**Table S3.** Summary of quality assessment findings (GRADE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Outcome | Certainty assessment | № of patients | Effect | Certainty |
|  N (studies) | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | CART | ST | Absolute(95% CI) |  |
| Body mass  | 14 | RCT | Serious e, g | very serious d | not serious | Serious c | none | 400 | 361 | SMD **0.74 higher**(0.2 lower to 1.67 higher) | ⨁◯◯◯Very low |
| Body mass(≤16 weeks) | 11 | RCT | Serious e,g | very serious d | not serious | Serious c | none | 320 | 286 | SMD **1.33 higher**(0.06 higher to 2.6 higher) | ⨁◯◯◯Very low |
| Body mass(>16 weeks) | 3 | RCT | not serious | not serious | not serious | Serious c | none | 80 | 75 | SMD **0.23 lower**(0.54 lower to 0.09 higher) | ⨁⨁⨁◯Moderate |
| Body fat | 9 | RCT | Serious e | not serious | not serious | Serious c | none | 290 | 261 | SMD **0.32 lower**(0.55 lower to 0.09 lower) | ⨁⨁◯◯Low |
| Waist-to-hip ratio | 5 | RCT | Serious a | Serious b | not serious | Serious c | none | 65 | 66 | SMD **0.18 lower**(0.66 lower to 0.3 higher) | ⨁◯◯◯Very low |
| Fat mass | 3 | RCT | not serious | not serious | not serious | Serious c | none | 85 | 83 | SMD **0.19 lower**(0.5 lower to 0.11 higher) | ⨁⨁⨁◯Moderate |
| Lean body mass | 3 | RCT | not serious | not serious | not serious | Serious c | none | 77 | 102 | SMD **0.02 lower**(0.33 lower to 0.3 higher) | ⨁⨁⨁◯Moderate |
| High-density lipoprotein | 11 | RCT | Serious e | Serious f | not serious | Serious c | none | 297 | 279 | SMD **0.44 higher**(0.05 higher to 0.82 higher) | ⨁◯◯◯Very low |
| Low-density lipoprotein | 11 | RCT | Serious e,h | Serious f | not serious | Serious c | none | 300 | 289 | SMD **0.32 lower**(0.62 lower to 0.02 lower) | ⨁◯◯◯Very low |
| Triglycerides | 12 | RCT | Serious e,h | not serious | not serious | Serious c | none | 321 | 305 | SMD **0.48 lower**(0.71 lower to 0.24 lower) | ⨁⨁◯◯Low |
| Total cholesterol  | 11 | RCT | Serious e,h | not serious | not serious | Serious c | none | 195 | 181 | SMD **0.35 lower**(0.58 lower to 0.12 lower) | ⨁⨁◯◯Low |
| Fasting blood glucose  | 9 | RCT | Serious g | Serious b | not serious | Serious c | none | 210 | 177 | SMD **0.4 lower**(0.74 lower to 0.07 lower) | ⨁⨁◯◯Low |
| Physical function (aerobic capacity) | 2 | RCT | not serious | not serious | not serious | Serious c | none | 34 | 26 | MD **78.78 higher**(46.3 higher to 111.25 higher) | ⨁⨁⨁◯Moderate |
| Physical function(lower body strength) | 2 | RCT | not serious | Serious b | not serious | Serious c | none | 43 | 41 | MD **5.19 higher**(1.8 higher to 8.59 higher) | ⨁⨁◯◯Low |

*CI, confidence intervals; MD, mean difference; SMD, standardized mean differences; RCT, randomized control trials.*

a the study *was not randomized in its final form due to the high drop-out rate,*

b there is moderate heterogeneity in the involved studies,

c the included studies recorded a small sample size for both the control and intervention groups,

d there is considerable heterogeneity in the studies,

e information regarding the blinding of the participant and the assessor was not provided,

f there is substantial heterogeneity in the study’s outcome,

g blinding was not feasible for participants and