Additional file 1: Table S1. Characteristics of the study population responding to the questionnaire ( $\mathrm{n}=12,747$ )

|  | Males ( $\mathrm{n}=5,413$ ) |  | Females ( $\mathrm{n}=7,334$ ) |  | $P^{a}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | n | (\%) | n | (\%) |  |
| Demographics |  |  |  |  |  |
| Age at survey (years) |  |  |  |  |  |
| 65-67 | 2,439 | (45.1\%) | 3,611 | (49.2\%) | $<0.001$ |
| 68-70 | 2,974 | (54.9\%) | 3,723 | (50.8\%) |  |
| Health insurance |  |  |  |  |  |
| National Insurance | 5,190 | (95.9\%) | 7,131 | (97.2\%) | $<0.001$ |
| Medical insurance for later-stage elderly | 81 | (1.5\%) | 28 | (0.4\%) |  |
| Livelihood subsidies | 142 | (2.6\%) | 175 | (2.4\%) |  |
| Family size |  |  |  |  |  |
| 1 | 599 | (11.1\%) | 1,271 | (17.3\%) | $<0.001$ |
| 2 | 2,726 | (50.4\%) | 3,837 | (52.3\%) |  |
| 3 | 1,214 | (22.4\%) | 1,392 | (19.0\%) |  |
| $\geq 4$ | 790 | (14.6\%) | 771 | (10.5\%) |  |
| Missing | 84 | (1.6\%) | 63 | (0.9\%) |  |
| Body mass index |  |  |  |  |  |
| Normal | 3,920 | (72.4\%) | 5,255 | (71.7\%) | $<0.001$ |
| Underweight | 243 | (4.5\%) | 837 | (11.4\%) |  |
| Obese | 1,176 | (21.7\%) | 1,167 | (15.9\%) |  |
| Missing | 74 | (1.4\%) | 75 | (1.0\%) |  |

Additional file 1: Table S1. Continued

|  | Males ( $\mathrm{n}=5,413$ ) |  | Females ( $\mathrm{n}=7,334$ ) |  | $P^{a}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | n | (\%) | n | (\%) |  |
| Health behaviors |  |  |  |  |  |
| Health checkups |  |  |  |  |  |
| Present | 3,636 | (67.2\%) | 4,395 | (59.9\%) | $<0.001$ |
| Absent | 1,777 | (32.8\%) | 2,939 | (40.1\%) |  |
| Smoking habit |  |  |  |  |  |
| Never-smoker | 972 | (18.0\%) | 6,121 | (83.5\%) | $<0.001$ |
| Ex-smoker | 3,082 | (56.9\%) | 647 | (8.8\%) |  |
| Current smoker | 1,253 | (23.1\%) | 387 | (5.3\%) |  |
| Missing | 106 | (2.0\%) | 179 | (2.4\%) |  |
| Number of years smoking |  |  |  |  |  |
| 0 | 980 | (18.1\%) | 6,122 | (83.5\%) | $<0.001$ |
| 1-14 | 589 | (10.9\%) | 292 | (4.0\%) |  |
| 15-29 | 865 | (16.0\%) | 229 | (3.1\%) |  |
| $\geq 30$ | 2,898 | (53.5\%) | 536 | (7.3\%) |  |
| Missing | 81 | (1.5\%) | 155 | (2.1\%) |  |
| Frequency of alcohol consumption |  |  |  |  |  |
| None | 1,232 | (22.8\%) | 3,802 | (51.8\%) | $<0.001$ |
| Social | 929 | (17.2\%) | 1,857 | (25.3\%) |  |
| Occasional | 972 | (18.0\%) | 981 | (13.4\%) |  |
| Daily | 2,227 | (41.1\%) | 639 | (8.7\%) |  |
| Missing | 53 | (1.0\%) | 55 | (0.7\%) |  |
| Frequency of exercise (hours per week) |  |  |  |  |  |
| $\geq 5$ | 1,275 | (23.6\%) | 1,201 | (16.4\%) | $<0.001$ |
| 3-4 | 793 | (14.6\%) | 1,212 | (16.5\%) |  |
| 1-2 | 1,185 | (21.9\%) | 1,895 | (25.8\%) |  |
| $<1$ | 2,065 | (38.1\%) | 2,901 | (39.6\%) |  |
| Missing | 95 | (1.8\%) | 125 | (1.7\%) |  |
| Walking time (minutes per day) |  |  |  |  |  |
| $\geq 60$ | 2,387 | (44.1\%) | 3,269 | (44.6\%) | 0.012 |
| 30-59 | 1,657 | (30.6\%) | 2,384 | (32.5\%) |  |
| $<30$ | 1,282 | (23.7\%) | 1,578 | (21.5\%) |  |
| Missing | 87 | (1.6\%) | 103 | (1.4\%) |  |
| Dietary habits (dietary variety score) |  |  |  |  |  |
| Low | 2,624 | (48.5\%) | 2,062 | (28.1\%) | $<0.001$ |
| Medium | 1,501 | (27.7\%) | 2,317 | (31.6\%) |  |
| High | 1,208 | (22.3\%) | 2,873 | (39.2\%) |  |
| Missing | 80 | (1.5\%) | 82 | (1.1\%) |  |

Additional file 1: Table S1. Continued

|  | Males ( $\mathrm{n}=5,413$ ) |  | Females ( $\mathrm{n}=7,334$ ) |  | $P^{a}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | n | (\%) | n | (\%) |  |
| Oral Health |  |  |  |  |  |
| Dental health behaviors |  |  |  |  |  |
| Use of extra cleaning devices |  |  |  |  |  |
| Yes | 2,384 | (44.0\%) | 4,515 | (61.6\%) | $<0.001$ |
| No | 2,819 | (52.1\%) | 2,565 | (35.0\%) |  |
| Missing | 210 | (3.9\%) | 254 | (3.5\%) |  |
| Frequency of daily tooth brushing |  |  |  |  |  |
| Three or more times | 861 | (15.9\%) | 1,998 | (27.2\%) | $<0.001$ |
| Twice | 2,396 | (44.3\%) | 4,274 | (58.3\%) |  |
| Less than twice | 1,943 | (35.9\%) | 808 | (11.0\%) |  |
| Missing | 213 | (3.9\%) | 254 | (3.5\%) |  |
| Frequency of bedtime tooth brushing |  |  |  |  |  |
| Daily | 3,471 | (64.1\%) | 6,118 | (83.4\%) | $<0.001$ |
| Sometimes | 599 | (11.1\%) | 581 | (7.9\%) |  |
| Almost never | 1,130 | (20.9\%) | 380 | (5.2\%) |  |
| Missing | 213 | (3.9\%) | 255 | (3.5\%) |  |
| Oral function |  |  |  |  |  |
| Having difficulty in chewing hard foods |  |  |  |  |  |
| Absent | 3,923 | (72.5\%) | 5,729 | (78.1\%) | $<0.001$ |
| Present | 1,280 | (23.6\%) | 1,347 | (18.4\%) |  |
| Missing | 210 | (3.9\%) | 258 | (3.5\%) |  |
| Choking on your tea and soup |  |  |  |  |  |
| Absent | 4,197 | (77.5\%) | 5,704 | (77.8\%) | 0.541 |
| Present | 1,000 | (18.5\%) | 1,365 | (18.6\%) |  |
| Missing | 216 | (4.0\%) | 265 | (3.6\%) |  |
| Having dry mouth |  |  |  |  |  |
| Absent | 3,988 | (73.7\%) | 5,409 | (73.8\%) | 0.537 |
| Present | 1,204 | (22.2\%) | 1,653 | (22.5\%) |  |
| Missing | 221 | (4.1\%) | 272 | (3.7\%) |  |
| Use of dentures |  |  |  |  |  |
| Yes | 2,184 | (40.3\%) | 2,496 | (34.0\%) | $<0.001$ |
| No | 3,003 | (55.5\%) | 4,547 | (62.0\%) |  |
| Missing | 226 | (4.2\%) | 291 | (4.0\%) |  |



|  | Males ( $\mathrm{n}=5,413$ ) |  | Females ( $\mathrm{n}=7,334$ ) |  | $P^{a}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | n | (\%) | n | (\%) |  |
| Physical and mental functioning |  |  |  |  |  |
| Basic activities of daily living |  |  |  |  |  |
| Good | 5,224 | (96.5\%) | 7,148 | (97.5\%) | 0.006 |
| Impaired | 110 | (2.0\%) | 104 | (1.4\%) |  |
| Missing | 79 | (1.5\%) | 82 | (1.1\%) |  |
| Self-rated health |  |  |  |  |  |
| Very good | 684 | (12.6\%) | 1,001 | (13.6\%) | $<0.001$ |
| Rather good | 3,643 | (67.3\%) | 5,143 | (70.1\%) |  |
| Rather poor | 658 | (12.2\%) | 781 | (10.6\%) |  |
| Very poor | 292 | (5.4\%) | 282 | (3.8\%) |  |
| Missing | 136 | (2.5\%) | 127 | (1.7\%) |  |
| Health-related quality of life (Physical Component Summary) |  |  |  |  |  |
| High | 1,860 | (34.4\%) | 2,458 | (33.5\%) | 0.602 |
| Medium | 1,686 | (31.1\%) | 2,333 | (31.8\%) |  |
| Low | 1,758 | (32.5\%) | 2,410 | (32.9\%) |  |
| Missing | 109 | (2.0\%) | 133 | (1.8\%) |  |
| Health-related quality of life (Mental Component Summary) |  |  |  |  |  |
| High | 1,848 | (34.1\%) | 2,084 | (28.4\%) | $<0.001$ |
| Medium | 1,805 | (33.3\%) | 2,600 | (35.5\%) |  |
| Low | 1,651 | (30.5\%) | 2,517 | (34.3\%) |  |
| Missing | 109 | (2.0\%) | 133 | (1.8\%) |  |
| Sleep disturbance |  |  |  |  |  |
| Absent | 3,829 | (70.7\%) | 4,814 | (65.6\%) | $<0.001$ |
| Present | 1,389 | (25.7\%) | 2,251 | (30.7\%) |  |
| Missing | 195 | (3.6\%) | 269 | (3.7\%) |  |
| Depression |  |  |  |  |  |
| Absent | 3,987 | (73.7\%) | 5,617 | (76.6\%) | $<0.001$ |
| Present | 1,266 | (23.4\%) | 1,567 | (21.4\%) |  |
| Missing | 160 | (3.0\%) | 150 | (2.0\%) |  |
| Cognitive functioning |  |  |  |  |  |
| Intact | 4,396 | (81.2\%) | 6,465 | (88.2\%) | $<0.001$ |
| Poor | 936 | (17.3\%) | 783 | (10.7\%) |  |
| Missing | 81 | (1.5\%) | 86 | (1.2\%) |  |

Additional file 1: Table S1. Continued

|  | Males ( $\mathrm{n}=5,413$ ) |  | Females ( $\mathrm{n}=7,334$ ) |  | $P^{a}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | n | (\%) | n | (\%) |  |
| Higher-level functional capacity |  |  |  |  |  |
| Total score |  |  |  |  |  |
| Good (score $\geq 12$ ) | 2,794 | (51.6\%) | 5,383 | (73.4\%) | $<0.001$ |
| Impaired (score $\leq 11$ ) | 2,449 | (45.2\%) | 1,799 | (24.5\%) |  |
| Missing | 170 | (3.1\%) | 152 | (2.1\%) |  |
| Instrumental activities of daily living |  |  |  |  |  |
| Good (score $=5$ ) | 4403 | (81.3\%) | 6942 | (94.7\%) | $<0.001$ |
| Impaired (score $\leq 4$ ) | 865 | (16.0\%) | 267 | (3.6\%) |  |
| Missing | 145 | (2.7\%) | 125 | (1.7\%) |  |
| Intellectual activity |  |  |  |  |  |
| Good (score $=4$ ) | 3510 | (64.8\%) | 5454 | (74.4\%) | $<0.001$ |
| Impaired (score $\leq 3$ ) | 1748 | (32.3\%) | 1746 | (23.8\%) |  |
| Missing | 155 | (2.9\%) | 134 | (1.8\%) |  |
| Social role |  |  |  |  |  |
| Good (score $=4$ ) | 1913 | (35.3\%) | 4316 | (58.8\%) | $<0.001$ |
| Impaired (score $\leq 3$ ) | 3338 | (61.7\%) | 2874 | (39.2\%) |  |
| Missing | 162 | (3.0\%) | 144 | (2.0\%) |  |

[^0]
[^0]:    ${ }^{\text {a }}$ Differences between males and females were analyzed using Fisher's exact test.

