

Table S3. General characteristics of normal and vitamin D-deficient participants aged ≥ 65 years

Characteristic	Older men (n=670)			Older women (n=831)		
	Normal (n=444)	Vitamin D deficiency (n=226)	P-value ^{a)}	Normal (n=609)	Vitamin D deficiency (n=222)	P-value ^{a)}
Age (yr)	72.2 \pm 0.3	73.1 \pm 0.4	0.039	72.5 \pm 0.3	73.2 \pm 0.5	0.192
Household income			0.215			0.302
Low	164 (33.7)	100 (39.7)		297 (44.8)	119 (51.4)	
Middle-low	156 (36.6)	63 (28.5)		182 (30.7)	54 (23.3)	
Middle-high	73 (17.1)	40 (20.6)		79 (14.5)	31 (15.6)	
High	51 (12.6)	23 (11.1)		47 (10.0)	18 (9.7)	
Current alcohol consumers	250 (58.7)	112 (52.1)	0.110	99 (16.2)	35 (17.3)	0.727
Current smoker	93 (19.1)	39 (18.2)	0.823	11 (1.6)	2 (0.8)	0.507
Regular aerobic exercise	153 (39.2)	70 (34.4)	0.352	167 (33.0)	49 (25.4)	0.056
Body mass index (kg/m ²)	24.0 \pm 0.1	24.0 \pm 0.2	0.951	24.2 \pm 0.2	24.8 \pm 0.3	0.076
Percent body fat (%)	25.5 \pm 0.3	26.4 \pm 0.4	0.065	34.5 \pm 0.3	35.4 \pm 0.6	0.171
Waist circumference (cm)	88.7 \pm 0.5	89.5 \pm 0.6	0.315	84.7 \pm 0.5	86.9 \pm 0.8	0.015
TyG index ^{b)}	8.61 \pm 0.03	8.82 \pm 0.04	<0.001	8.64 \pm 0.02	8.67 \pm 0.04	0.474
Metabolically unhealthy state ^{c)}	137 (31.2)	94 (45.5)	0.005	260 (42.2)	87 (41.7)	0.916
25(OH)D3 (ng/mL)	30.0 \pm 0.5	14.3 \pm 0.4	<0.001	33.7 \pm 0.5	14.3 \pm 0.2	<0.001
Vitamin D intake (μ g)	3.6 \pm 0.3	2.6 \pm 0.3	0.035	2.4 \pm 0.2	2.0 \pm 0.3	0.207
Total energy intake (kcal/day)	1,893 \pm 34	1,882 \pm 51	0.871	1,426 \pm 31	1,412 \pm 43	0.791

Values are presented as mean \pm standard error of mean for continuous variables or number (%) for categorical variables.

Vitamin D deficiency was defined as serum 25(OH)D₃ of <20 ng/mL.

TyG index, triglyceride-glucose index; 25(OH)D₃, 25-hydroxyvitamin D₃.

^{a)}Differences between normal and vitamin D deficient participants were determined using t-test for continuous variables and Rao-Scott chi-square test for categorical variables. ^{b)}The TyG index is calculated as \ln [fasting triglycerides (mg/dL)×fasting glucose (mg/dL)/2]. ^{c)}A metabolically unhealthy state is defined as TyG index of ≥ 8.82 for men and ≥ 8.73 for women.