

Effects of Rapid versus Gradual Weight Loss on 1-year % Total Body Weight Loss - an RCT

Background

- Whether rapid or gradual weight loss (RWL/GWL) differently affects long term weight maintenance has been highly debated
- We hypothesized that 16-week RWL is superior to 16-week GWL on 1-year percentage total body weight loss (% TBWL)

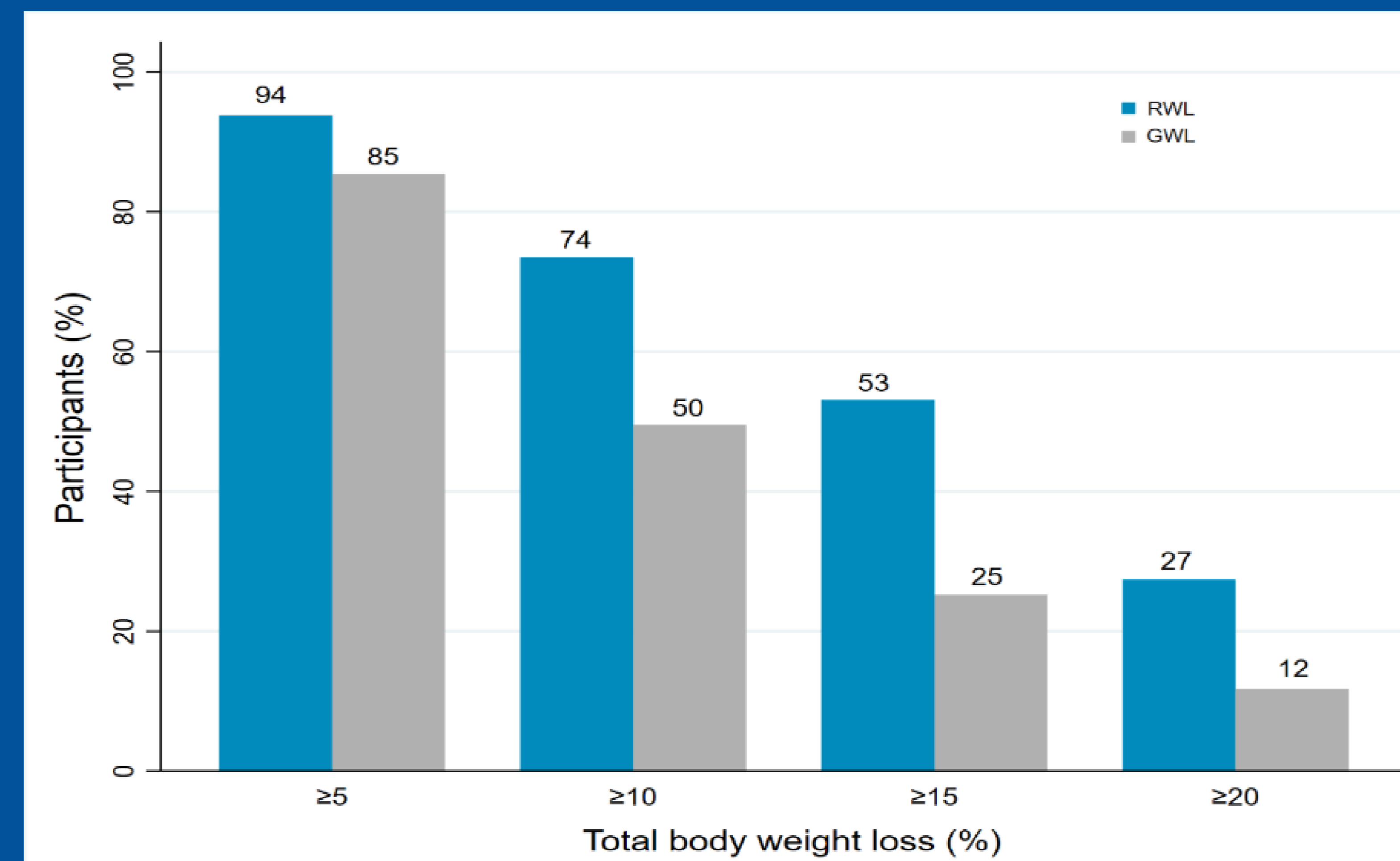
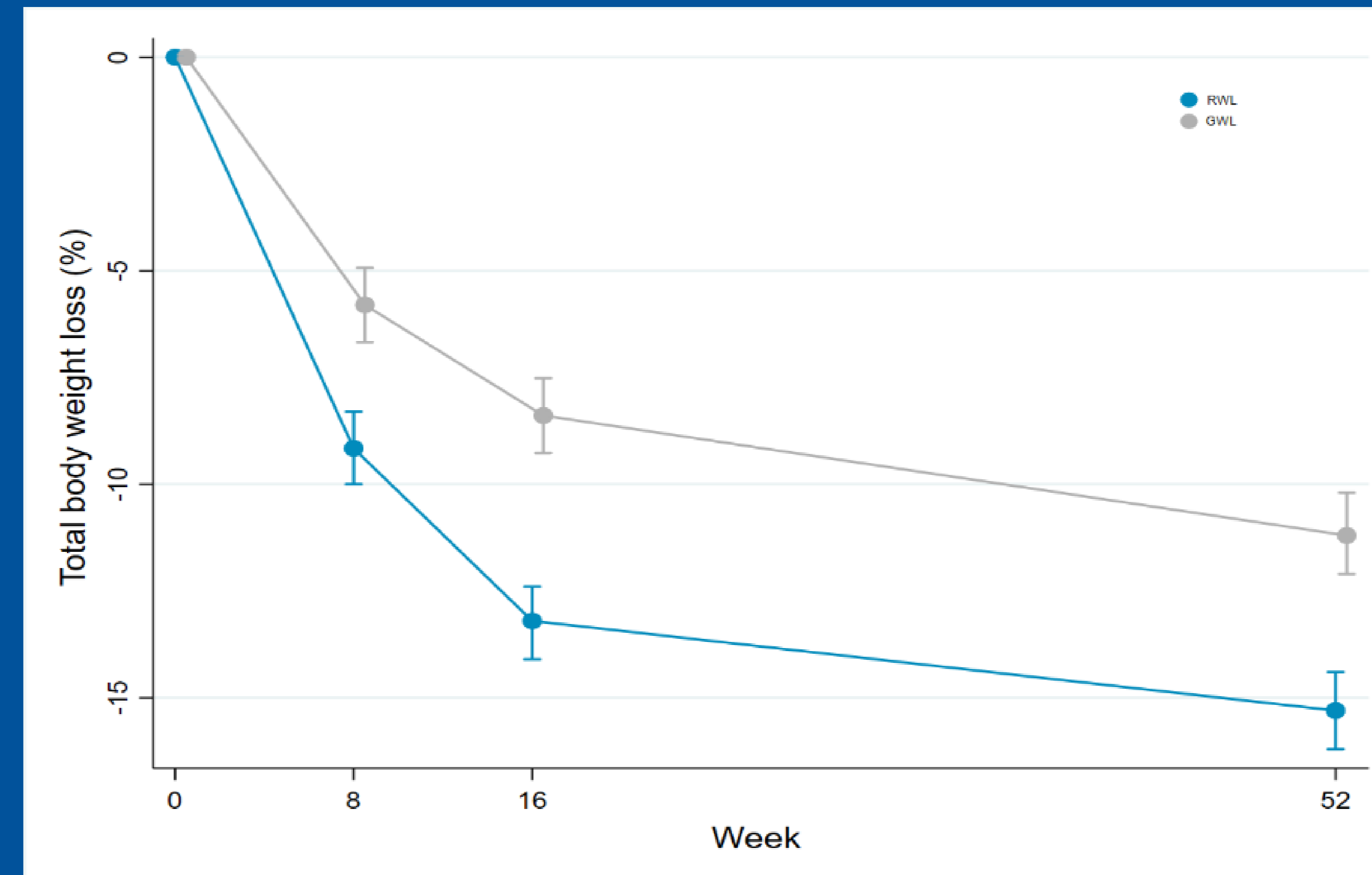
Methods

- Investigator initiated RCT
- 16-week RWL-program:
 - week 1-8 <1000 kcal/d
 - week 9-12 <1300 kcal/d
 - week 13-16 <1500 kcal/d
- or 16-week GWL-program (800-1000 kcal below estimated total energy expenditure/d)
- Both interventions were followed by the same weight regain prevention program for 36 weeks
- Statistics: generalized linear mixed models for repeated measures with identity link.

Results

- 284 participants (257 women) with a mean (SD) age of 47.9 (9.0) years, weight 102.7 (15.6) kg, BMI 36.1 (4.3) kg/m², fat mass (FM) 45.3 (9.7) kg and fat free mass (FFM) 57.1 (8.8) kg, were allocated (1:1) to RWL (n=142) or GWL (n=142). 113 RWL- and 104 GWL-participants completed the 1-year follow-up.

Rapid Weight Loss (WL) is Superior to Gradual WL on 1-year % Total Body WL



Results cont.

- 1-year % TBWL was significantly greater in the RWL-group, mean (95% CI) -15.2 (-16.0, -14.3) %, compared with the GWL-group, -11.0 (-11.8, -10.1) %, between-group difference, -4.2 (-5.4, -3.0) %, p<0.001.
- FM decreased more after RWL, -12.2 (-13.0, -11.4) kg, than after GWL, -8.5 (-9.4, -7.7) kg, between-group difference, -3.7 (-4.8, -2.5) kg, p<0.001.
- The 1-year change in FFM did not differ between groups, RWL-group: -3.1 (-3.5, -2.7) kg vs GWL-group: -2.7 (-3.1, -2.3) kg, between-group difference: -0.4 (-1.0, 0.2) kg.

Conclusion

- As compared with 16-week GWL, 16-week RWL was associated with a significantly greater 1-year %TBWL.
- By contrast, FFM declined slightly after both programs with no difference between groups.
- These results challenge dietary guidelines recommending gradual over rapid weight loss.

Authors

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