. *BMJ* **322**, 1447-1451.

[3] Tan ZS, Seshadri S, Beiser A, Wilson PW, Kiel DP, Tocco M, D'Agostino RB, Wolf PA (2003) Plasma total cholesterol level as a risk factor for Alzheimer disease: the Framingham Study. *Arch Intern Med* **163**, 1053-1057.

[4] Piguet O, Grayson DA, Creasey H, Bennett HP, Brooks WS, Waite LM, Broe GA (2003) Vascular risk factors, cognition and dementia incidence over 6 years in the Sydney Older Persons Study. *Neuroepidemiology* **22**, 165-171.

[5] Karlamangla AS, Singer BH, Reuben DB, Seeman TE (2004) Increases in serum non‐high‐density lipoprotein cholesterol may be beneficial in some high‐functioning older adults: MacArthur Studies of Successful Aging. *J Am Geriatr Soc* **52**, 487-494.

[6] Reitz C, Luchsinger J, Tang MX, Manly J, Mayeux R (2005) Impact of plasma lipids and time on memory performance in healthy elderly without dementia. *Neurology* **64**, 1378-1383.

[7] Komulainen P, Lakka TA, Kivipelto M, Hassinen M, Helkala E-L, Haapala I, Nissinen A, Rauramaa R (2007) Metabolic syndrome and cognitive function: a population-based follow-up study in elderly women. *Dement Geriatr Cogn Disord* **23**, 29-34.

[8] Stewart R, White LR, Xue Q-L, Launer LJ (2007) Twenty-six–year change in total cholesterol levels and incident dementia: the Honolulu-Asia Aging Study. *Arch Neurol* **64**, 103-107.

[9] Artero S, Ancelin M-L, Portet F, Dupuy A, Berr C, Dartigues J-F, Tzourio C, Rouaud O, Poncet M, Pasquier F (2008) Risk profiles for mild cognitive impairment and progression to dementia are gender specific. *J Neurol Neurosurg Psychiatry* **79**, 979-984.

[10] Mielke MM, Xue Q-L, Zhou J, Chaves PH, Fried LP, Carlson MC (2008) Baseline serum cholesterol is selectively associated with motor speed and not rates of cognitive decline: The Women's Health and Aging Study II. *J Gerontol A Biol Sci Med Sci* **63**, 619-624.

[11] Van Vliet P, Westendorp RG, Van Heemst D, De Craen AJ, Oleksik AM (2010) Cognitive decline precedes late-life longitudinal changes in vascular risk factors. *J Neurol Neurosurg Psychiatry* **81**, 1028-1032.

[12] Infurna FJ, Gerstorf D (2013) Linking perceived control, physical activity, and biological health to memory change. *Psychol Aging* **28**, 1147.

[13] de Bruijn RF, Janssen JA, Brugts MP, van Duijn CM, Hofman A, Koudstaal PJ, Ikram MA (2014) Insulin-like growth factor-I receptor stimulating activity is associated with dementia. *J Alzheimers Dis* **42**, 137-142.

[14] Yaffe K, Vittinghoff E, Pletcher MJ, Hoang T, Launer L, Whitmer R, Coker LH, Sidney S (2014) Early adult to mid-life cardiovascular risk factors and cognitive function. *Circulation* **129**, 1560-1567.

[15] Hogenkamp PS, Benedict C, Sjögren P, Kilander L, Lind L, Schiöth HB (2014) Late-life alcohol consumption and cognitive function in elderly men. *Age* **36**, 243-249.

[16] Thacker EL, Gillett SR, Wadley VG, Unverzagt FW, Judd SE, McClure LA, Howard VJ, Cushman M (2014) The American Heart Association Life's Simple 7 and Incident Cognitive Impairment: The REasons for Geographic And Racial Differences in Stroke (REGARDS) Study. *J Am Heart Assoc* **3**, e000635.

[17] Wendell CR, Waldstein SR, Zonderman AB (2014) Nonlinear longitudinal trajectories of cholesterol and neuropsychological function. *Neuropsychology* **28**, 106.

[18] Yoshitake T, Kiyohara Y, Kato I, Ohmura T, Iwamoto H, Nakayama K, Ohmori S, Nomiyama K, Kawano H, Ueda K, et al. (1995) Incidence and risk factors of vascular dementia and Alzheimer's disease in a defined elderly Japanese population: the Hisayama Study. *Neurology* **45**, 1161-1168.

[19] Hyman BT, Gomez-Isla T, Briggs M, Chung H, Nichols S, Kohout F, Wallace R (1996) Apolipoprotein E and cognitive change in an elderly population. *Ann Neurol* **40**, 55-66.

[20] Notkola IL, Sulkava R, Pekkanen J, Erkinjuntti T, Ehnholm C, Kivinen P, Tuomilehto J, Nissinen A (1998) Serum total cholesterol, apolipoprotein E epsilon 4 allele, and Alzheimer's disease. *Neuroepidemiology* **17**, 14-20.

[21] Slooter AJC, Ruitenberg A, van Duijn CM, Breteler MMB (2000) The effect of apoE on dementia is not through atherosclerosis: The Rotterdan Study: Reply. *Neurology* **54**, 2357-2358.

[22] Kivipelto M, Helkala EL, Laakso MP, Hanninen T, Hallikainen M, Alhainen K, Soininen H, Tuomilehto J, Nissinen A (2001) Midlife vascular risk factors and Alzheimer's disease in later life: longitudinal, population based study. *BMJ* **322**, 1447-1451.

[23] Reitz C, Tang MX, Luchsinger J, Mayeux R (2004) Relation of plasma lipids to Alzheimer disease and vascular dementia. *Arch Neurol* **61**, 705-714.

[24] Solfrizzi V, Panza F, Colacicco AM, D'Introno A, Capurso C, Torres F, Grigoletto F, Maggi S, Del Parigi A, Reiman EM, Caselli RJ, Scafato E, Farchi G, Capurso A (2004) Vascular risk factors, incidence of MCI, and rates of progression to dementia. *Neurology* **63**, 1882-1891.

[25] Li G, Shofer JB, Kukull WA, Peskind ER, Tsuang DW, Breitner JC, McCormick W, Bowen JD, Teri L, Schellenberg GD, Larson EB (2005) Serum cholesterol and risk of Alzheimer disease: a community-based cohort study. *Neurology* **65**, 1045-1050.

[26] Mielke MM, Zandi PP, Sjogren M, Gustafson D, Ostling S, Steen B, Skoog I (2005) High total cholesterol levels in late life associated with a reduced risk of dementia. *Neurology* **64**, 1689-1695.

[27] Reitz C, Tang MX, Manly J, Schupf N, Mayeux R, Luchsinger JA (2008) Plasma lipid levels in the elderly are not associated with the risk of mild cognitive impairment. *Dement Geriatr Cogn Disord* **25**, 232-237.

[28] Raffaitin C, Gin H, Empana JP, Helmer C, Berr C, Tzourio C, Portet F, Dartigues JF, Alperovitch A, Barberger-Gateau P (2009) Metabolic syndrome and risk for incident Alzheimer's disease or vascular dementia: the Three-City Study. *Diabetes Care* **32**, 169-174.

[29] Reitz C, Tang MX, Schupf N, Manly JJ, Mayeux R, Luchsinger JA (2010) Association of higher levels of high-density lipoprotein cholesterol in elderly individuals and lower risk of late-onset Alzheimer disease. *Arch Neurol* **67**, 1491-1497.

[30] Mielke M, Zandi P, Shao H, Waern M, Ostling S, Guo X, Bjorkelund C, Lissner L, Skoog I, Gustafson D (2010) The 32-year relationship between cholesterol and dementia from midlife to late life (e-Pub ahead of print). *Neurology* **75***, 1888-1895*.

[31] Beydoun MA, Beason-Held LL, Kitner-Triolo MH, Beydoun HA, Ferrucci L, Resnick SM, Zonderman AB (2011) Statins and serum cholesterol's associations with incident dementia and mild cognitive impairment. *J Epidemiol Community Health* **65**, 949-957.

[32] Ancelin ML, Ripoche E, Dupuy AM, Barberger-Gateau P, Auriacombe S, Rouaud O, Berr C, Carriere I, Ritchie K (2013) Sex differences in the associations between lipid levels and incident dementia. *J Alzheimers Dis* **34**, 519-528.

[33] Taniguchi Y, Shinkai S, Nishi M, Murayama H, Nofuji Y, Yoshida H, Fujiwara Y (2014) Nutritional biomarkers and subsequent cognitive decline among community-dwelling older Japanese: a prospective study. *J Gerontol A Biol Sci Med Sci* **69**, 1276-1283.

[34] Toro P, Degen C, Pierer M, Gustafson D, Schroder J, Schonknecht P (2014) Cholesterol in mild cognitive impairment and Alzheimer's disease in a birth cohort over 14 years. *Eur Arch Psychiatry Clin Neurosci* **264**, 485-492.

**Supplementary Figure 1.** Forest plot of studies with exposure to high TC in late-life and AD, Any Dementia, MCI, or Cognitive decline as an outcome.



**Supplementary Figure 2.** Funnel plot of studies included in meta-analysis of late-life high TC and risk of AD, VaD, MCI, or cognitive decline.

