**Supplementary Table 1. Characteristics of studies included in the systematic review.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author, year [Ref]** | **Ancestry** | **Case** | | | **Control** | | | **Matching variables** | **Adjusted variables** |
| **n** | **age** | **Female (%)** | **N** | **age** | **Female (%)** |  |  |
| Masri, 2019 [1] | unclear | 59 | 78.3 ± 8.0 | 56 | 50 | > 60y | 56 | all analyzed characteristics matched except age | age, gender, body mass index, blood pressure levels, lipid levels, marital status, educational level and *APOE* genotypes |
| Shankarappa, 2017 [4] | mixed | 243 | 67.9 ± 8.7 | 51 | 164 | 66.9 ± 8.7 | 39 | age | *APOE* genotypes |
| Santos-Reboucas, 2017 [5] | unclear | 174 | 77.2 ± 6.4 | 68.90 | 176 | 70.7 ± 6.04 | 73.44 | none | none |
| Moreno, 2017 [6] | mixed | 280 | 75.5 ± 7.2 | 76.10 | 357 | 71.0 ± 7.1 | 73.90 | gender | age, gender, *APOE* status, and admixture covariates |
| Wang, 2016 [7] | Han Chinese | 333 | na | na | 334 | na | na | none | *APOE* genotypes |
| Wang, 2016 [7] | Han Chinese | 416 | na | na | 426 | na | na |
| Rezazadeh, 2016 [8] | mixed | 160 | 76.1 ± 7.8 | 58.80 | 163 | 75.3 ± 6.8 | 58.3 | gender | none |
| Ortega-Rojas, 2016 [9] | unclear | 181 | 74.1 | 66.20 | 181 | 74.1 | 66.2 | age and gender | none |
| Sen, 2015 [11] | unclear | 112 | 75.5±7.6 | 59.80 | 106 | 74.0 ± 5.3 | 50.9 | age, sex, and education | none |
| Belcavello, 2015 [13] | mixed | 82 | 81.2 ± 7.5 | 65.90 | 161 | 79.4 ± 7.9 | 73.3 | age and gender | age, gender, education, and *APOE4* status |
| Jiang, 2014 [17] | Han Chinese | 1133 | 79.9 ± 8.1 | 59 | 1159 | 74.5 ±6.3 | 55.2 | age and gender | age, gender, and *APOE4* status |
| Yu, 2011 [33] | Han Chinese | 266 | 77.0 ± 6.6 | 54 | 343 | 77 ± 5.9 | 52 | none | age, sex, and *APOE4* |
| Gharesouran, 2014 [19] | Azeri Turkish (mixed) | 160 | 76.1 ± 7.8 | 58.80 | 163 | 75.3 ± 6.8 | 58.3 | gender | none |
| Carrasquillo, 2014 [20] | mixed | 54 | 80.0 ± 10.0 | 76 | 2523 | 81.8 ± 6.1 | 56.7 | none | age, sex, and APOE4 |
| Beecham, 2014 [21] | mixed | 4173 | unclear | 49 to 76 | 1031 | 71 to 89 | 37 to 65 | none | none |
| Miyashita, 2013 [22] | Japanese | 1008 | unclear | 72 | 1016 | 77.0 ± 5.9 | 57 | none | none |
| Korean | 339 | 73.7 ± 9.5 | 72 | 1129 | 71.0 ± 4.9 | 49 | none | none |
| Klimkowicz-Mrowiec, 2013 [24] | Caucasian | 253 | 73.9 ± 5.2 | 68.4 | 240 | 73.8 ± 6.9 | 57.5 | age | none |
| Chung, 2013 [25] | Korean | 290 | 74.9 ± 9.1 | 66.9 | 554 | 64.7 ± 9.3 | 51.8 | none | none |
| Rosenthal, 2012 [26] | Caucasian | 1291 | unclear | 66 | 958 | 74.1 + 6.2 | 60 | none | age, sex, APOE4, and the first four principal components |
| Kamboh, 2012 [28] | Caucasian | 1348 | unclear | 65.6 | 1359 | 74.7 ± 6.5 | 60.8 | none | age, sex, APOE4, and the first four principal components |
| Ohara, 2012 [27] | Japanese | 825 | 83.2 ± 6.5 | 77.1 | 2934 | 60.2 ± 11.5 | 56 | none | age, sex, APOE4, and the first four principal components |
| Kamboh, 2012 [29] | Caucasian | 1440 | unclear | 65.6 | 1000 | 74.1 ± 6.2 | 59.8 | none | age, sex, APOE4, and the first four principal components |
| unclear | 844 | unclear | 57.2 | 1255 | 73.2 ± 4.4 | 51.7 | none | age, sex, APOE4, and the first four principal components |
| mixed | 188 | unclear | 44.6 | 193 | 78.6 ± 5.3 | 46.3 | none | age, sex, APOE4, and the first four principal components |
| unclear | 1186 | unclear | na | 1135 | 74.0 ± 8.3 | 61 | none | age, sex, APOE4, and the first four principal components |
| Caucasian | 509 | unclear | na | 753 | na | na | none | age, sex, APOE4, and the first four principal components |
| Ferrari, 2012 [30] | mixed (Caucasian 92.4%) | 342 | 76.8 ± 8.6 | 59.1 | 277 | 70.2 ± 8.6 | 64.6 | none | none |
| Chen, 2012 [32] | Chinese | 462 | unclear | na | 350 | na | na | none | age, sex, and APOE4 |
| Lee, 2011 [37] | Caribbean Hispanic | 549 | 78.87 ± 6.4 for total | 69.7 | 544 | 78.9 ± 6.4 | 69.7 | none | age, sex, education, and population stratification |
| Naj, 2011 [35] | Caucasian | 566 | 83.9 ± 4.8 | 63 | 1696 | 81.1 ± 6.0 | 56 | none | none |
| 1566 | 72.5 ± 7.1 | 54 | 515 | 75.0 ± 8.0 | 59 | none | none |
| 738 | 73.2 ± 7.1 | 51 | 160 | 75.7 ± 7.9 | 69 | none | none |
| 268 | 75.3 ± 7.2 | 42 | 173 | 78.6 ± 5.5 | 40 | none | none |
| 669 | 74.6 ± 6.2 | 57 | 713 | 74.2 ± 7.0 | 64 | none | none |
| 1186 | 74.1 ± 7.8 | 64 | 1135 | 74.0 ± 8.3 | 61 | none | none |
| 509 | 71.2 ± 6.5 | 64 | 753 | 72.0 ± 7.2 | 58 | age and gender | none |
| 1811 | 73.6 ± 6.7 | 65 | 1575 | 74.0 ± 8.5 | 60 | none | none |
| 132 | 86.1 ± 5.5 | 61 | 153 | 83.9 ± 7.6 | 55 | none | none |
| 864 | 74.9 ± 7.2 | 73 | 493 | 80.2 ± 8.7 | 38 | none | none |
| 897 | 75.0 ± 8.5 | 55 | 588 | 75.3 ± 9.8 | 63 | none | none |
| 728 | unclear | 58 | 1173 | 73.3 ± 4.4 | 51 | none | none |
| 296 | 85.6 ± 6.3 | 70 | 776 | 82.0 ± 7.0 | 72 | none | none |
| 1271 | 72.9 ± 6.4 | 63 | 841 | 75.4 ± 6.1 | 63 | none | none |
| 339 | unclear | 57 | 187 | 76.9 ± 8.4 | 60 | none | none |
| Lambert, 2011 [38] | Caucasian | 561 | unclear | na | 521 | na | na | none | age, gender, disease status, and (when necessary) center |
| 1460 | unclear | na | 1257 | na | na | none |
| 723 | unclear | na | 819 | na | na | none |
| Seshadri, 2010 [40] | only data for Spanish was used for meta | 1140 | unclear | na | 1209 | na | na | none | age, gender, and APOE4 status |
| Jun, 2010 [41] | Caucasian | 1595 | unclear | na | 553 | 77 ± 8.7 | na | none | age, gender, and APOE4 status |
| 286 | unclear | na | 195 | 78 ± 5.4 | na | none |
| 127 | unclear | na | 105 | 76 ± 7.8 | na | none |
| 197 | unclear | na | 2392 | 73 ± 7.5 | na | none |
| 1170 | unclear | na | 1169 | 74 ± 7.6 | na | age and gender |
| 560 | unclear | na | 790 | 72 ± 7.1 | na | none |
| 993 | unclear | na | 884 | 76 ± 8.4 | na | none |
| 187 | unclear | na | 429 | 86 ± 7.2 | na | none |
| 820 | unclear | na | 517 | 83 ± 8.9 | na | none |
| African American | 61 | unclear | na | 63 | 76 ± 6.2 | na | none | none |
| 221 | unclear | na | 186 | 78 ± 6.6 | na | none | none |
| 180 | unclear | na | 200 | 71 ± 10 | na | none | none |
| Arab | 124 | unclear | na | 142 | 72 ± 6.0 | na | none | none |
| Hispanic | 549 | unclear | na | 544 | 79 ± 6.4 | na | none | none |
| Corneveaux, 2010 [42] | Caucasian | 1019 | unclear | 64 | 591 | na | 52% | none | none |
| Carrasquillo, 2010, USA [20] | Caucasian | 1819 | unclear | na | 2576 | na | na | none | age, gender, and APOE4 status |
| Harold, 2009 [44] | USA plus Europe | 3941 | 78.6 | 62.7 | 7848 | na | 53.4 | none | none |
| 2023 | 78.2 | 66.2 | 2340 | 69.8 | 59.1 | none | none |
| Ding, 2012 [31] | Chinese | 54 | 81.2 ± 5.3 | 63 | 216 | 80.4 ± 4.9 | 63 | age and gender | age, gender, education, tea, and APOE4 status |
| Xiao, 2015 Li, 2011 [10,36] | Han Chinese | 232 | 72.0 ± 9.5 | 51.3 | 373 | 72.5 ± 5.9 | 52.9 | gender | age, gender, and APOE4 status |
| Li, 2011 [36] | Han Chinese | 380 | 69.5 ± 10 | 59.3 | 307 | 68.6 ± 9.6 | 62.1 | age and gender | none |
| Wang, 2014 [14] | Han Chinese | 250 | 77.4 ± 8.4 | 36.8 | 438 | 70.2 ± 7.5 | 30.6 | none | none |
| Hui, 2014 [18] | Han Chinese | 248 | 77.4 ± 8.4 | 37.1 | 408 | 70.2 ± 7.5 | 32.8 | age and gender | none |
| Liu, 2014 [16] | Han Chinese | 239 | 74.6 ± 5.9 | 62.3 | 207 | 72.0 ± 5.5 | 44.4 | none | none |
| Jiao, 2015 [12] | Han Chinese | 229 | 75.2 ± 5.0 | 56.9 | 318 | 71.6 ± 2.5 | 52.2 | none | age and gender |
| Piaceri, 2011 [34] | Caucasian | 349 | 74.04 ± 6.1 | 65.6 | 359 | 74.5 ± 6.2 | 55.9 | age and gender | none |
| Omoumi, 2014 [15] | unclear | 428 | 78.2 ± 7.2 | na | 524 | 76.0 ± 6.5 | na | none | APOE and age |
| Seripa, 2017 [3] | Caucasian | 520 | 74.7 ± 8.5 | 66.2 | 569 | 71.9 ± 11.8 | 54 | none | none |
| Kunkle, 2019 [2] | majorly Caucasian | 14428 | na | 59.3 | 14562 | 76.2 ± 9.9 | 59.3 | na | na |
| 2137 | na | 67.3 | 13474 | 76.7 ± 8.2 | 55.8 | na | na |
| 2240 | na | 65 | 6631 | 78.9 ± 7.0 | 60.6 | na | na |
| 3177 | na | 64 | 7277 | 51.0 ± 0.1 | 51.8 | na | na |
| 878 | na | 66.1 | 661 | 65.7 ± 14.3 | 59.5 | na | na |
| 422 | na | 68 | 562 | 69.1 ± 6.2 | 59.3 | na | na |
| 972 | na | 63.9 | 2378 | 69.5 ± 10.1 | 53.1 | na | na |
| 256 | na | 63.3 | 229 | 49.3 ± 16.4 | 34.1 | na | na |
| 125 | na | 68 | 100 | 74.4 ± 6.5 | 69 | na | na |
| 1729 | na | 66.5 | 720 | 70.0 ± 10.4 | 55.7 | na | na |
| 2121 | na | 66.3 | 1921 | 70.2 ± 10.8 | 55.3 | na | na |
| 797 | na | 61.7 | 1506 | 70.6 ± 8.7 | 62.8 | na | na |
| 490 | na | 67.6 | 1066 | 73.8 ± 6.5 | 29.2 | na | na |
| 572 | na | 61.9 | 1340 | 79.3 ± 6.8 | 54 | na | na |
| 932 | na | 71 | 1813 | 54.7 ± 12.1 | 68.4 | na | na |
| 1902 | na | 64.80 | 1047 | 73.9 ± 12.9 | 57.8 | na | na |
| 514 | na | 51.30 | 790 | 72.3 ± 7.7 | 63.6 | na | na |
| 1582 | na | 74.60 | 3086 | 54.0 ± 14.0 | 48 | na | na |
| Hollingworth, 2011 [39] | unclear | 3941 | 78.6 | 62.70 | 7848 | 55.6 | 65.8 | na | na |
| French Caucasian | 2025 | 73.7 | 66 | 5328 | 73.8 | 61 | na | na |
| mixed | 151 | 76.6 | 47 | 177 | 78 | 44.6 | na | na |
| unclear | 571 | 81 | 52 | 332 | 80 | 63 | na | na |

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