Supplementary material

Supplementary Table 1. Odds ratios and 95% confidence intervals of metabolic syndrome according to body composition phenotype.

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|  | | NWNO | NWO | *p*-values | OB | *p*-values |
| Total (71 or less) | | | | | | |
|  | Model 1 | 1 | 2.137 (1.615~2.829) | <0.001 | 5.294 (4.300~6.518) | <0.001 |
| Model 2 | 1 | 2.128 (1.562~2.900) | <0.001 | 4.978 (3.944~6.283) | <0.001 |
| Model 3 | 1 | 1.330 (0.912~1.939) | 0.139 | 3.328 (2.484~4.458) | <0.001 |
| Total (71 or more) | | | | | | |
|  | Model 1 | 1 | 2.022 (1.542~2.652) | <0.001 | 6.691 (5.317~8.421) | <0.001 |
| Model 2 | 1 | 2.564 (1.868~3.521) | <0.001 | 8.262 (6.232~10.953) | <0.001 |
| Model 3 | 1 | 1.392 (0.929~2.085) | 0.109 | 4.783 (3.362~6.805) | <0.001 |
| Men (71 or less) | | | | | | |
|  | Model 1 | 1 | 2.405 (1.541~3.752) | <0.001 | 5.163 (3.728~7.151) | <0.001 |
| Model 2 | 1 | 2.572 (1.562~4.235) | <0.001 | 4.683 (3.212~6.827) | <0.001 |
| Model 3 | 1 | 1.179 (0.631~2.502) | 0.605 | 2.628 (1.657~4.168) | <0.001 |
| Men (71 or more) | | | | | | |
|  | Model 1 | 1 | 2.392 (1.588~3.605) | <0.001 | 7.326 (4.927~10.895) | <0.001 |
| Model 2 | 1 | 3.060 (1.908~4.905) | <0.001 | 8.328 (5.213~13.306) | <0.001 |
| Model 3 | 1 | 1.300 (0.692~2.443) | 0.415 | 4.094 (2.317~7.235) | <0.001 |
| Women (71 or less) | | | | | | |
|  | Model 1 | 1 | 1.838 (1.277~2.644) | <0.001 | 4.911 (3.733~6.459) | <0.001 |
| Model 2 | 1 | 1.916 (1.287~2.852) | <0.001 | 5.264 (3.893~7.119) | <0.001 |
| Model 3 | 1 | 1.341 (0.827~2.174) | 0.234 | 3.779 (2.561~5.578) | <0.001 |
| Women (71 or more) | | | | | | |
|  | Model 1 | 1 | 1.842 (1.298~2.655) | <0.001 | 6.008 (4.522~7.982) | <0.001 |
| Model 2 | 1 | 2.272(1.472~3.508) | <0.001 | 8.156 (5.703~11.663) | <0.001 |
| Model 3 | 1 | 1.117 (0.643~1.940) | 0.696 | 4.309 (2.722~6.822) | <0.001 |

NWNO: normal weight non-obesity; NWO: normal weight obesity; OB: obesity.

Model 1: unadjusted.

Model 2: adjusted for age, sex, education, income, smoking, heavy drinking, physical activity, serum vitamin D, and dietary intake of proteins, fats and carbohydrates.

Model 3: adjusted for model 2 plus total body fat-to-muscle ratio.