**Supplemental Table 1.** Pearson’s correlations between age, BMI, WHtR and frailty (n=2,830)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Age | | BMI | | WHtr | | Frailty | |
| Age | – |  | -0.07 | \* | 0.06 | \* | 0.25 | \* |
| BMI |  | | – |  | 0.82 | \* | 0.04 | \* |
| WHtR |  | |  |  | – |  | 0.18 | \* |
| Frailty |  | |  |  |  |  | – |  |

BMI, body mass index; WHtR, waist-to-height ratio

\*P<0.05

**Supplemental Table 2**. Estimated marginal means of muscle mass†

(mean values with their standard errors)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Total (n=2,818) | |  | Women (n=1,462) | |  | Men (n=1,356) | |
| Mean | SEM | Mean | SEM | Mean | SEM |
| BMI‡ |  |  |  |  |  |  |  |  |
| < 18.5 | 5.435 | 0.120a |  | 5.298 | 0.226a |  | 5.962 | 0.142a |
| 18.5–< 23 | 6.145 | 0.045b |  | 5.547 | 0.058b |  | 6.803 | 0.061a |
| 23–< 25 | 6.585 | 0.047c |  | 5.870 | 0.057c |  | 7.356 | 0.063b |
| 25–< 30 | 7.117 | 0.046d |  | 6.347 | 0.053d |  | 7.969 | 0.064c |
| ≥ 30 | 7.652 | 0.086e |  | 6.862 | 0.101e |  | 8.540 | 0.147d |

a–eMeans within a row with different letters are significantly different

†Appendicular skeletal muscle mass index was calculated as the sum of muscle mass in the arms and legs (kg) divided by the squared height (m2)

‡Confounding factors were age, sex, education, at work, smoking, alcohol drinking, living alone, cognitive impairment, comorbidity, activities of daily living (ADL), and instrumental activities of daily living (IADL) in total; age, education, at work, living alone, cognitive impairment, ADL, and IADL in women; age, education, living alone, comorbidity, ADL, and IADL in men