**Supplementary Table 1.** Associations between intake of individual antioxidants at baseline nutrition and incident poor walking speed and IADL disability over 3-year follow-up

|  |  |  |  |
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|  | **Model 1\*****OR (95% Cl)*****n* = 689** | **Model 2\*****OR (95% Cl)*****n* = 557** | **Model 3\*****OR (95% Cl)*****n* = 536** |
| **Incident poor walking speed** |
| **Vitamin A** |  |  |  |
| Highest quartile ≥ 1363.73 µg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd quartile989.09-1363.72 µg/d | 0.73 (0.44, 1.22);  *p* = 0.23 | 0.72 (0.43, 1.21);  *p* = 0.22 | 0.68 (0.39, 1.20);  *p* = 0.19 |
| 2nd quartile734.13-989.08 µg/d | 0.81(0.49, 1.35);  *p* = 0.42 | 0.80 (0.48, 1.33);  *p* = 0.39 | 0.71 (0.41, 1.23);  *p* = 0.22 |
| Lowest quartile> 734.12 µg/d | 0.97(0.58, 1.61);  *p* = 0.58 | 0.95 (0.57, 1.58);  *p* = 0.85 | 0.84 (0.47, 1.49);  *p* = 0.54 |
| **Vitamin C** |  |  |  |
| Highest Quartile ≥ 156.07 mg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile9.73 – 13.72 g/d | 1.18 (0.70, 1.96);  *p* = 0.54 | 1.17 (0.70, 1.96);  *p* = 0.54 | 1.11 (0.65, 1.93);  *p* = 0.70 |
| 2nd Quartile6.73 – 9.72 g/d | 1.29 (0.77, 2.18);  *p* = 0.33 | 1.26 (0.75, 2.13);  *p* = 0.38 | 1.13 (0.65, 1.97);  *p* = 0.66 |
| Lowest quartile≤ 6.72 g/d | 1.32 (0.79, 2.21);  *p* = 0.28 | 1.31 (0.78, 2.81);  *p* = 0.31 | 1.22 (0.69, 2.14);  *p* = 0.50 |
| **Vitamin E** |  |  |  |
| Highest Quartile ≥ 13.50 mg/d Reference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile1.31 – 1.89 g/d | 1.25 (0.75, 2.10);  *p* = 0.39 | 1.25 (0.74, 2.09);  *p* = 0.40 | 1.35 (0.74, 2.47);  *p* = 0.33 |
| 2nd Quartile0.90– 1.30 g/d | 1.26 (0.76, 2.09);  *p* = 0.37 | 1.26 (0.76, 2.09);  *p* = 0.37 | 1.38 (0.78, 2.42);  *p* = 0.27 |
| Lowest quartile≤ 0.89 g/d | 1.60 (0.96, 2.68);  *p* = 0.07 | 1.57 (0.94, 2.63);  *p* = 0.09 | 1.70 (0.87, 3.33);  *p* = 0.20 |
| **Zinc** |  |  |  |
| Highest Quartile ≥ 16.75 mg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile354.92 – 435.72 mg/d | 0.67 (0.40, 1.12);  *p* = 0.13 | 0.66 (0.39, 1.10);  *p* = 0.11 | 0.61 (0.35, 1.07);  *p* = 0.09 |
| 2nd Quartile282.71 – 354.91 mg/d | 0.83 (0.51, 1.37);  *p* = 0.47 | 0.82 (0.50, 1.36);  *p* = 0.45 | 0.67 (0.37, 1.20);  *p* = 0.18 |
| Lowest quartile< 282.70 mg/d | 0.98 (0.59, 1.61);  *p* = 0.92 | 0.96 (0.58, 1.59);  *p* = 0.86 | 0.79 (0.41, 1.52);  *p* = 0.48 |
| **Incident IADL disability** |
| **Vitamin A** |  |  |  |
| Highest quartile ≥ 1363.73 µg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd quartile989.09-1363.72 µg/d | 1.13 (0.56, 2.29);  *p* = 0.73 | 1.14 (0.56, 2.34);  *p* = 0.72 | 0.98 (0.57, 1.71);  *p* = 0.95 |
| 2nd quartile734.13-989.08 µg/d | 1.42 (0.72, 2.79);  *p* = 0.31 | 1.31(0.66, 2.61);  *p* = 0.45 | 1.06 (0.59, 1.89);  *p* = 0.85 |
| Lowest quartile> 734.12 µg/d | 1.56 (0.80, 3.04);  *p* = 0.19 | 1.53 (0.77, 3.02);  *p* = 0.22 | 1.15 (0.67, 1.99);  *p* = 0.61 |
| **Vitamin C** |  |  |  |
| Highest Quartile ≥ 156.07 mg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile9.73 – 13.72 g/d | 0.92 (0.43, 1.96);  *p* = 0.83 | 0.52 (0.20, 1.34);  *p* = 0.18 | 1.15 (0.45, 2.94);  *p* = 0.76 |
| 2nd Quartile6.73 – 9.72 g/d | 1.57 (0.78, 3.15);  *p* = 0.21 | 1.28 (0.57, 2.88);  *p* = 0.56 | 1.70 (0.70, 4.14);  *p* = 0.24 |
| Lowest quartile≤ 6.72 g/d | 1.66 (0.84, 3.27);  *p* = 0.14 | 1.62 (0.76, 3.46);  *p* = 0.21 | 1.77 (0.75, 4.16);  *p* = 0.76 |
| **Vitamin E** |  |  |  |
| Highest Quartile ≥ 13.50 mg/d Reference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile1.31 – 1.89 g/d | 0.51 (0.25,1.03);  *p* = 0.06 | 0.52 (0.25, 1.06);  *p* = 0.07 | 0.66 (0.37, 1.39);  *p* = 0.31 |
| 2nd Quartile0.90– 1.30 g/d | 0.68 (0.35, 1.31);  *p* = 0.25 | 0.67 (0.34, 1.30);  *p* = 0.27 | 0.70 (0.35, 1.39);  *p* = 0.31 |
| Lowest quartile≤ 0.89 g/d | 1.09 (0.61, 1.98);  *p* = 0.76 | 0.87 (0.47, 1.60);  *p* = 0.65 | 0.84 (0.45, 1.48);  *p* = 0.54 |
| **Zinc** |  |  |  |
| Highest Quartile ≥ 16.75 mg/dReference category | 1.00 | 1.00 | 1.00 |
| 3rd Quartile354.92 – 435.72 mg/d | 0.76 (0.37, 1.54);  *p* = 0.45 | 0.71 (0.35, 1.46);  *p* = 0.35 | 0.83 (0.46, 1.49);  *p* = 0.54 |
| 2nd Quartile282.71 – 354.91 mg/d | 0.93 (0.47, 1.82);  *p* = 0.83 | 0.92 (0.46, 1.83);  *p* = 0.81 | 0.88(0.52,1.51); p=0.65 |
| Lowest quartile< 282.70 mg/d | 1.53 (0.73, 1.86);  *p* = 0.53 | 1.33 (0.70, 2.51);  *p* = 0.38 | 1.47 (0.75, 2.88);  *p* = 0.26 |

Reference value for incident poor walking speed: good walking speed (faster than 0.8 m/s)

Reference value for incident IADL disability: IADL disability absent

\*Model 1 unadjusted; model 2 adjusted by age; model 3 adjusted by model 2 plus body mass index, marital status, living arrangement, income, meal service, smoking, alcohol intake, Self-Rated Health (SRH), Physical Activity Scale for the Elderly (PASE), comorbidity and energy.