**Supplementary Table 1:** Additional comparisons of demographics, comorbidities and geriatric syndromes among body composition phenotypes for different definitions of obesity

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| --- | --- | --- | --- |
| **Variable** | **BMI ≥ 27.5kg/m2∗** | **WC >90cm in males, >80cm in females** | **FM% >30% in males, >40% in females** |
| **Normal (n=119)** | **Obese (n=31)** | **Sarcopenic (n=49)** | **SO****(n=1)** | **p-value** | **Normal (n=46)** | **Obese (n=104)** | **Sarcopenic (n=29)** | **SO****(n=21)** | **p-value** | **Normal (n=81)** | **Obese (n=69)** | **Sarcopenic (n=30)** | **SO****(n=20)** | **p-value** |
| Race, n (%) |  | **0.005** |  | 0.294 |  | 0.143 |
|  Malay | 0 (0.0%) | 3 (9.7%) | 0 (0.0%) | 0 (0.0%) |  | 0 (0.0%) | 3 (2.9%) | 0 (0.0%) | 0 (0.0%) |  | 0 (0.0%) | 3 (4.3%) | 0 (0.0%) | 0 (0.0%) |  |
|  Indian | 5 (4.2%) | 4 (12.9%) | 0 (0.0%) | 0 (0.0%) |  | 0 (0.0%) | 9 (8.7%) | 0 (0.0%) | 0 (0.0%) |  | 3 (3.7%) | 6 (8.7%) | 0 (0.0%) | 0 (0.0%) |  |
|  Eurasian | 2 (1.7%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |  | 1 (2.2%) | 1 (1.0%) | 0 (0.0%) | 0 (0.0%) |  | 2 (2.5%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |  |
|  Other | 1 (0.8%) | 1 (3.2%) | 0 (0.0%) | 0 (0.0%) |  | 1 (2.2%) | 1 (1.0%) | 0 (0.0%) | 0 (0.0%) |  | 2 (2.5%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |  |
| Comorbidities, n (%) |
|  Hypertension | 53 (44.5%) | 16 (51.6%) | 26 (53.1%) | 1 (100.0%) | 0.509 | 18 (39.1%) | 51 (49.0%) | 13 (44.8%) | 14 (66.7%) | 0.208 | 37 (45.7%) | 32 (46.4%) | 15 (50.0%) | 12 (60.0%) | 0.694 |
|  Diabetes mellitus | 27 (22.7%) | 7 (22.6%) | 8 (16.3%) | 1 (100.0%) | 0.208 | 9 (19.6%) | 25 (24.0%) | 3 (10.3%) | 6 (28.6%) | 0.353 | 22 (27.2%) | 12 (17.4%) | 5 (16.7%) | 4 (20.0%) | 0.445 |
|  Hyperlipidemia | 76 (63.9%) | 24 (77.4%) | 31 (63.3%) | 1 (100.0%) | 0.437 | 29 (63.0%) | 71 (68.3%) | 17 (58.6%) | 15 (71.4%) | 0.706 | 54 (66.7%) | 46 (66.7%) | 17 (56.7%) | 15 (75.0%) | 0.590 |
|  Ischemic heart disease | 2 (1.7%) | 0 (0.0%) | 2 (4.1%) | 0 (0.0%) | 0.615 | 1 (2.2%) | 1 (1.0%) | 1 (3.4%) | 1 (4.8%) | 0.635 | 0 (0.0%) | 2 (2.9%) | 2 (6.7%) | 0 (0.0%) | 0.128 |
|  Atrial fibrillation | 6 (5.0%) | 1 (3.2%) | 2 (4.1%) | 0 (0.0%) | 0.966 | 3 (6.5%) | 4 (3.8%) | 1 (3.4%) | 1 (4.8%) | 0.892 | 2 (2.5%) | 5 (7.2%) | 2 (6.7%) | 0 (0.0%) | 0.353 |
|  Peripheral vascular disease | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | - | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | - | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | - |
| Geriatric syndromes |
|  SARC-F Questionnaire | 0 (0–1) | 0 (0–1) | 0 (0–1) | 1 (1–1) | 0.687 | 0 (0–1) | 0 (0–1) | 0 (0–1) | 0 (0–1) | 0.651 | 0 (0–1) | 0 (0–1) | 0 (0–1) | 0 (0–1) | 0.955 |
|  FRAIL Questionnaire | 0 (0–0) | 0 (0–0) | 0 (0–0) | 0 (0–0) | 0.948 | 0 (0–0) | 0 (0–0) | 0 (0–0) | 0 (0–1) | 0.138 | 0 (0–0) | 0 (0–0) | 0 (0–0) | 0 (0–0) | 0.665 |
|  CMMSE | 27 (25–28) | 26 (24–27) | 27 (26–28) | 26 (26–26) | 0.649 | 27 (25–28) | 27 (25–27) | 27 (26–28) | 26 (26–28) | 0.470 | 27 (25–28) | 26 (25–27) | 27 (25–28) | 27 (26–28) | 0.672 |
|  GDS-15 | 0 (0–1) | 0 (0–1) | 0 (0–1) | 10 (10–10) | 0.195 | 0 (0–1) | 0 (0–1) | 0 (0–1) | 1 (0–2) | 0.279 | 0 (0–1) | 0 (0–1) | 0 (0–2) | 1 (0–1) | 0.970 |
|  At risk of malnutritiong, n (%) | 7 (5.9%) | 1 (3.2%) | 7 (14.3%) | 0 (0.0%) | 0.204 | 3 (6.5%) | 5 (4.8%) | 3 (10.3%) | 4 (19.0%) | 0.137 | 5 (6.2%) | 3 (4.3%) | 7 (23.3%) | 0 (0.0%) | **0.003** |

BMI = Body Mass Index; CMMSE = Chinese Mini Mental Status Examination; FM% = Fat Mass Percentage; GDS-15 = Geriatric Depression Scale-15; WC = Waist Circumference

∗ Post-hoc analyses were not performed due to the small sample size of the SO group.

a Significant post-hoc Bonferroni test between normal and SO (P<0.05).

b Significant post-hoc Bonferroni test between obese and SO (P<0.05).

c Significant post-hoc Bonferroni test between sarcopenic and SO (P<0.05).

d Significant post-hoc Bonferroni test between normal and sarcopenic (P<0.05).

e Significant post-hoc Bonferroni test between obese and sarcopenic (P<0.05).

f Significant post-hoc Bonferroni test between normal and obese (P<0.05).

g The risk of malnutrition was determined using the Mini Nutritional Assessment (MNA).