**Table S1.** Characteristics of the individuals excluded versus included in the analysis

|  |  |  |
| --- | --- | --- |
| **Variable**  | **Analytic sample (n = 4,076)** | **Missing data** **(n = 4,040)** |
|  |  | No health assessment (n = 2,260) | No valid blood sample or missing data on other covariates(n = 1,780) |
| **Mean (SD)/%** |
| **Age**  | 62.0 (8.4) | 65.5 (10.6) | 65.6 (10.7) |
| **Sex (female)** | 53.6 | 54.4 | 55.4 |
| **Education (highest level)**None/primary  Secondary Tertiary/higher | 21.242.436.4 | 41.937.320.8 | 37.337.924.7 |
| **Fair/poor self-rated health** | 18.1 | 26.4 | 30.1 |
| **2 or more chronic conditions** | 47.6 | 47.7 | 55.4 |
| **Rural location** | 44.5 | 51.6 | 51.4 |
| **MoCA score** | 25.2 (3.2) |  - a | 23.5 (4.4) |
| **Semantic fluency** | 21.7 (6.9) | 18.9 (7.1) | 19.0 (6.9) |

Note. MoCA = Montreal Cognitive Assessment. a MoCA was administered as part of

the health assessment

**Table S2. Demographic and health characteristics by quartile of Lutein and Zeaxanthin**

|  |  |  |
| --- | --- | --- |
|  | **Lutein (quartiles)****Mean (SD)** | **Zeaxanthin (quartiles)****Mean (SD)** |
|  | ***1st*** | ***2nd*** | ***3rd*** | ***4th*** |  ***p*** | ***1st*** | ***2nd*** | ***3rd*** | ***4th*** |  ***p*** |
| **Age** | 62.4 (8.5) | 61.5 (8.1) | 62.0 (8.4) | 62.2 (8.6) |  .14 | 63.6 (8.4) | 62.4 (8.8) | 61.3 (8.2) | 60.6 (8.0) | <.001 |
| **Female sex (n = 2186)** | 20.5 | 23.2 | 26.7 | 29.6 | <.001 | 21.5 | 25.1 | 26.0 | 27.4 | <.001 |
| **Education (highest level)**None/primary (n = 862) Secondary (n = 1730) Tertiary/higher  (n = 1484) | 28.944.226.9 | 19.946.633.5 | 20.541.937.6 | 15.537.247.3 | <.001 | 31.644.024.4 | 21.843.234.9 | 16.743.639.7 | 14.538.946.6 | <.001 |
| **Smoker** Never (n = 1884) Past (n = 1605) Current (n = 587) | 38.041.520.5 | 46.137.116.8 | 50.337.312.4 | 50.141.78.2 | <.001 | 39.940.519.6 | 45.538.815.7 | 50.637.012.4 | 48.841.39.9 | <.001 |
| **Exercise** None/low (n = 1121) Moderate (n = 1477) High (n = 1478) | 32.035.732.2 | 29.135.535.3 | 26.634.638.8 | 22.439.138.4 | <.001 | 32.734.932.5 | 30.235.734.1 | 23.236.640.2 | 23.837.838.3 | <.001 |
| **BMI**  | 30.0 (5.6) | 29.2 (4.9) | 27.9 (4.5) | 27.1 (4.0) |  .001 | 29.4 (5.3) | 29.1 (5.1) | 28.3 (4.6) | 27.3 (4.2) | <.001 |
| **Hypertension (n = 2374)** | 28.1 | 25.8 | 23.9 | 22.2 | <.001 | 28.4 | 26.5 | 23.4 | 21.6 | <.001 |
| **Diabetes (n = 306)** | 42.5 | 29.1 | 14.4 | 14.0 | <.001 | 40.8 | 28.8 | 19.3 | 11.1 | <.001 |
| **Cataracts (n = 353)** | 28.6 | 22.9 | 24.4 | 24.1 |  .23 | 35.1 | 26.6 | 22.4 | 15.9 | <.001 |
| **Glaucoma (n = 80)** | 30.0 | 17.5 | 31.2 | 21.2 |  .18 | 30.0 | 31.2 | 22.5 | 16.2 |  .21 |
| **AMD (n = 56)** | 27.8 | 21.4 | 16.1 | 35.7 |  .18 | 25.0 | 28.6 | 17.9 | 28.6 |  .61 |
| **Supplement use** **(n = 485)** | 17.5 | 20.4 | 28.9 | 33.2 | <.001 | 20.8 | 24.9 | 24.3 | 29.9 |  .02 |

**Note.** AMD = Age-related macular degeneration