Appendix S1: Full search strategy for Ovid MEDLINE, Cochrane Library, and Web of Science

Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily 1946 to March 25, 2019

1	adults/ or adult.mp. or middle aged.sh. or age.tw. or (male* or female*).ti,ab.	8129807
2	(intermittent* fasting or alternate-day fasting or alternate day fasting or alternate-day calori* restrict* or alternate day calori* restrict* or alternate day energy restrict* or alternate-day energy restrict* or intermittent* energy restrict* or intermittent* calori* restrict* or intermittent* restrict* diet or fasting calorie restrict* intervention* or periodi* fasting* or sporadic fast* or intermittent calori* reduct* or intermittent energy reduct* or periodi* energy reduct* or periodi* calori* reduct*).ti,ab,kf.	582
3	((intermittent adj6 diet) or (intermittent adj6 energy restrict*) or (alternet day adj6 fast*) or (alternate-day adj6 fast*) or (alternat* adj6 calori*) or (alternat* adj6 energy)).ti,ab,kf.	3702
4	1 and (2 or 3)	841
5	((randomized controlled trial or controlled clinical trial).pt. or randomised.ti,ab. or randomized.ti,ab. or placebo.ti,ab. or drug therapy.sh. or randomly.ti,ab. or trial.ti,ab. or groups.ti,ab.) not (animals/ not humans/)	2423499
6	**4 and 5**	**211**

Cochrane Library March 25, 2019

1	MeSH descriptor: [Adult] explode all trees	3085
2	(adult or person or individual* or male* or female*):ti,ab,kw	770206
3	(intermittent* fasting or alternate-day fasting or alternate day fasting or alternate-day calori* restrict* or alternate day calori* restrict* or alternate day energy restrict* or alternate-day energy restrict* or intermittent* energy restrict* or intermittent* calori* restrict* or intermittent* restrict* diet or fasting calorie restrict* intervention* or periodi* fasting* or sporadic fast* or intermittent calori* reduct* or intermittent energy reduct* or periodi* energy reduct* or periodi* calori* reduct*):ti,ab,kw	591
4	((intermittent near/6 diet) or (intermittent near/6 energy restrict*) or (alternet day near/6 fast*) or (alternate-day near/6 fast*) or (alternat* near/6 calori*) or (alternat* near/6 energy)).ti,ab,kf.	44
5	(#1 or #2) and (#3 or #4)	514
6	(("randomized controlled trial" or "controlled clinical trial"):pt or randomized:ti,ab or randomised:ti,ab or placebo.ti,ab or randomly:ti,ab or trial:ti,ab or groups:ti,ab) not ([mh "animals"] not [mh "humans"])	917867
7	**#5 and #6**	**455**

Web of Science March 25, 2019

1	ts=(adult or person or individual* or male* or female*) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	4830850
2	ts=(intermittent* fasting or alternate-day fasting or alternate day fasting or alternate-day calori* restrict* or alternate day calori* restrict* or alternate day energy restrict* or alternate-day energy restrict* or intermittent* energy restrict* or intermittent* calori* restrict* or intermittent* restrict* diet or fasting calorie restrict* intervention* or periodi* fasting* or sporadic fast* or intermittent calori* reduct* or intermittent energy reduct* or periodi* energy reduct* or periodi* calori* reduct*) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	9662
3	ts=((intermittent near/6 diet) or (intermittent near/6 energy restrict*) or (alternet day near/6 fast*) or (alternate-day near/6 fast*) or (alternat* near/6 calori*) or (alternat* near/6 energy)) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	21575
4	#1 and (#2 or #3) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	2,920
5	ts=(randomised or randomized or "controlled clinical" or placebo or randomly or trial) Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	2081889
6	#4 and #5 Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=All years	**487**

Appendix S2: Full-text publications excluded with reason

Reference	Reason for exclusion
(1-9)	Wrong study duration
(10-20)	Wrong study design
(21-32)	Wrong intervention
(33)	Wrong comparator
(34)	Wrong outcome measure
(35)	Wrong patient population
(36-39)	Duplicate publication

1. Arguin H, Dionne IJ, Senechal M, et al. Short- and long-term effects of continuous versus intermittent restrictive diet approaches on body composition and the metabolic profile in overweight and obese postmenopausal women: a pilot study. Menopause;19(8):870-6.
2. Catenacci VA, Pan ZX, Ostendorf D, et al. A Randomized Pilot Study Comparing Zero-Calorie Alternate-Day Fasting to Daily Caloric Restriction in Adults with Obesity. Obesity 2016;24(9):1874-83. doi: 10.1002/oby.21581.
3. Eshghinia S, Mohammadzadeh F. The effects of modified alternate-day fasting diet on weight loss and CAD risk factors in overweight and obese women. Journal of Diabetes & Matabolic Disorders;12(1):4.
4. Hoddy K, Kroeger C, Trepanowski J, et al. Meal timing during alternate day fasting: effects on body weight and coronary heart disease risk in obese adults. FASEB journal 2014;28(1 SUPPL. 1).
5. Hoddy KK, Kroeger CM, Trepanowski JF, et al. Meal timing during alternate day fasting: Impact on body weight and cardiovascular disease risk in obese adults. Obesity;22(12):2524-31.
6. Nct. Impacts of Intermittent Fasting on Energy Balance and Associated Health Outcomes. Https://clinicaltrialsgov/show/nct02498002 2015.
7. Pedersen E, Jennifer BKJ, Kristina Petersen K, et al. Effects of intermittent compared to continuous energy restriction on weight loss and diet quality after one year. Obesity reviews 2014;15:142. doi: 10.1111/obr.12151.
8. Varady KA. Intermittent versus daily calorie restriction: which diet regimen is more effective for weight loss? Obesity Reviews 2011;12(7):E593-E601. doi: 10.1111/j.1467-789X.2011.00873.x.
9. Wing RR, Marcus MD, Salata R, et al. Effects of a very-low-calorie diet on long-term glycemic control in obese type 2 diabetic subjects. Arch Intern Med 1991;151(7):1334-40.
10. Harvey J, Howell A, Morris J, et al. Intermittent energy restriction for weight loss: Spontaneous reduction of energy intake on unrestricted days. Food Science & Nutrition 2018;6(3):674-80. doi: 10.1002/fsn3.586.
11. Headland ML, Clifton PM, Keogh JB. Effect of intermittent compared to continuous energy restriction on weight loss and weight maintenance after 12 months in healthy overweight or obese adults. International Journal of Obesity 2018;23:23.
12. Keogh JB, Pedersen E, Petersen KS, et al. Effects of intermittent compared to continuous energy restriction on short-term weight loss and long-term weight loss maintenance. Clinical Obesity;4(3):150-6.
13. Kroeger CM, Trepanowski JF, Klempel MC, et al. Eating behavior traits of successful weight losers during 12 months of alternate-day fasting: An exploratory analysis of a randomized controlled trial. Nutrition & Health;24(1):5-10.

14. Nct. Intermittent Fasting for Metabolic Health, Does Meal Timing Matter? Https://clinicaltrialsgov/show/nct02633722 2015.
15. Nct. Daily vs Intermittent Restriction of Energy: controlled Trial to Reduce Diabetes Risk (DIRECT). Https://clinicaltrialsgov/show/nct03689608 2018.
16. Nct. Intermittent Fasting Versus Daily Caloric Restriction for Weight Loss. Https://clinicaltrialsgov/show/nct03411356 2018.
17. Rossner S. Intermittent vs continuous VLCD therapy in obesity treatment. International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity;22(2):190-2.
18. Vink RG, Roumans NJ, Arkenbosch LA, et al. The effect of rate of weight loss on long-term weight regain in adults with overweight and obesity. Obesity (Silver Spring) 2016;24(2):321-7. doi: 10.1002/oby.21346.
19. Wadden TA, Stunkard AJ. Controlled trial of very low calorie diet, behavior therapy, and their combination in the treatment of obesity. Journal of consulting and clinical psychology 1986;54(4):482-8. doi: 10.1037//0022-006x.54.4.482.
20. Widhalm K, Poppelmeyer C, Helk O. The Effect of Alternate-Day Fasting (ADF) on Weight Loss, Metabolic Parameters and Psychological Characteristics. Aktuelle Ernahrungsmedizin 2017;42(3):188-92. doi: 10.1055/s-0043-109126.
21. Antoni R, Johnston KL, Collins AL, et al. Intermittent v. continuous energy restriction: differential effects on postprandial glucose and lipid metabolism following matched weight loss in overweight/obese participants. British Journal of Nutrition;119(5):507-16.
22. Antoni R, Johnston KL, Collins AL, et al. Acute effects of intermittent energy restriction on energy compensation: a pilot study. Obesity facts 2015;8:76. doi: 10.1159/000382140.
23. Ash S, Reeves MM, Yeo S, et al. Effect of intensive dietetic interventions on weight and glycaemic control in overweight men with Type II diabetes: a randomised trial. International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity;27(7):797-802.
24. Coutinho SR, Halset EH, Gasbakk S, et al. Compensatory mechanisms activated with intermittent energy restriction: A randomized control trial. Clinical Nutrition;37(3):815-23.
25. Goday A, Bellido D, Sajoux I, et al. Short-term safety, tolerability and efficacy of a very low-calorie-ketogenic diet interventional weight loss program versus hypocaloric diet in patients with type 2 diabetes mellitus. Nutr Diabetes 2016;6(9):e230. doi: 10.1038/nutd.2016.36.
26. Haywood CJ, Prendergast LA, Purcell K, et al. Very Low Calorie Diets for Weight Loss in Obese Older Adults-A Randomized Trial. The journals of gerontology Series A, Biological sciences and medical sciences 2017;73(1):59-65. doi: 10.1093/gerona/glx012.
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28. Lantz H, Peltonen M, Agren L, et al. Intermittent versus on-demand use of a very low calorie diet: a randomized 2-year clinical trial. Journal of internal medicine 2003;253(4):463-71.
29. Moreno B, Crujeiras AB, Bellido D, et al. Obesity treatment by very low-calorie-ketogenic diet at two years: reduction in visceral fat and on the burden of disease. Endocrine 2016;54(3):681-90. doi: 10.1007/s12020-016-1050-2.
30. Ryttig KR, Flaten H, Rossner S. Long-term effects of a very low calorie diet (Nutrilett) in obesity treatment. A prospective, randomized, comparison between VLCD and a hypocaloric diet+behavior modification and their combination. International journal of

obesity and related metabolic disorders : journal of the International Association for the Study of Obesity 1997;21(7):574-9.
31. Ryttig KR, Rossner S. Weight maintenance after a very low calorie diet (VLCD) weight reduction period and the effects of VLCD supplementation. A prospective, randomized, comparative, controlled long-term trial. J Intern Med 1995;238(4):299-306. doi: 10.1111/j.1365-2796.1995.tb01202.x.
32. Wing RR, Blair E, Marcus M, et al. Year-long weight loss treatment for obese patients with type II diabetes: does including an intermittent very-low-calorie diet improve outcome? American Journal of Medicine;97(4):354-62.
33. Corley BT, Carroll RW, Hall RM, et al. Intermittent fasting in Type 2 diabetes mellitus and the risk of hypoglycaemia: a randomized controlled trial. Diabetic Medicine;35(5):588-94.
34. Hussin NM, Shahar S, Teng N, et al. Efficacy of Fasting and Calorie Restriction (FCR) on mood and depression among ageing men. Journal of Nutrition Health & Aging 2013;17(8):674-80. doi: 10.1007/s12603-013-0344-9.
35. Fitzgerald KC, Vizthum D, Henry-Barron B, et al. Effect of intermittent vs. daily calorie restriction on changes in weight and patient-reported outcomes in people with multiple sclerosis. Multiple sclerosis and related disorders 2018;23:33-9. doi: 10.1016/j.msard.2018.05.002.
36. Carter S, Clifton PM, Keogh JB. The effects of intermittent compared to continuous energy restriction on glycaemic control in type 2 diabetes; a pragmatic pilot trial. Diabetes Research & Clinical Practice;122:106-12.
37. Coutinho SR, Glsbakk S, Halset EH, et al. Effect of intermittent versus continuous energy restriction on compensatory mechanisms activated during weight reduction. Obesity facts 2015;8:107. doi: 10.1159/000382140.
38. Kroeger C, Trapanowski J, Klempel M, et al. Alternate day fasting is effective for weight loss and weight maintenance in obese adults. FASEB journal 2014;28(1 SUPPL. 1).
39. Trepanowski JF, Kroeger CM, Barnosky A, et al. Effects of alternate-day fasting or daily calorie restriction on body composition, fat distribution, and circulating adipokines: Secondary analysis of a randomized controlled trial. Clinical Nutrition;37(6 Pt A):1871-8.

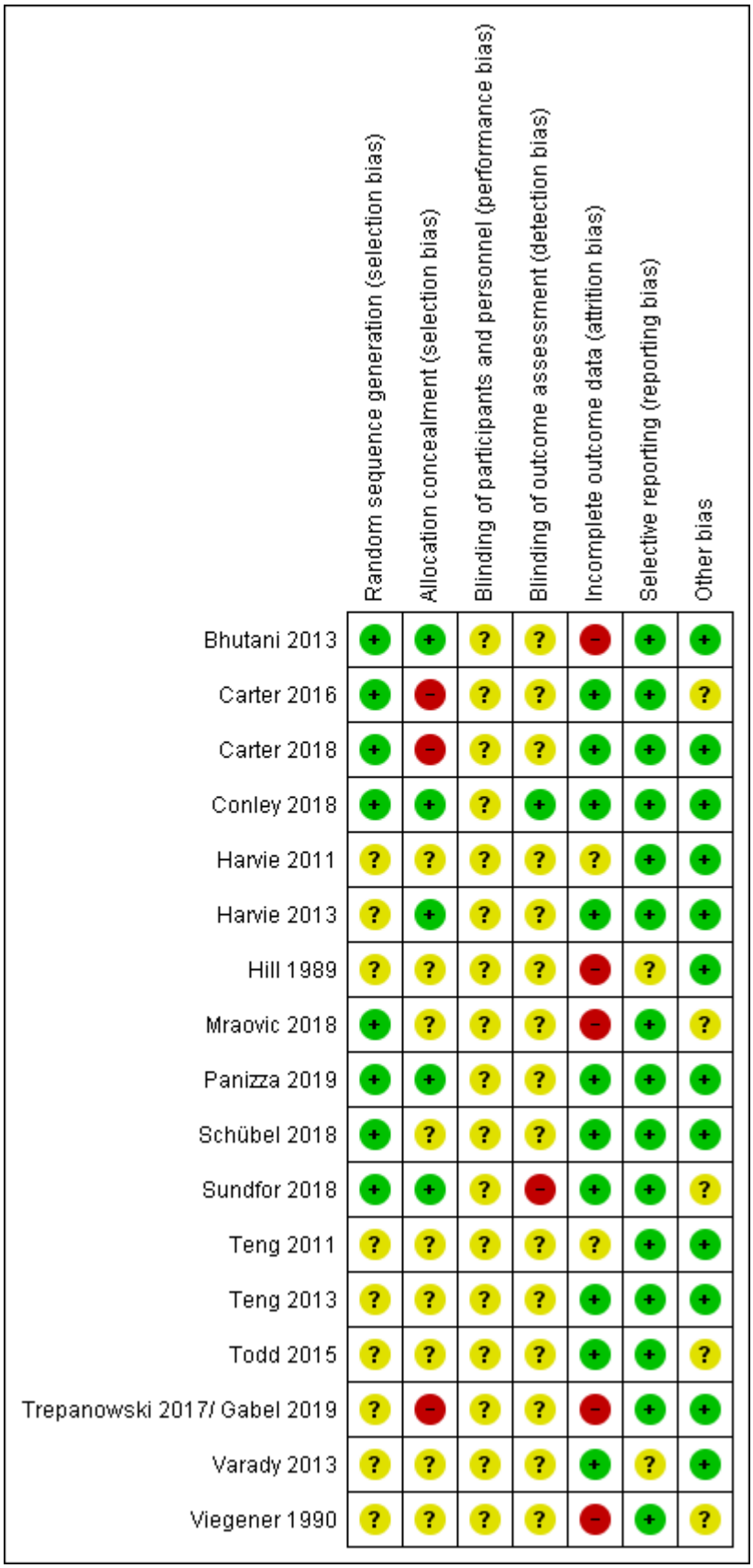

Figure S1: Risk of bias evaluation of the included RCTs.

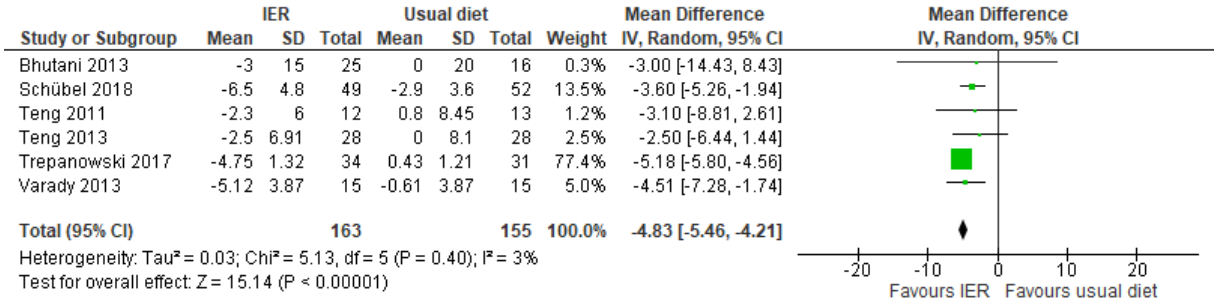

Figure S2: Summary effect estimates of IER vs. usual diet on body weight (kg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

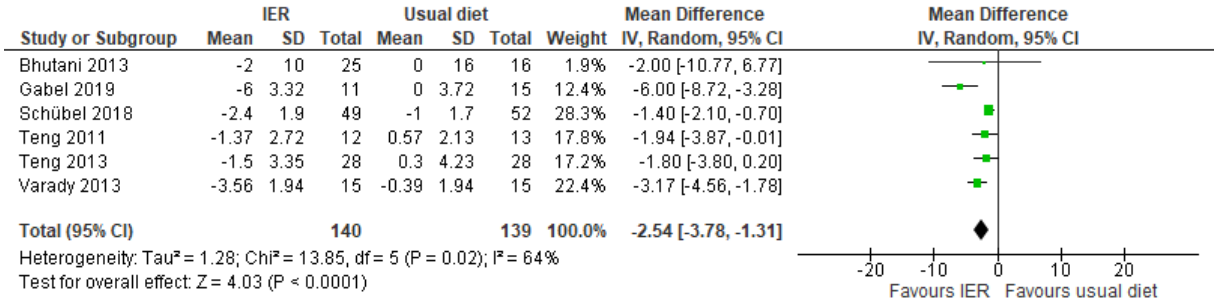

Figure S3: Summary effect estimates of IER vs. usual diet on fat mass (kg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

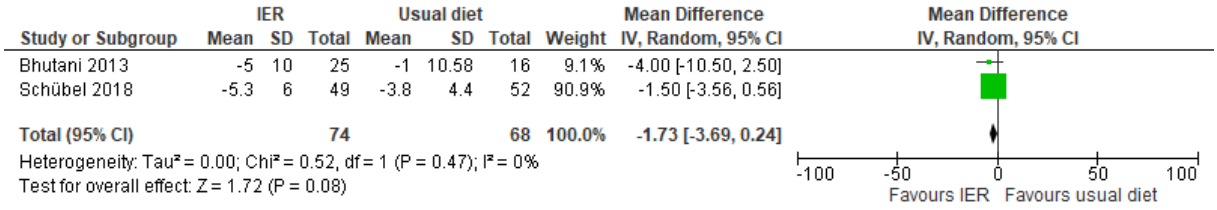

Figure S4: Summary effect estimates of IER vs. usual diet on waist circumference (cm).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

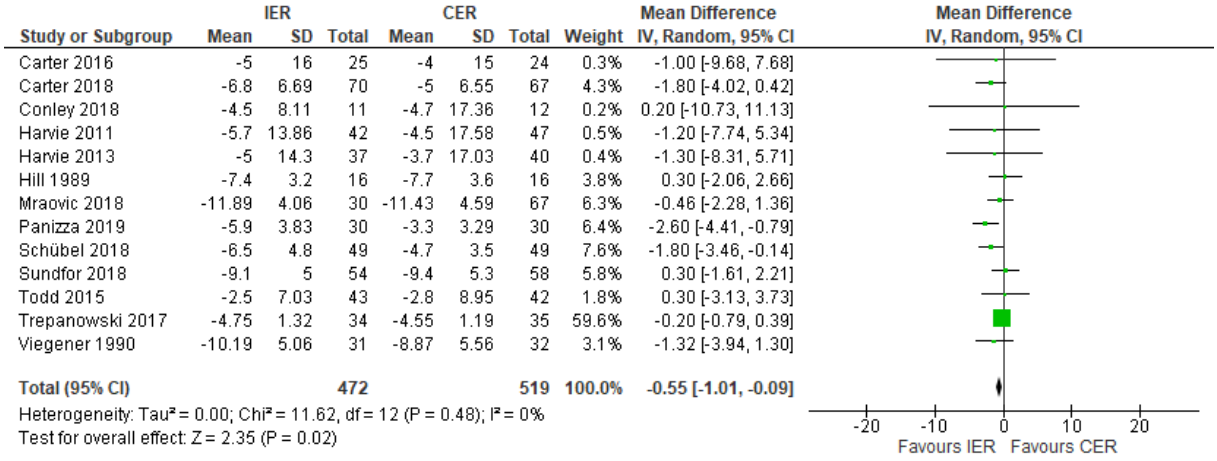

Figure S5: Summary effect estimates of IER vs. CER on body weight (kg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

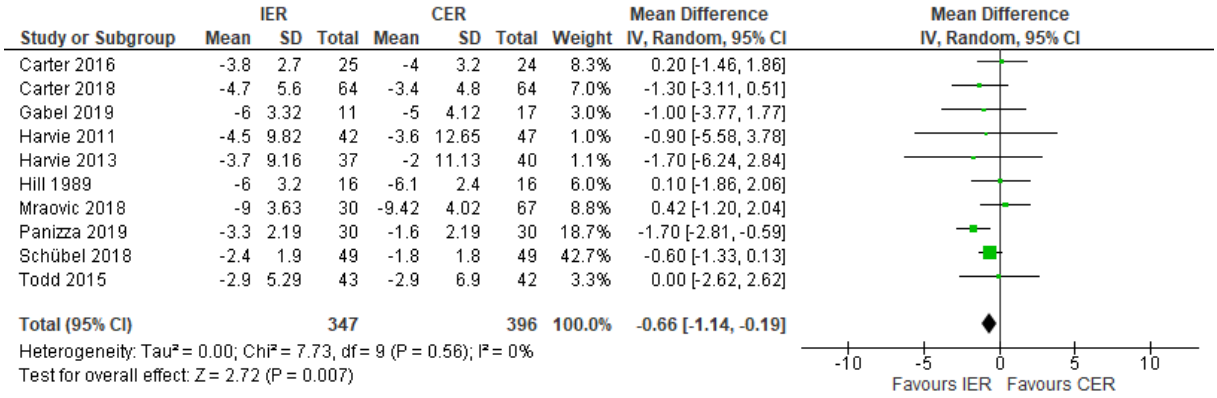

Figure S6: Summary effect estimates of IER vs. CER on fat mass (kg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

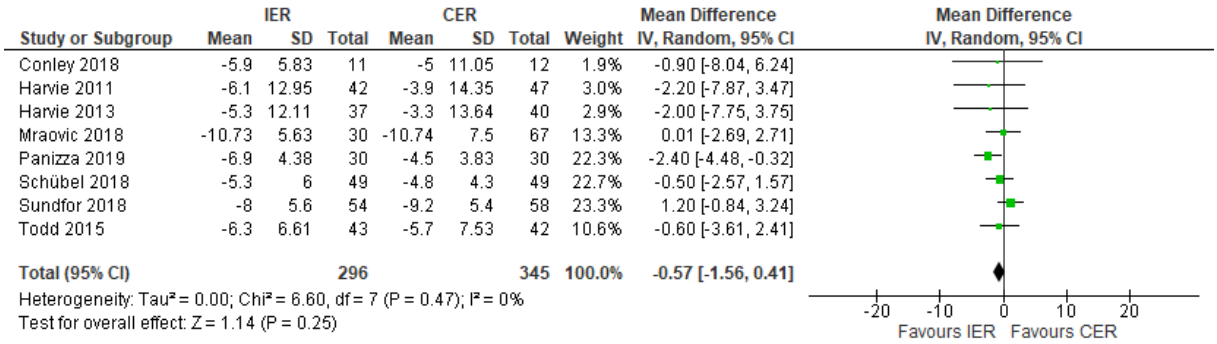

Figure S7: Summary effect estimates of IER vs. CER on waist circumference (cm).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

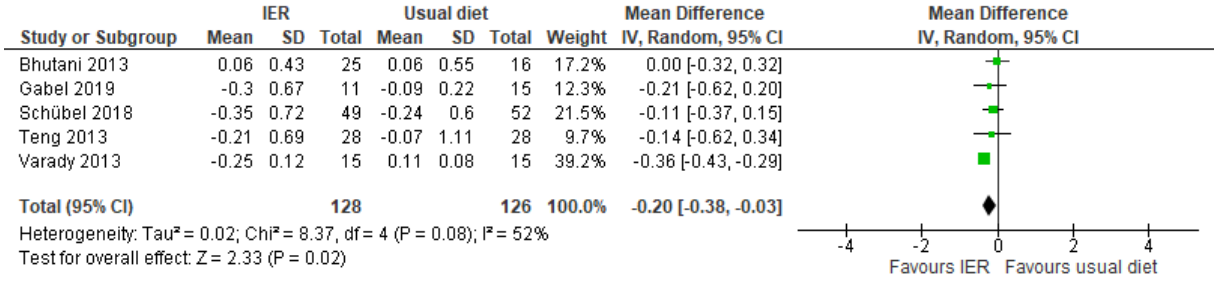

Figure S8: Summary effect estimates of IER vs. usual diet on triacylglycerols (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

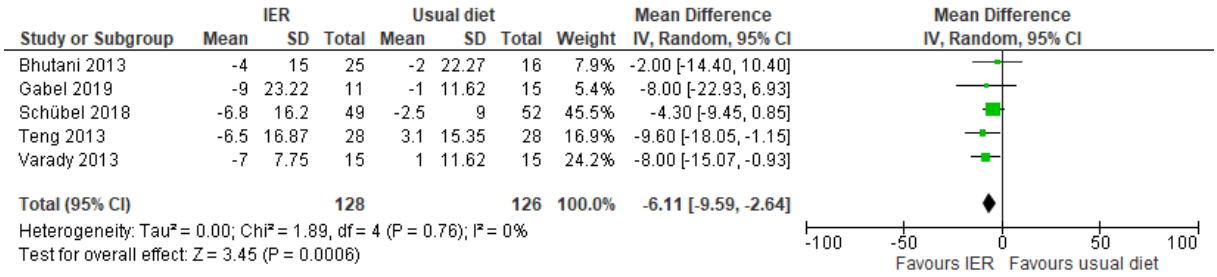

Figure S9: Summary effect estimates of IER vs. usual diet on systolic blood pressure (mmHg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

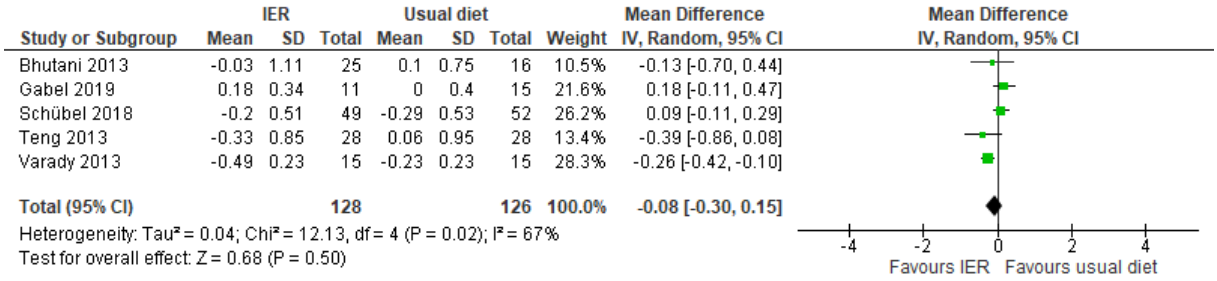

Figure S10: Summary effect estimates of IER vs. usual diet on LDL-cholesterol (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

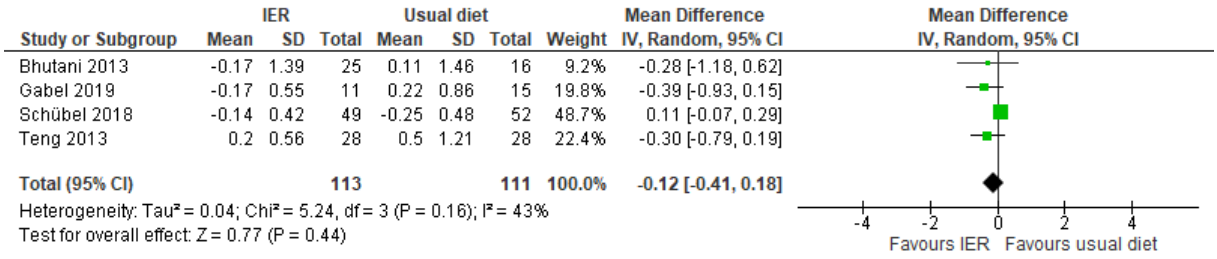

Figure S11: Summary effect estimates of IER vs. usual diet on fasting glucose (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

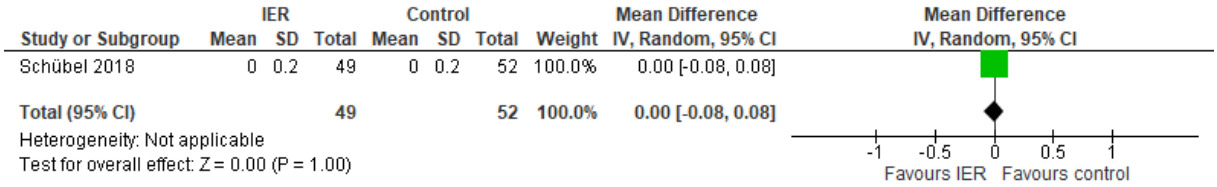

Figure S12: Summary effect estimates of IER vs. usual diet on glycosylated hemoglobin (%).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

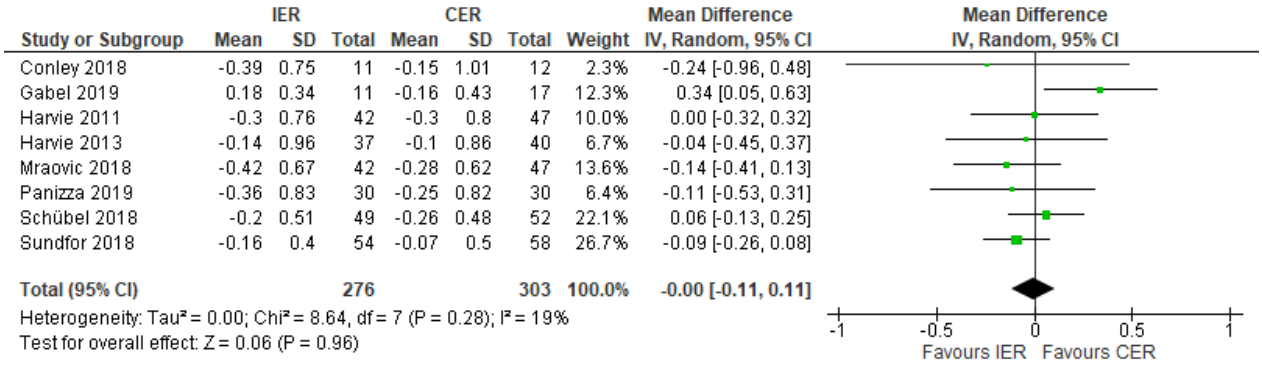

Figure S13: Summary effect estimates of IER vs. CER on LDL-cholesterol (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

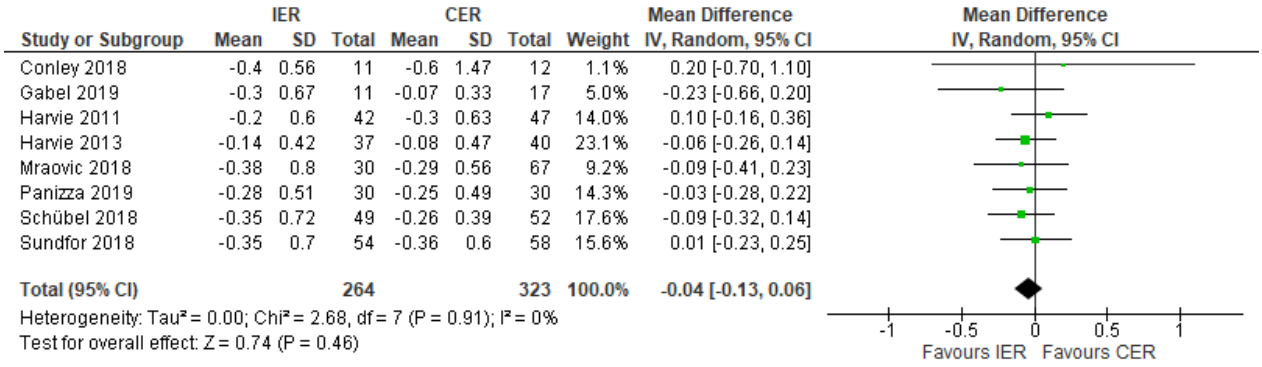

Figure S14: Summary effect estimates of IER vs. CER on triacylglycerols (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

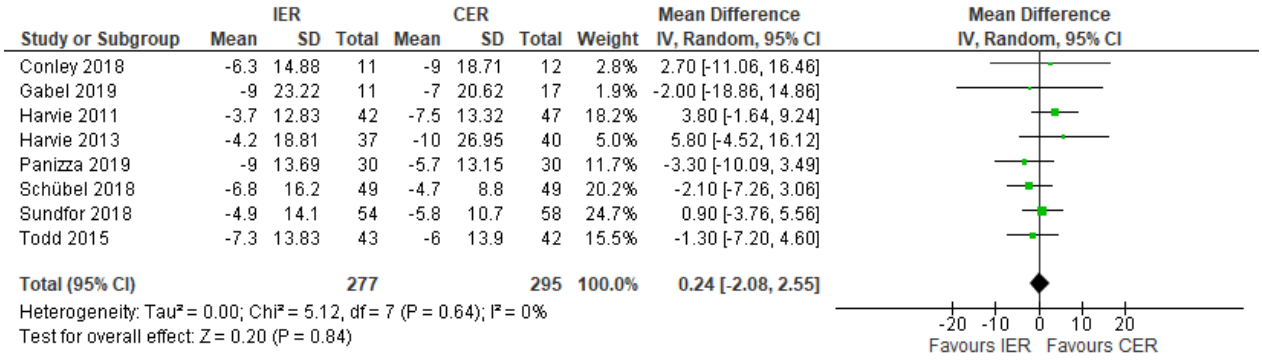

Figure S15: Summary effect estimates of IER vs. CER on systolic blood pressure (mmHg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

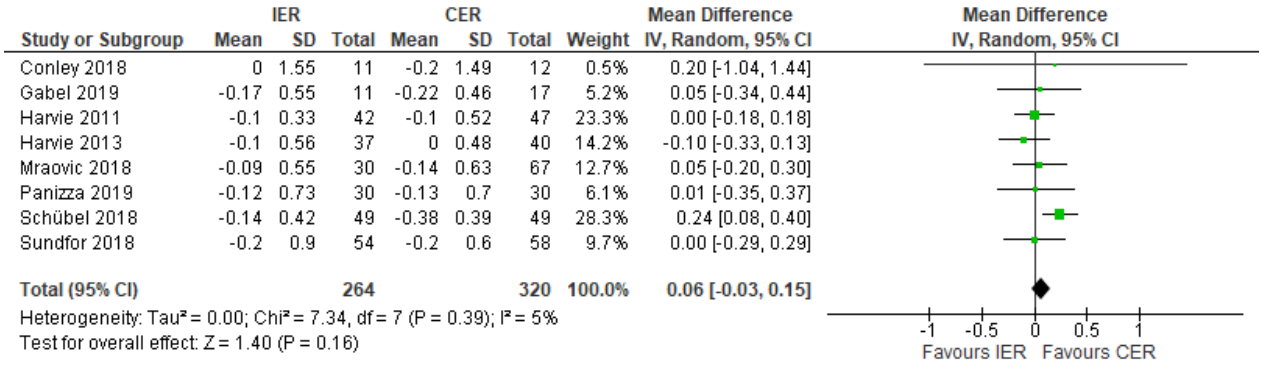

Figure S16: Summary effect estimates of IER vs. CER on fasting glucose (mmol/L).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

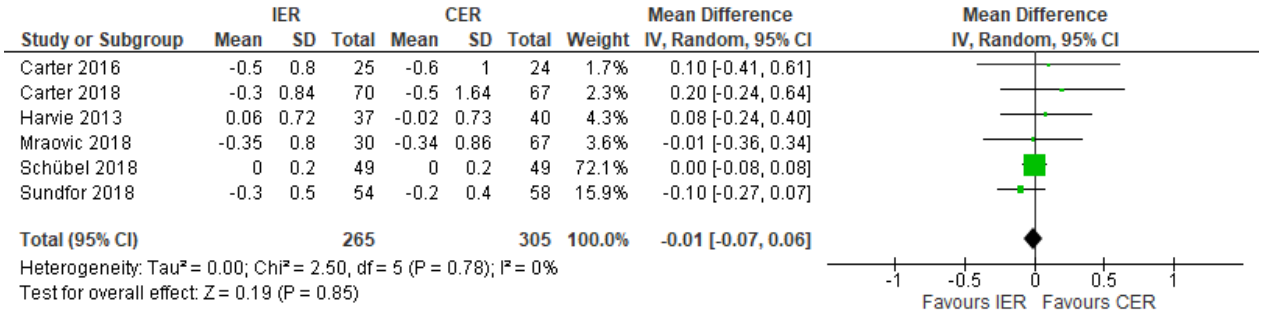

Figure S17: Summary effect estimates of IER vs. CER on glycosylated hemoglobin (%).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

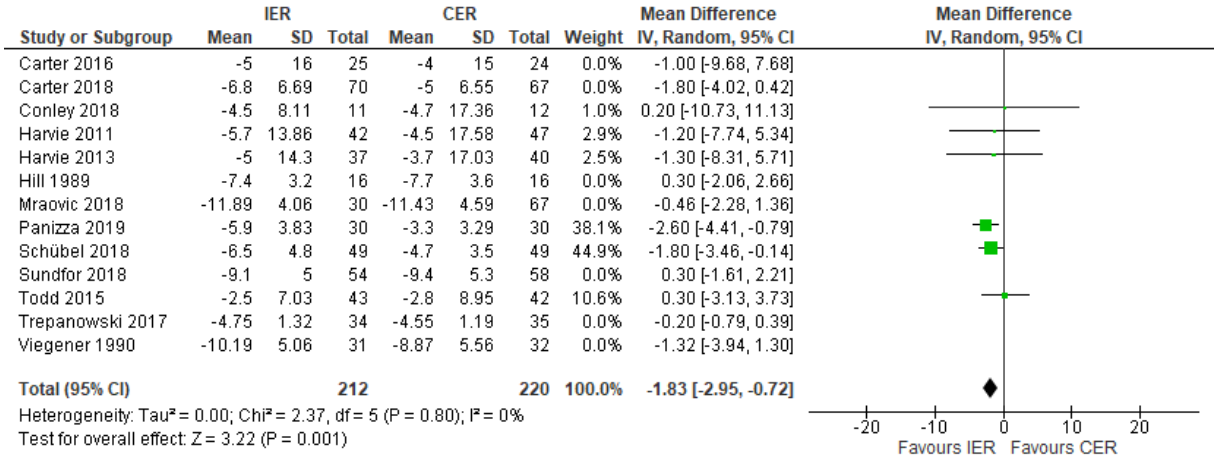

Figure S18: Sensitivity analysis excluding high risk of bias trials comparing IER vs. CER on body weight (kg).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

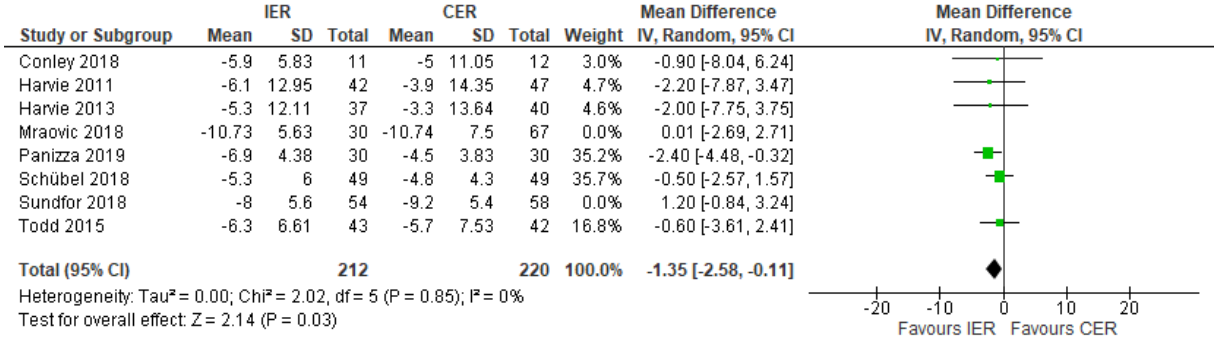

Figure S19: Sensitivity analysis excluding high risk of bias trials comparing IER vs. CER on waist circumference (cm).

For each study the change scores including the SD and the total number of patients is presented for each study arm. The effect estimate is expressed as mean difference (MD), and was calculated for each study and as pooled estimate including the 95% CI using the random effects model. Whether the pooled effect estimate shows significance or not is expressed by the given P-value (test for overall effect; P>0.05 not significant). Additionally, the

significance of the effect estimates can be judged by the 95% CI. A 95% CI including the zero-effect refers to a non-significant result of the statistical test.

95% CI: confidence interval; CER: continuous energy restriction; I^2: inconsistency; IER: intermittent energy restriction; IV: inverse variance; Random: Random effect model; SD: standard deviation;

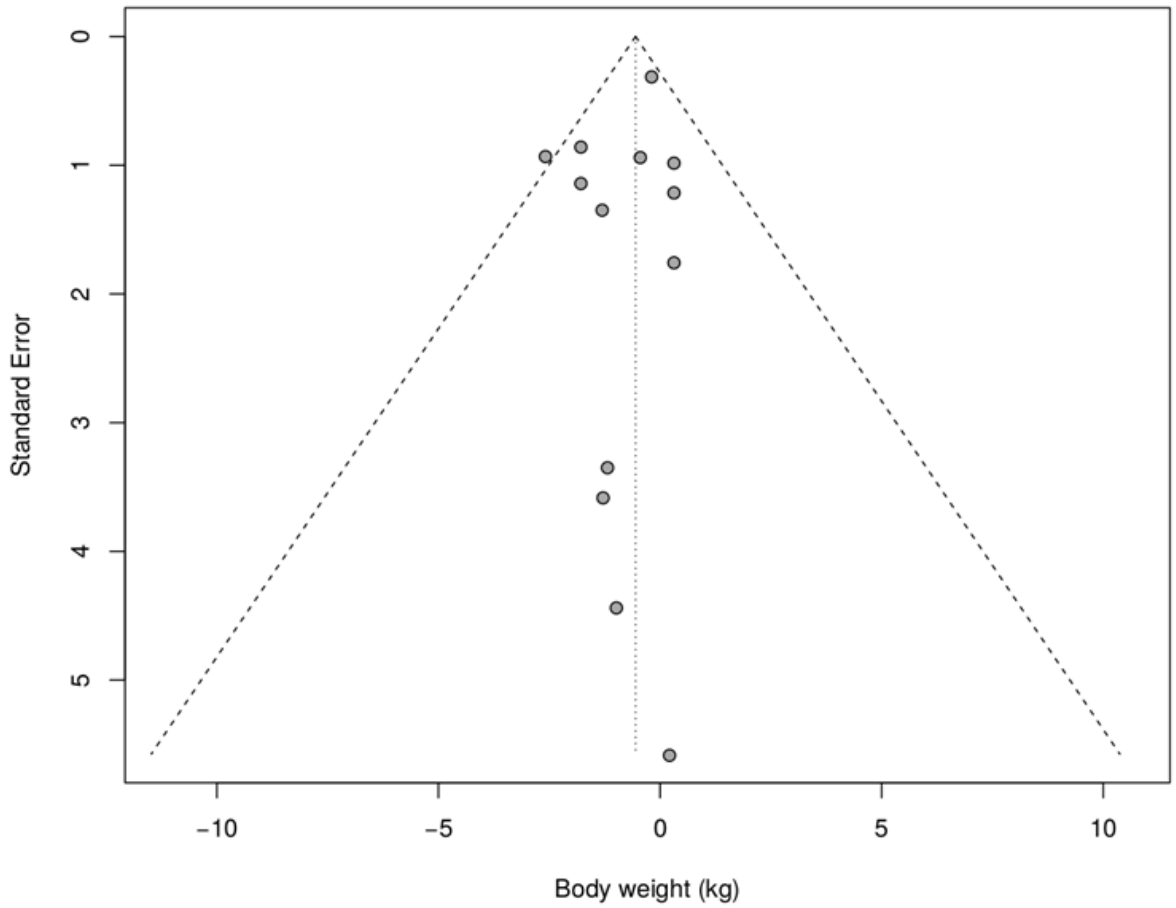

Figure S20: Funnel plot comparing IER vs. CER on body weight (kg).

The funnel plot is a sort of scatterplot that might be used to detect publication bias. With the effect size (weight) of the respective included studies on the horizontal axis and the standard error on the vertical axis, publication bias might be present in case of missing symmetry.

IER: intermittent energy restriction; CER: continuous energy restriction; MD: mean difference; SE: standard error.

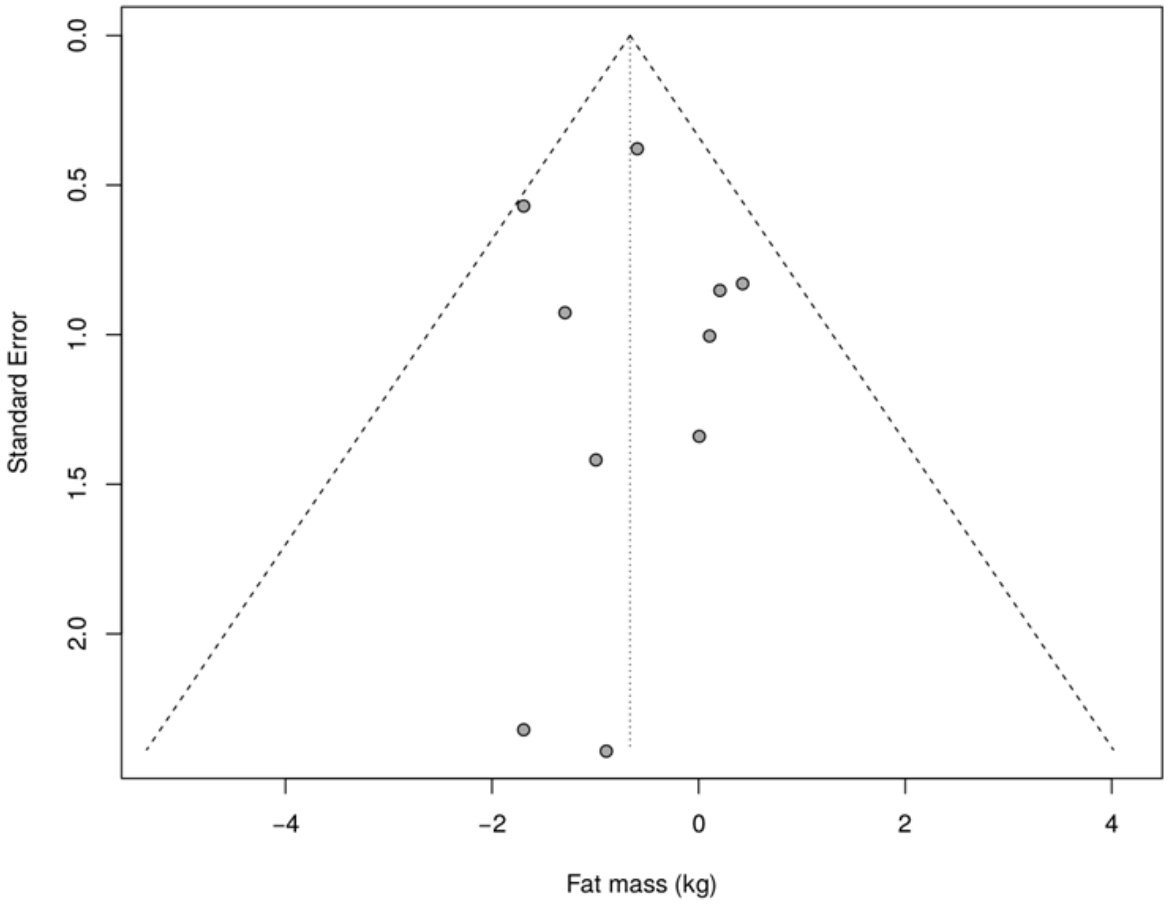

Figure S21: Funnel plot comparing IER vs. CER on fast mass (kg).

The funnel plot is a sort of scatterplot that might be used to detect publication bias. With the effect size (weight) of the respective included studies on the horizontal axis and the standard error on the vertical axis, publication bias might be present in case of missing symmetry.

IER: intermittent energy restriction; CER: continuous energy restriction; MD: mean difference; SE: standard error.

Table S1: Subgroup analysis comparing IER vs. usual diet.

	Mean difference (95% CI)	**p for interaction**
Body weight (kg)		
All comparisons (n=6)	-4.83 (-5.46; -4.21)	
5:2 (n=3)	-3.41 (-4.89, -1.93)	0.03
4:3 (n=3)	-5.14 (-5.74, -4.54)	
Patients with obesity (n=3)	-4.65 (-5.86, -3.44)	0.46
Overweight (n=3)	-3.74 (-5.85, -1.64)	
Waist Circumference (cm)		
All comparisons (n=2)	-1.73 (-3.69, 0.24)	
5:2 (n=1)	-1.50 (-3.56, 0.56)	0.47
4:3 (n=1)	-4.00 (-10.50, 2.50)	
Fat Mass (kg)		
All comparisons (n=6)	-2.54 (-3.78, -1.31)	
5:2 (n=3)	-1.50 (-2.13, -0.87)	0.02
4:3 (n=3)	-4.10 (-6.28, -1.92)	
Patients with obesity (n=3)	-3.27 (-7.07, 0.54)	0.71
Overweight (n=3)	-2.52 (-3.50, -1.54)	

IER: intermittent energy restriction.

Table S2: Subgroup analysis comparing IER vs. continuous energy restriction.

	Mean difference (95% CI)	**p for interaction**
Body weight (kg)		
All comparisons (n=13)	-0.55 (-1.01, -0.09)	
5:2 (n=9)	-1.37 (-2.24, -0.49)	0.03
4:3 (n=3)	-0.20 (-0.75, 0.35)	
Consecutive (n=5)	-1.14 (-2.60, 0.32)	0.38
Non-consecutive (n=8)	-0.44 (-0.94, 0.05)	
Patients with obesity (n=11)	-0.75 (-1.32, -0.17)	0.31
Overweight (n=2)	0.30 (-1.64, 2.24)	
Women (n=6)	-0.40 (-1.56, 0.75)	0.91
Men (n=1)	0.20 (-10.73, 11.13)	
Short-term (n=12)	-0.49 (-0.96, -0.03)	0.26
Long-term (n=11)	-1.80 (-4.02, 0.42)	
Waist Circumference (cm)		
All comparisons (n=8)	-0.57 (-1.56, 0.41)	
5:2 (n=7)	-0.68 (-1.79, 0.44)	0.64
4:3 (n=1)	0.01 (-2.69, 2.71)	
Consecutive (n=4)	-1.86 (-3.44, -0.28)	0.04
Non-consecutive (n=4)	0.25 (-1.01, 1.50)	
Patients with obesity (n=7)	-0.59 (-1.71, 0.54)	0.99
Overweight (n=1)	-0.60 (-3.61, 2.41)	
Women (n=4)	-0.63 (-2.43, 1.17)	0.94
Men (n=1)	-0.90 (-8.04, 6.24)	
Fat Mass (kg)		
All comparisons (n=10)	-0.66 (-1.14, -0.19)	
5:2 (n=7)	-0.82 (-1.35, -0.29)	0.16
4:3 (n=3)	0.07 (-1.06, 1.21)	
Consecutive (n=4)	-1.43 (-2.40, -0.46)	0.08
Non-consecutive (n=6)	-0.42 (-0.97, 0.13)	
Patients with obesity (n=8)	-0.74 (-1.24, -0.24)	0.34
Overweight (n=2)	0.06 (-1.50, 1.63)	
Short-term (n=9)	-0.62 (-1.11, -0.12)	0.47
Long-term (n=1)	-1.30 (-3.11, 0.51)	

IER: intermittent energy restriction.