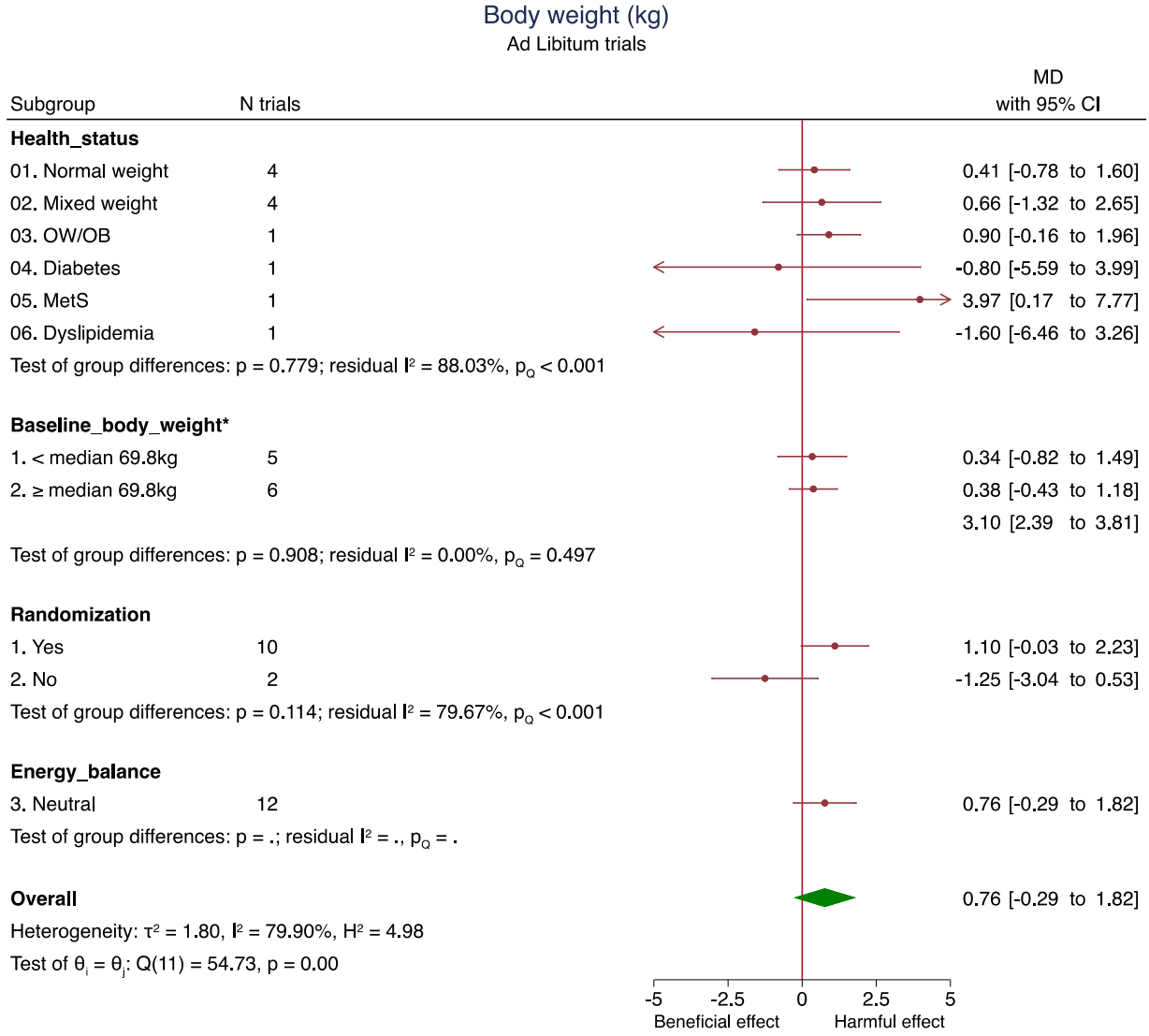
Supplementary Figure 131 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body weight (kg) in *ad libitum* trials

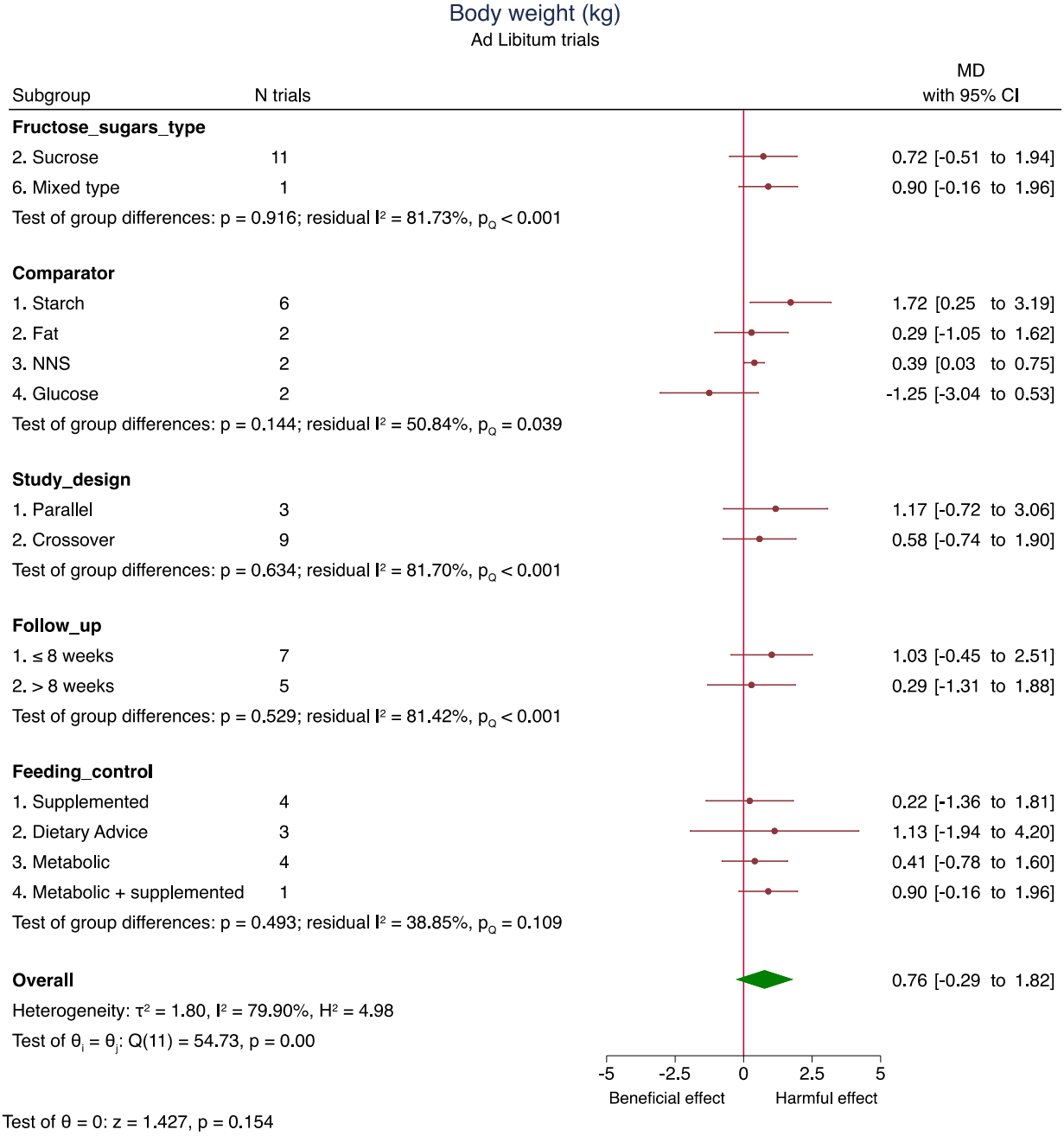


*N=1 trial missing data for baseline body weight.

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

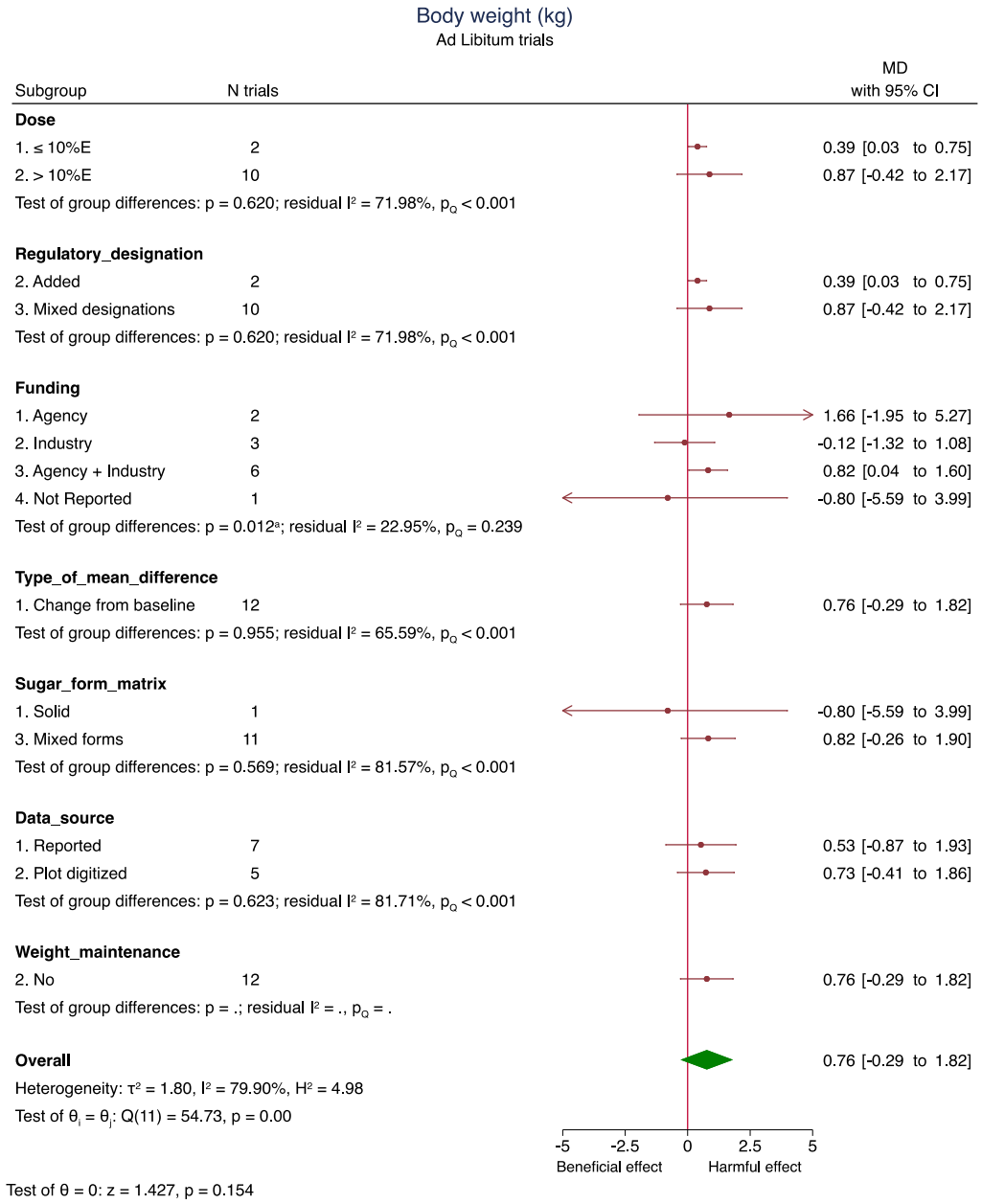
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome; OB=obese; OW=overweight.

Supplementary Figure 131 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body weight (kg) in *ad libitum* trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 131 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body weight (kg) in *ad libitum* trials

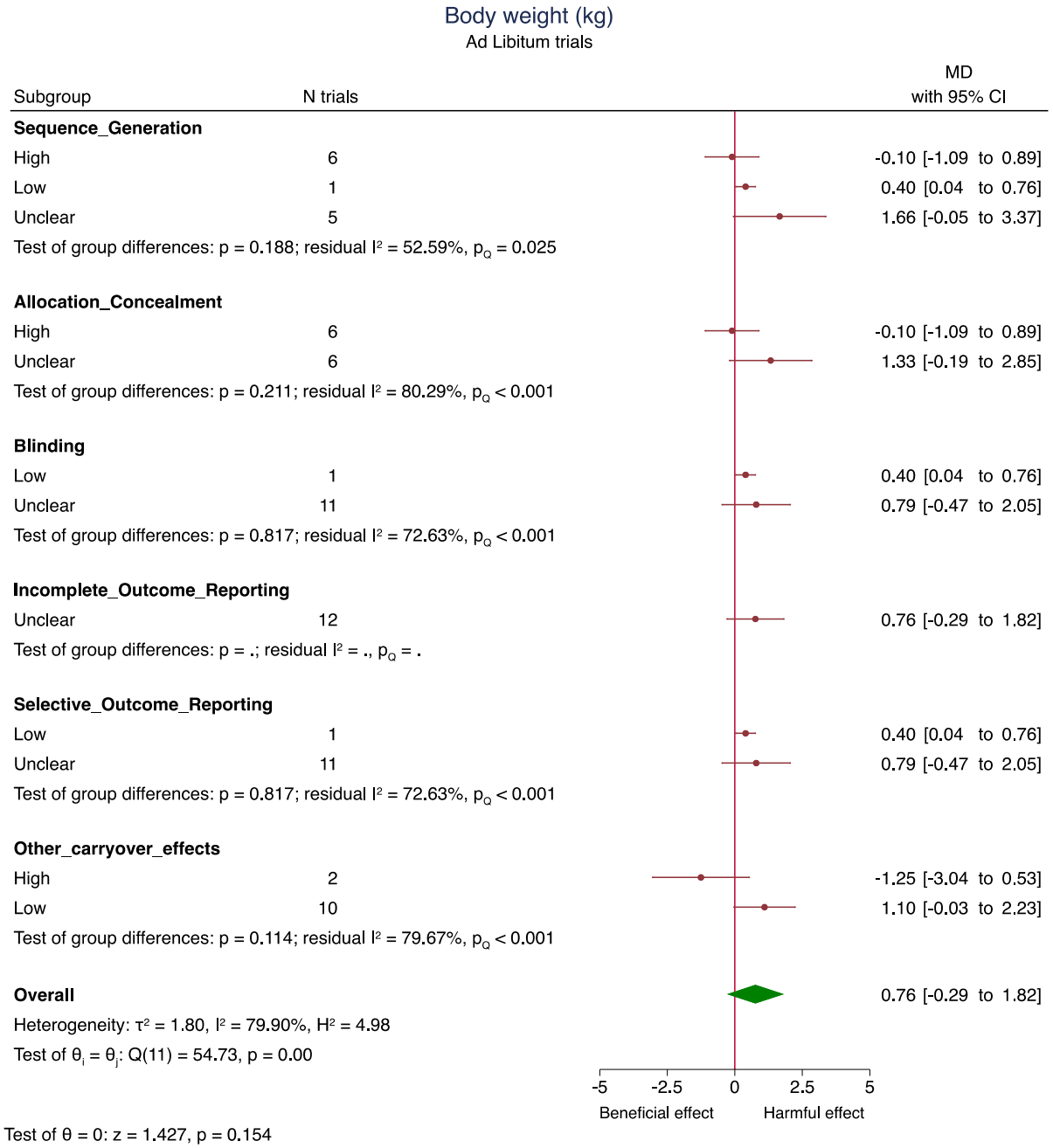


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for funding were as follows: (**2 vs 1**) -2.73kg (-4.38, -1.07kg); (**3 vs 1**) -1.81kg (-3.45, -0.166kg); (4 vs 1) -3.49kg (-8.58, 1.6kg); (3 vs 2) 0.919kg (-0.544, 2.38kg); (4 vs 2) -0.766kg (-5.8, 4.27kg); (4 vs 3) -1.69kg (-6.71, 3.34kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

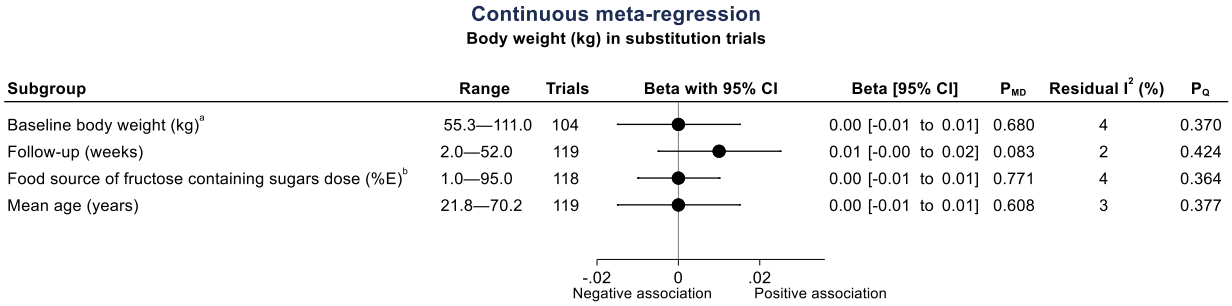
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 132: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on body weight (kg) in *ad libitum* trials



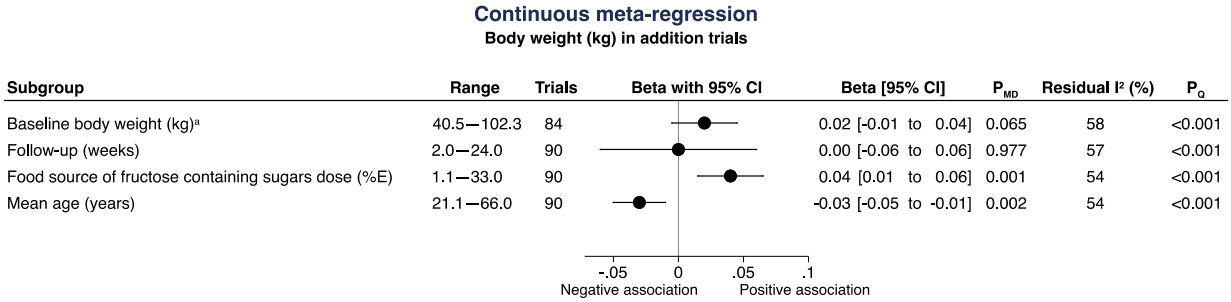
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 133: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body weight (kg) in substitution trials



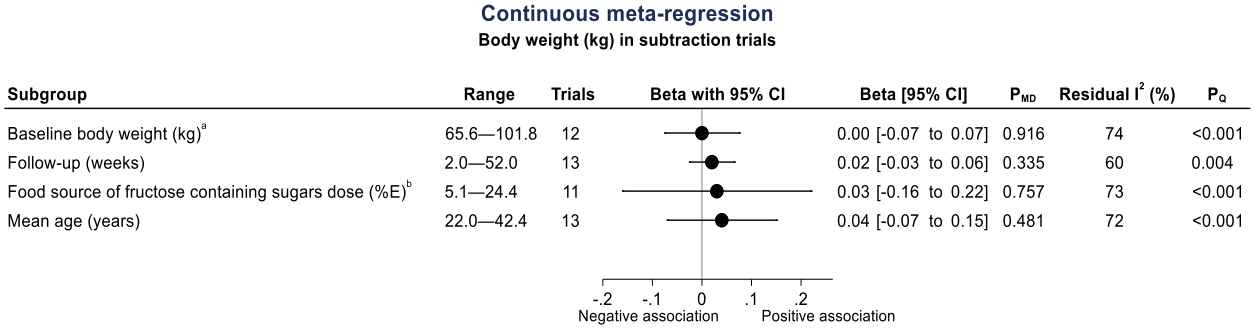
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
[a]N=15 trials missing data for baseline body weight.
[b]N=1 trial missing data for dose.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 134: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body weight (kg) in addition trials



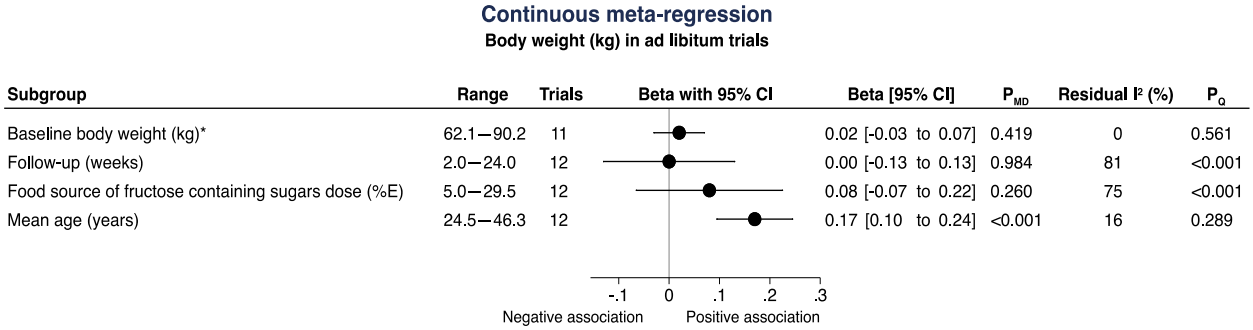
[a]N=6 trials missing data for baseline body weight.
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 135: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body weight (kg) in subtraction trials



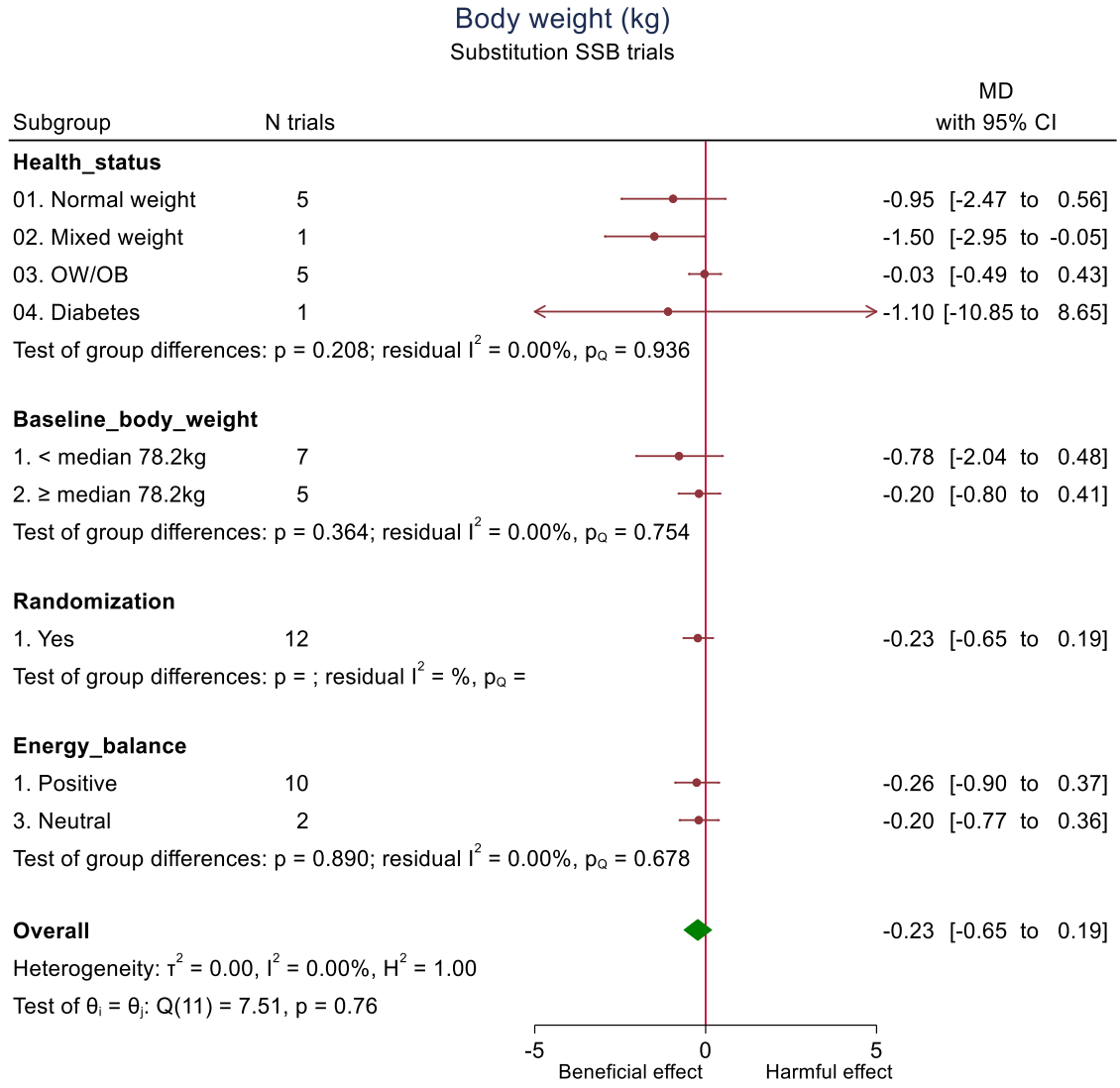
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
[a]N=6 trials missing data for baseline body weight.
[b]N=2 trials missing data for dose.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 136: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body weight (kg) in *ad libitum* trials



Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
*N=1 trial missing data for baseline body weight.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

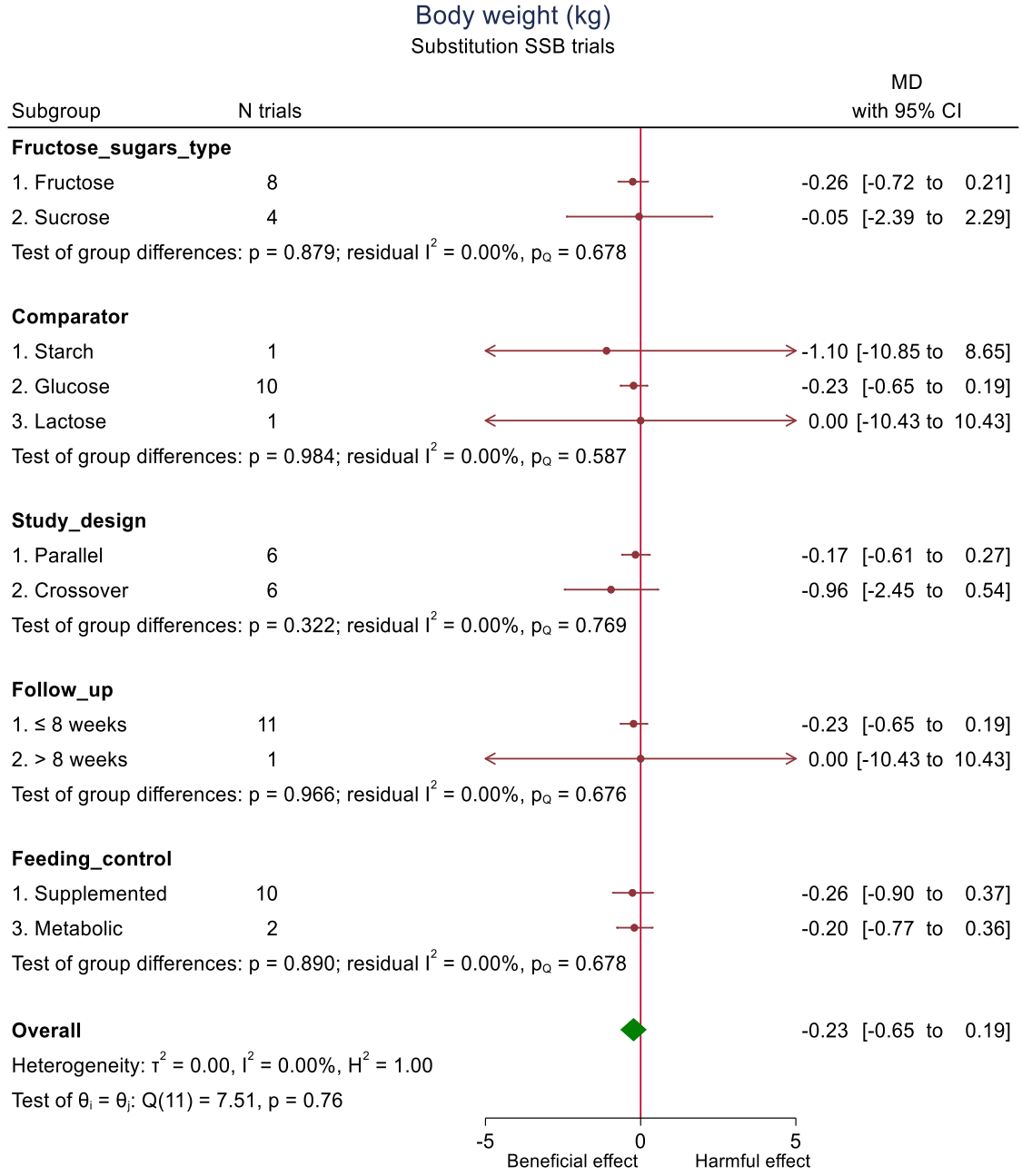
Supplementary Figure 137 (1 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in substitution trials



Test of θ = 0: z = -1.069, p = 0.285

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

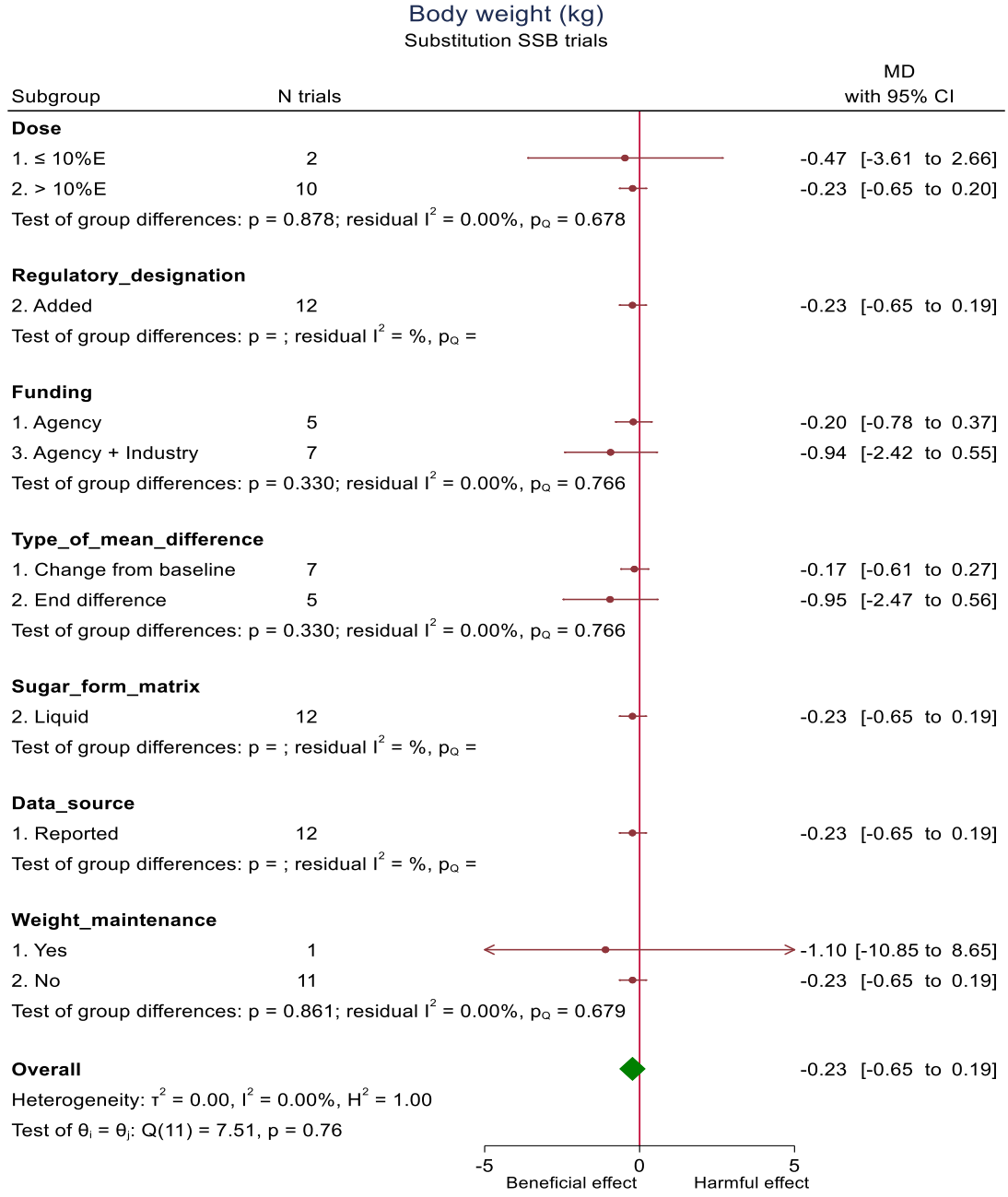
Supplementary Figure 137 (2 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in substitution trials



Test of θ = 0: z = -1.069, p = 0.285

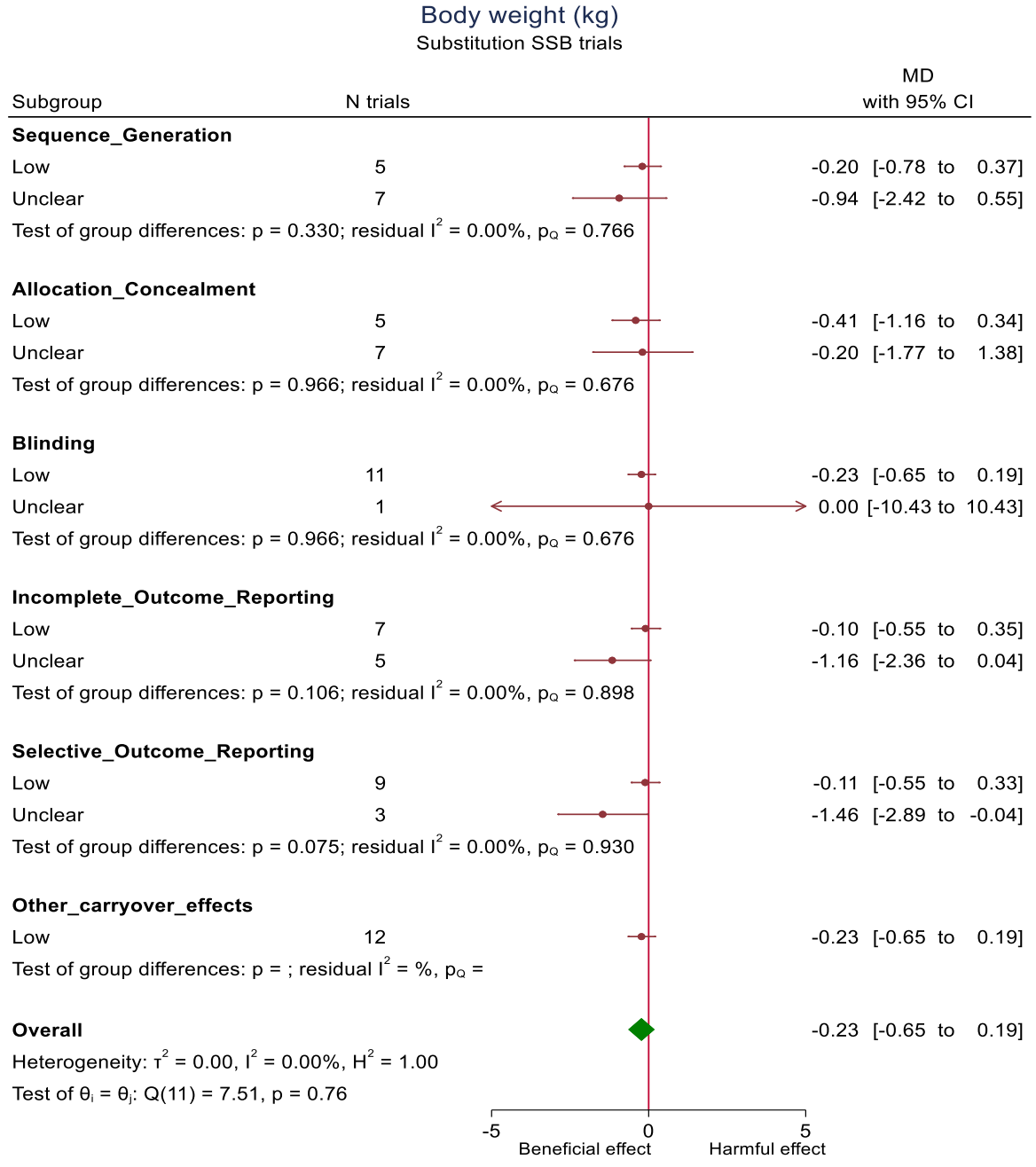
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 137 (3 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in substitution trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

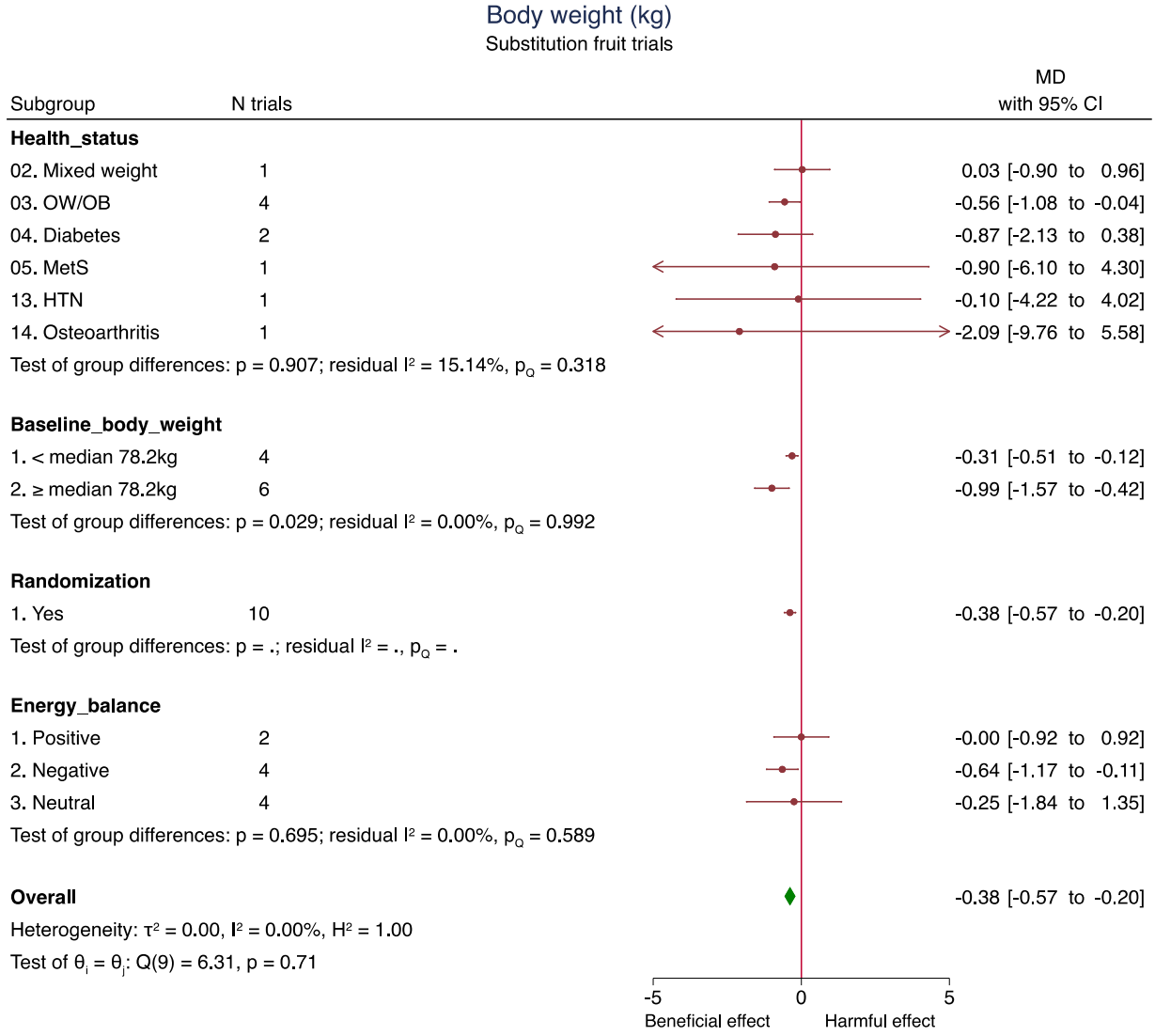
Supplementary Figure 138: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of SSBs on body weight (kg) in substitution trials



Test of θ = 0: z = -1.069, p = 0.285

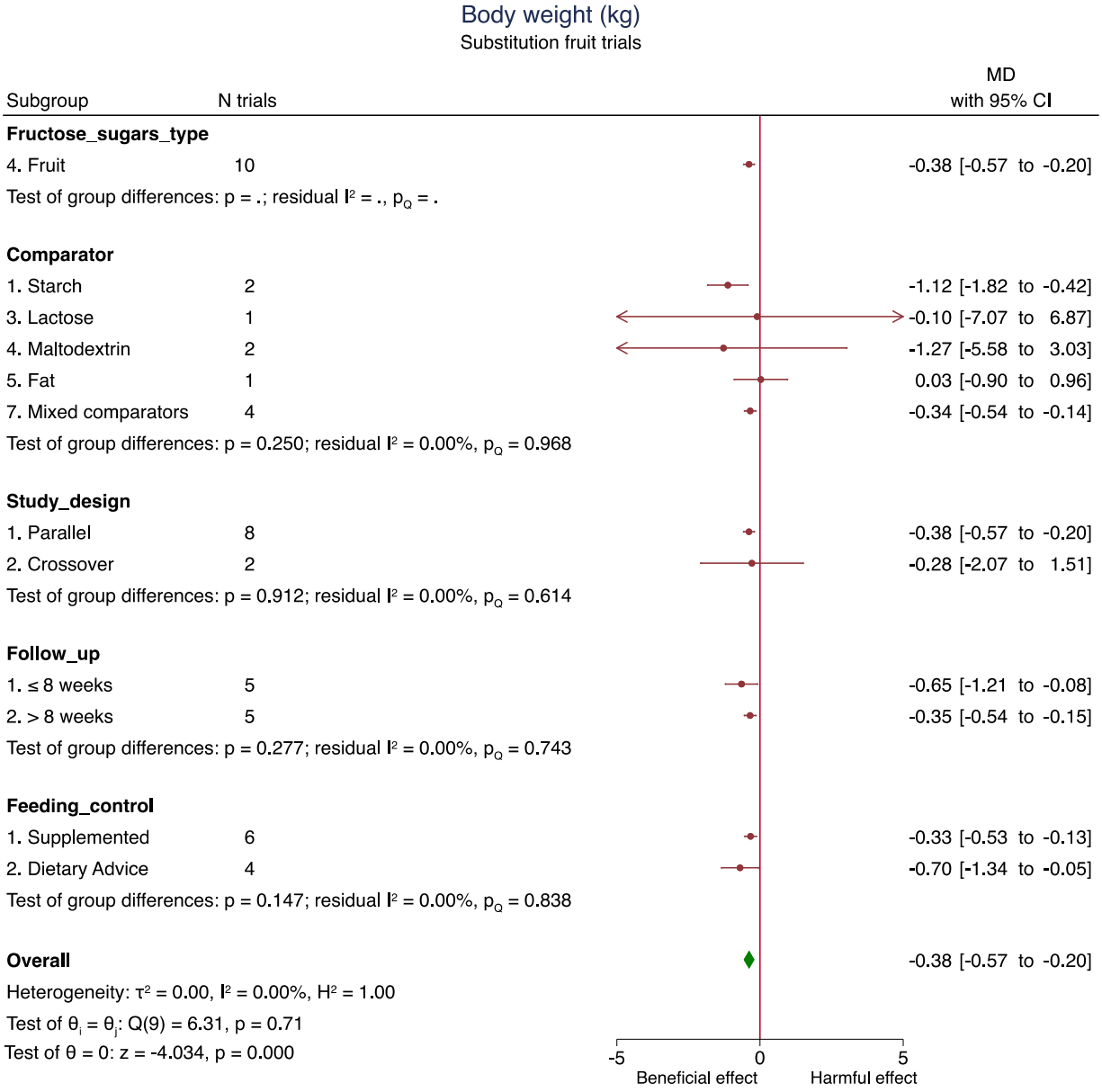
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 139 (1 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in substitution trials



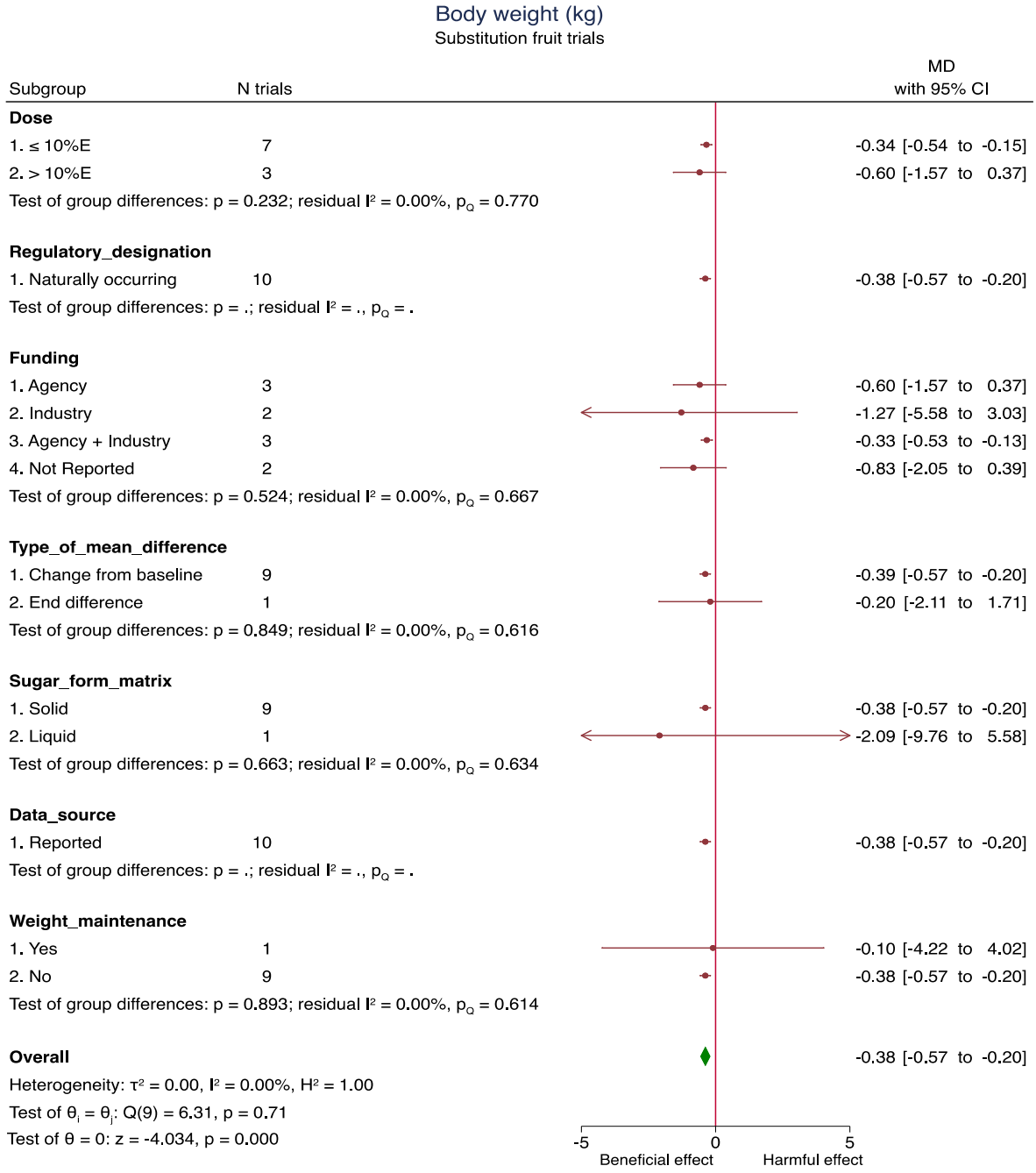
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; HTN=hypertension; MD=mean difference; MetS=metabolic syndrome; OB=obese; OW=overweight.

Supplementary Figure 139 (2 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in substitution trials



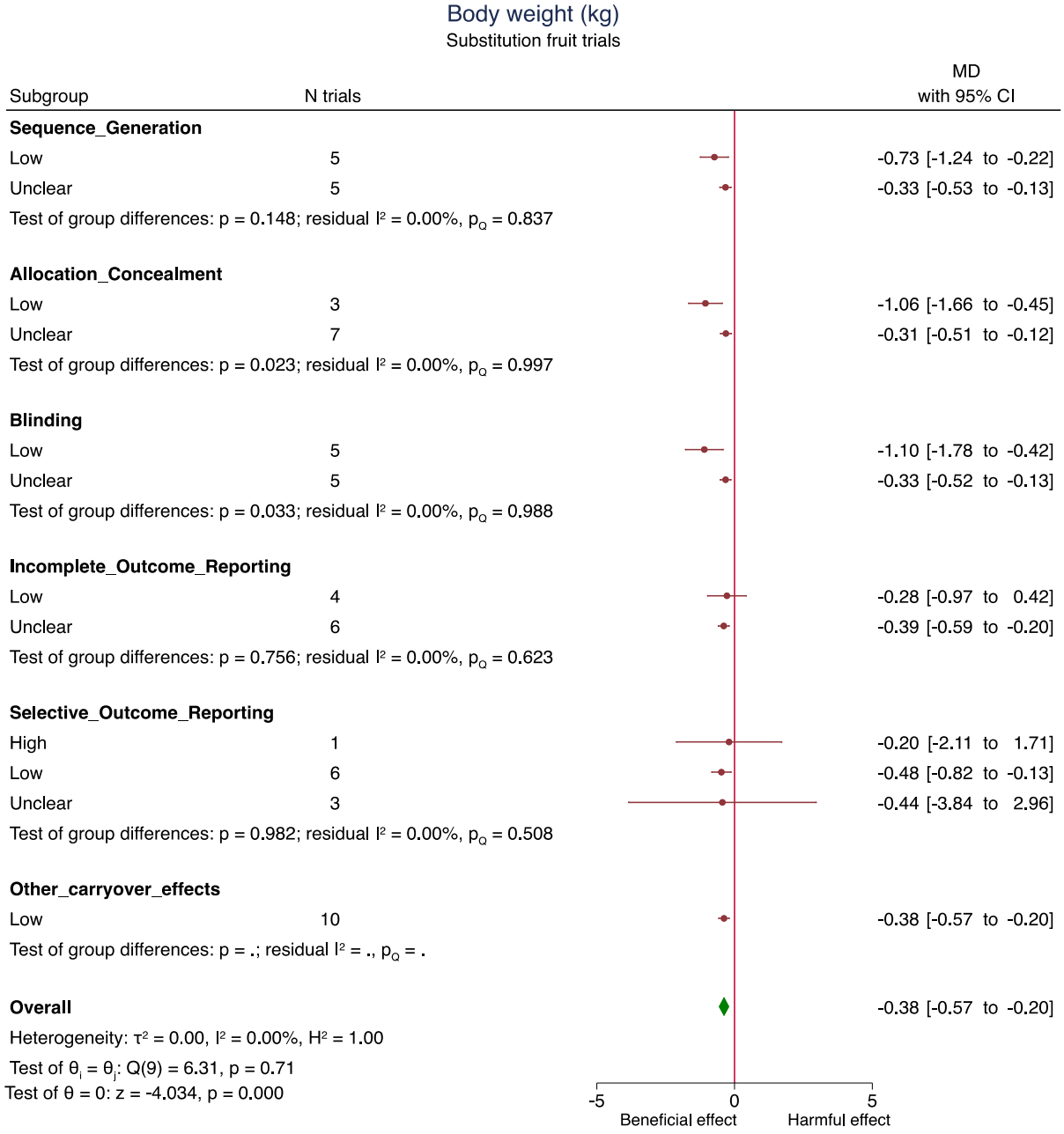
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 139 (3 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in substitution trials



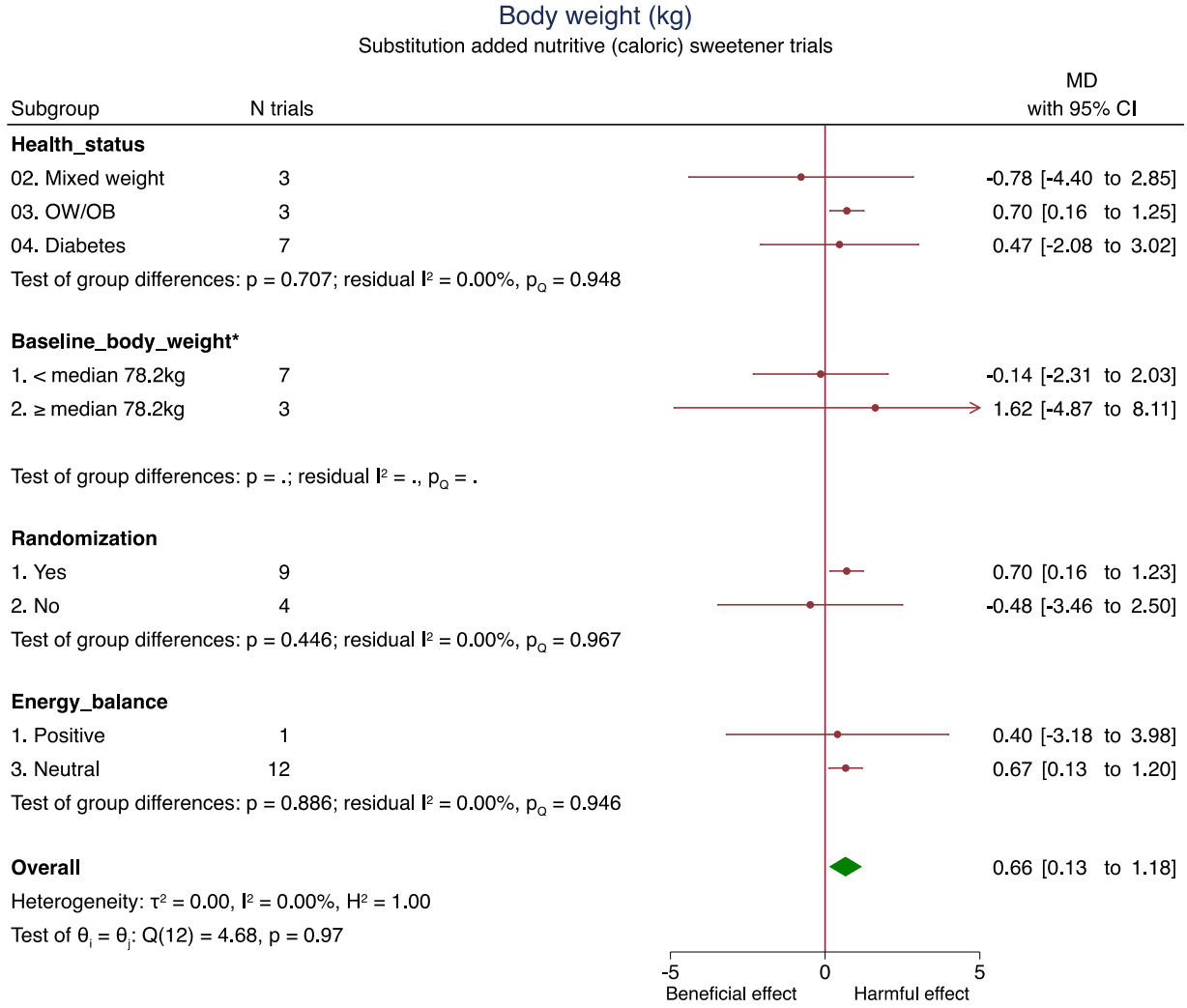
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 140: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of fruit on body weight (kg) in substitution trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 141 (1 of 3): Subgroup analyses for the effect of added nutritive (caloric) sweetener on body weight (kg) in substitution trials

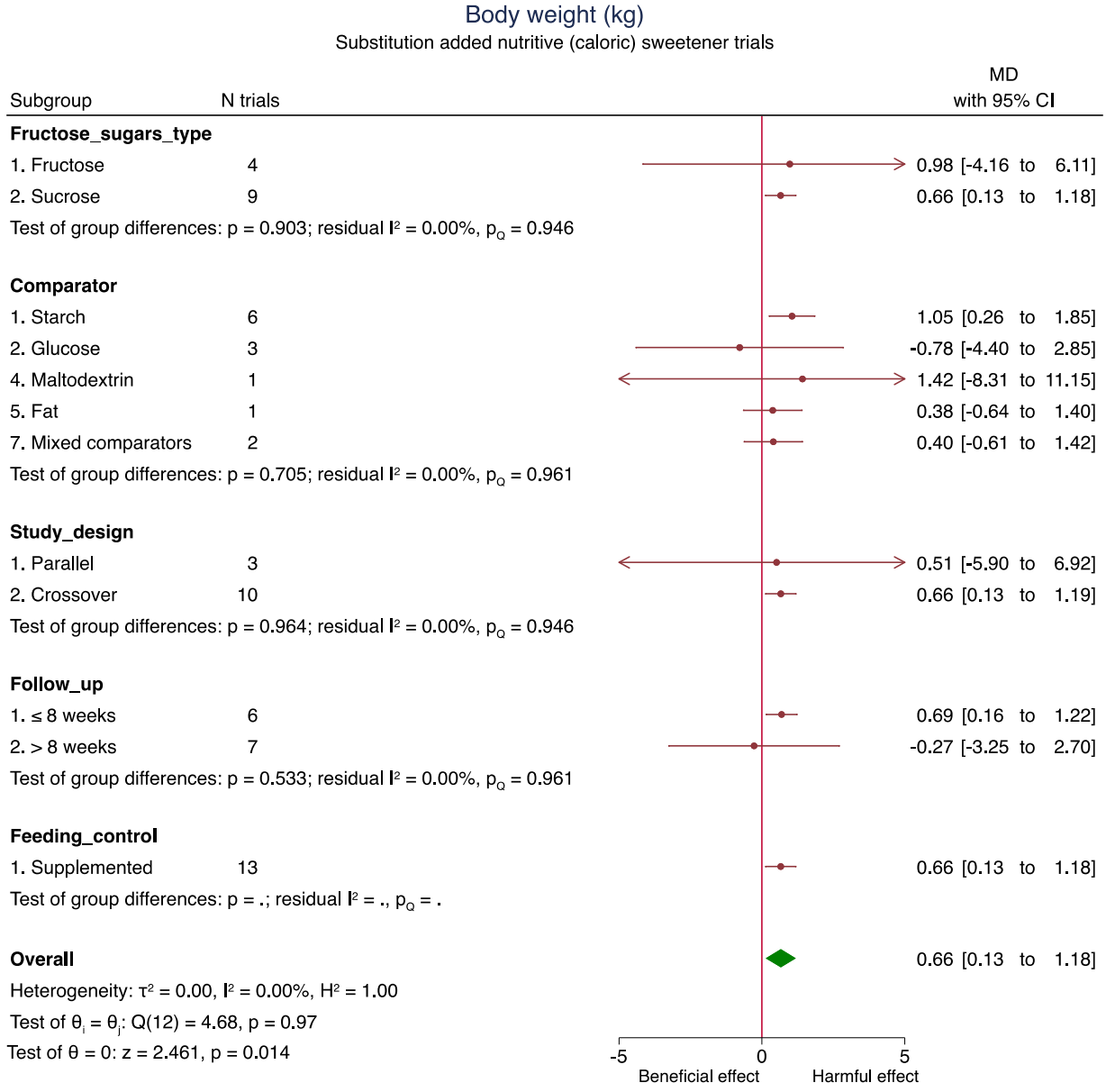


* N=3 trials missing data for baseline body weight.

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

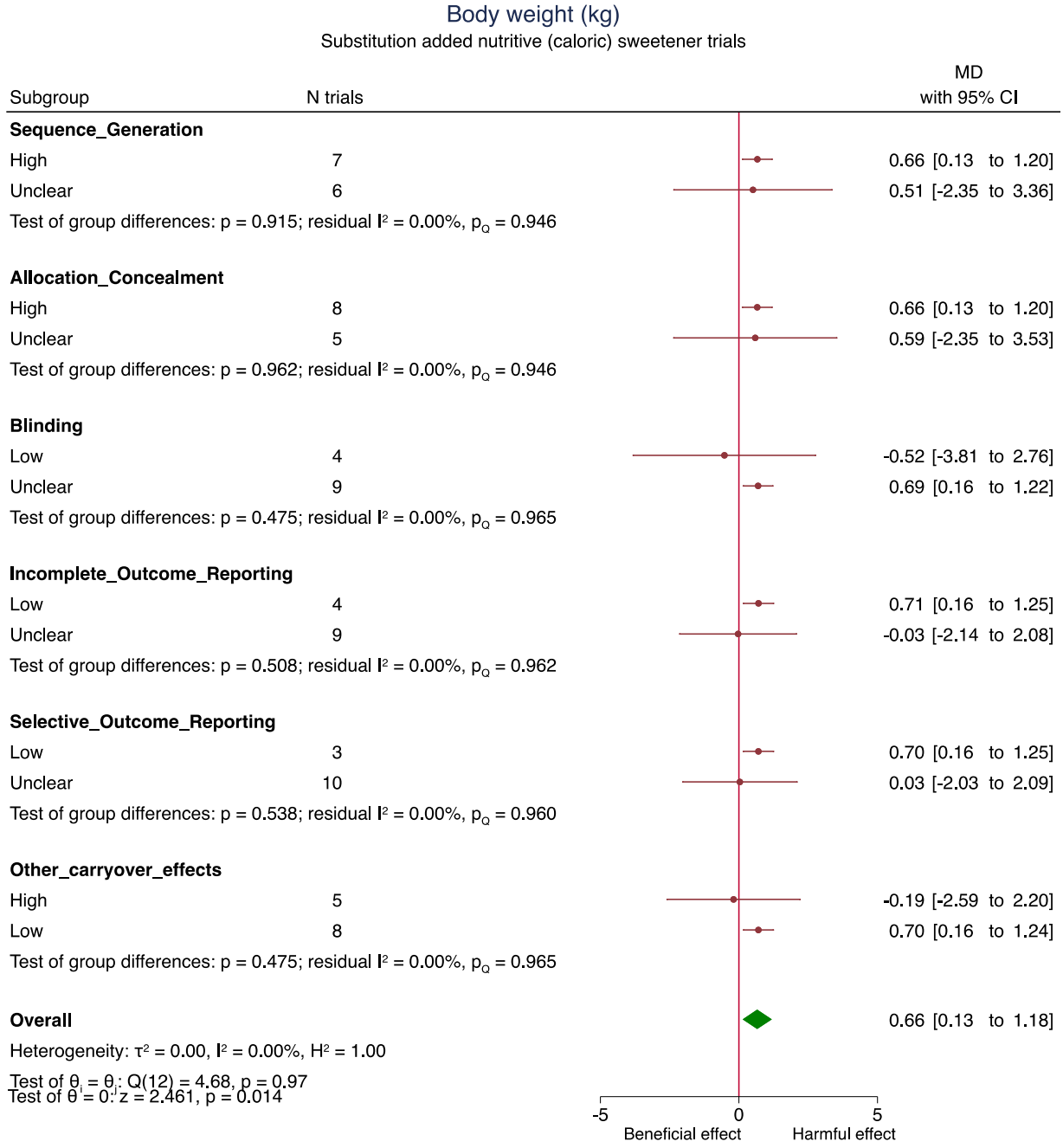
CI=confidence interval; MD=mean difference; OB=obese; OW=overweight.

Supplementary Figure 141 (2 of 3): Subgroup analyses for the effect of added nutritive (caloric) sweetener on body weight (kg) in substitution trials



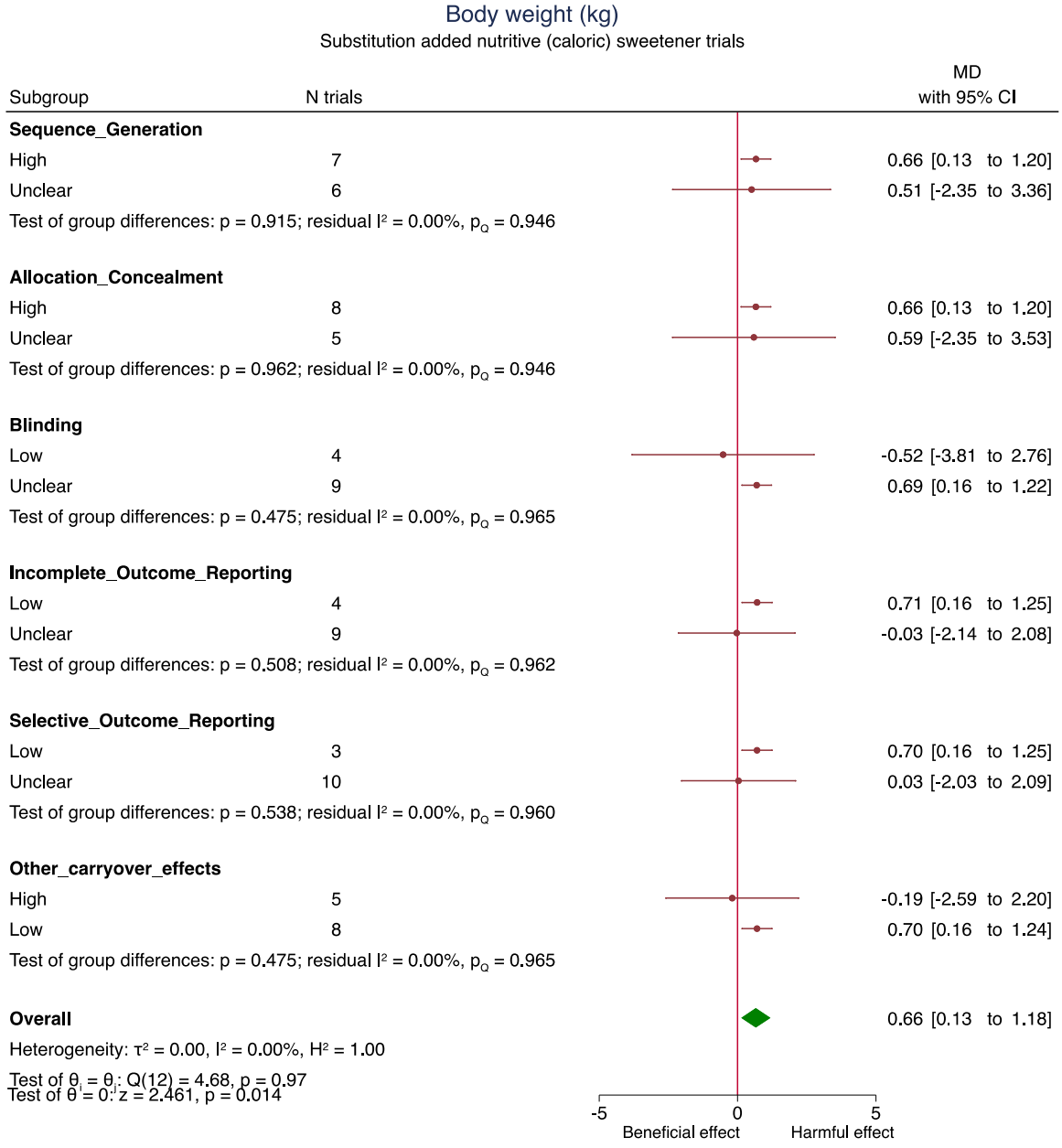
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 141 (3 of 3): Subgroup analyses for the effect of added nutritive (caloric) sweetener on body weight (kg) in substitution trials



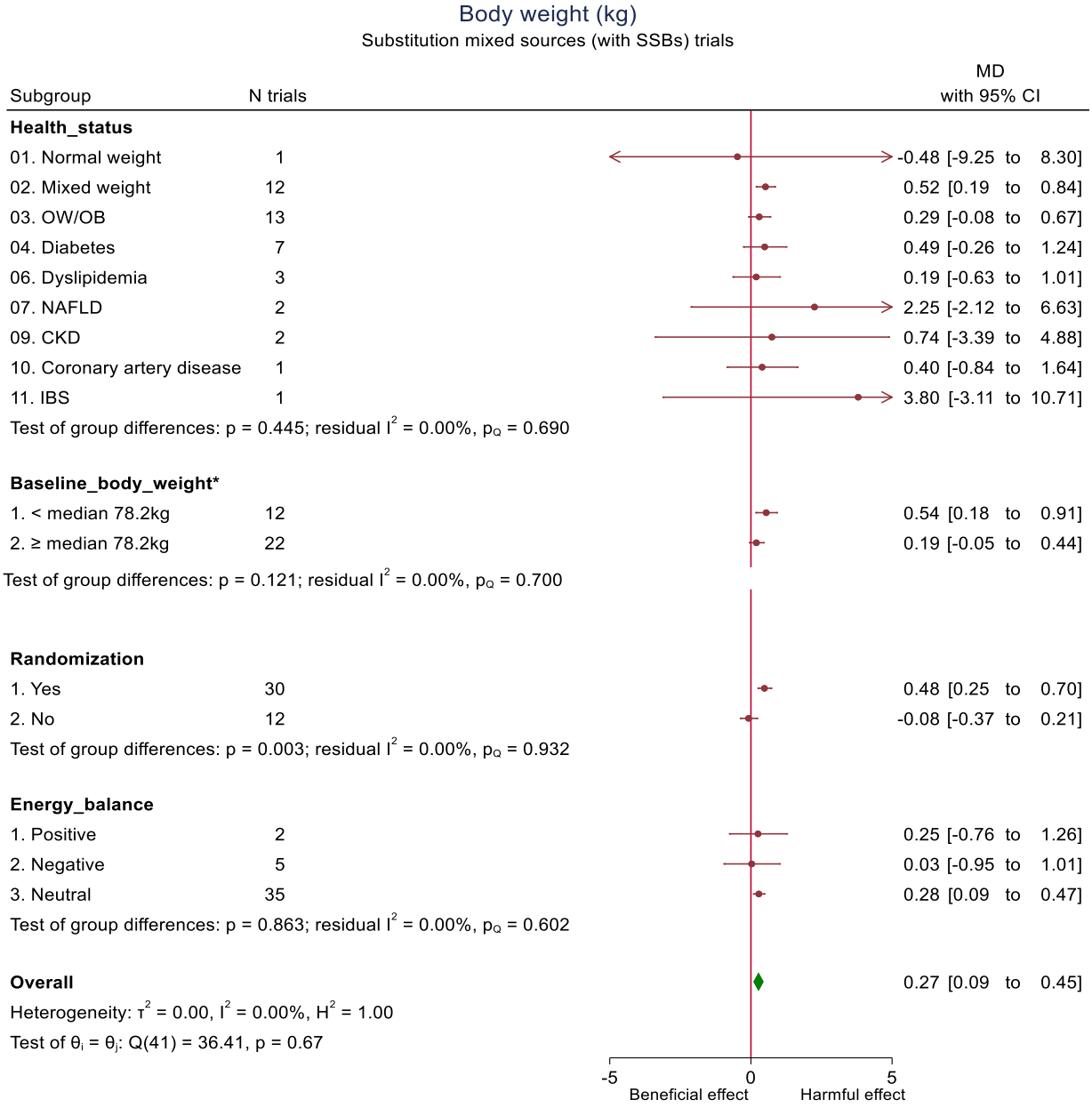
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 142: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of added nutritive (caloric) sweetener on body weight (kg) in substitution trials



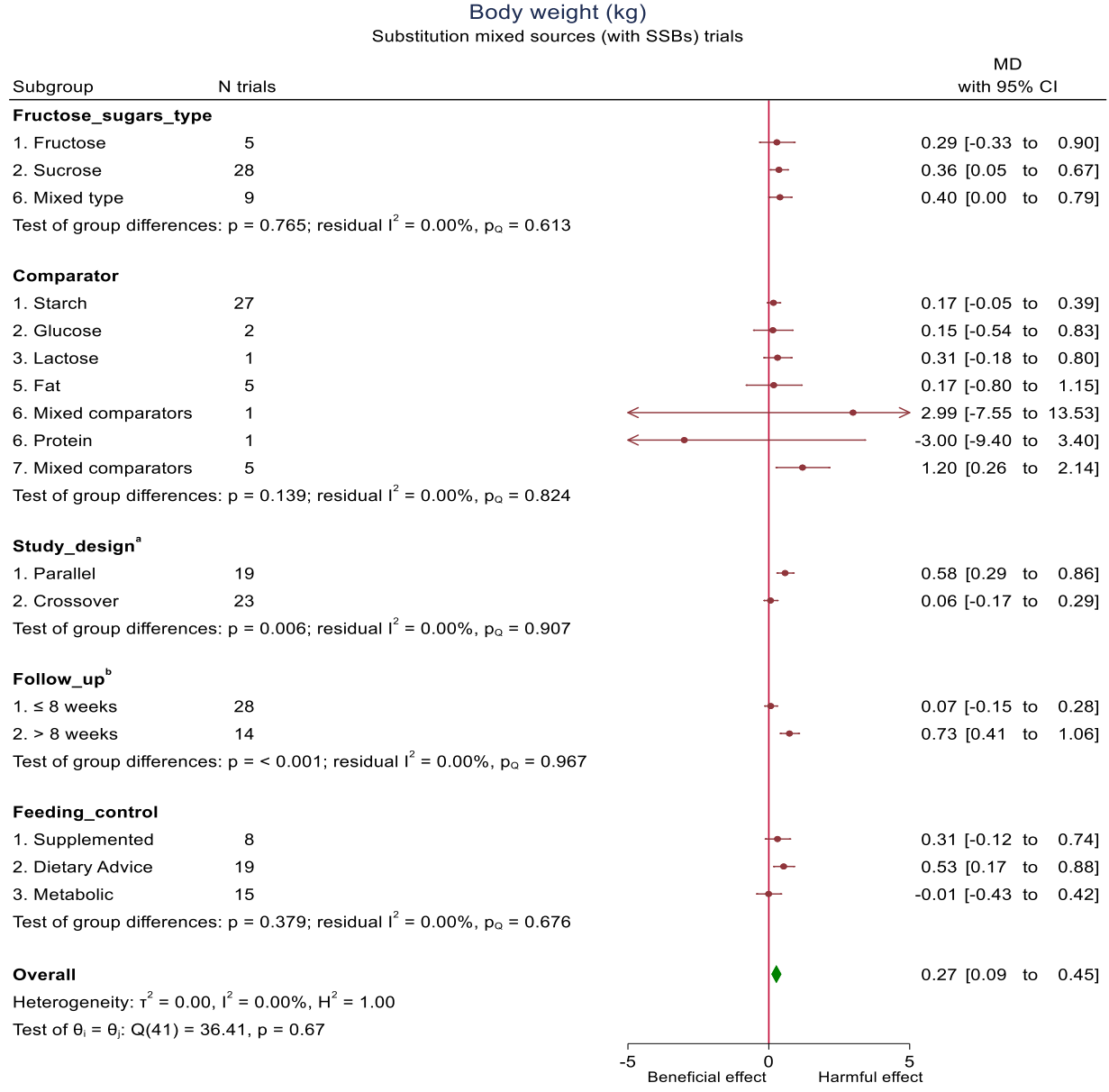
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 143 (1 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in substitution trials



*N=8 trials missing data for baseline body weight.
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; CKD= chronic kidney disease; IBS=irritable bowel syndrome; MD=mean difference; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 143 (2 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in substitution trials



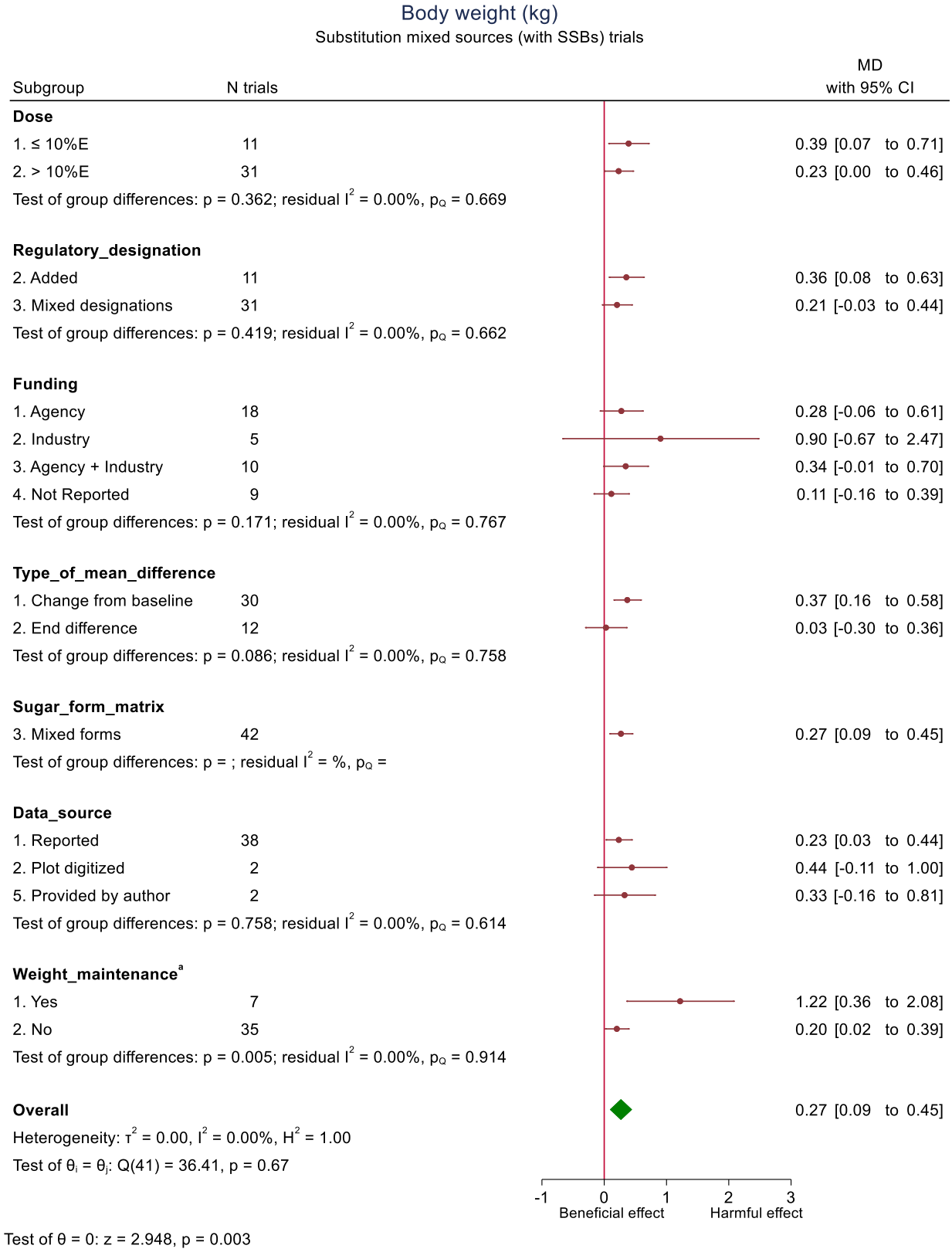
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for study design were as follows: (**1 vs. 2**) -0.514kg (-0.878, -0.150 kg).

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for follow-up were as follows: (**1 vs. 2**) 0.664kg (0.275, 1.05 kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

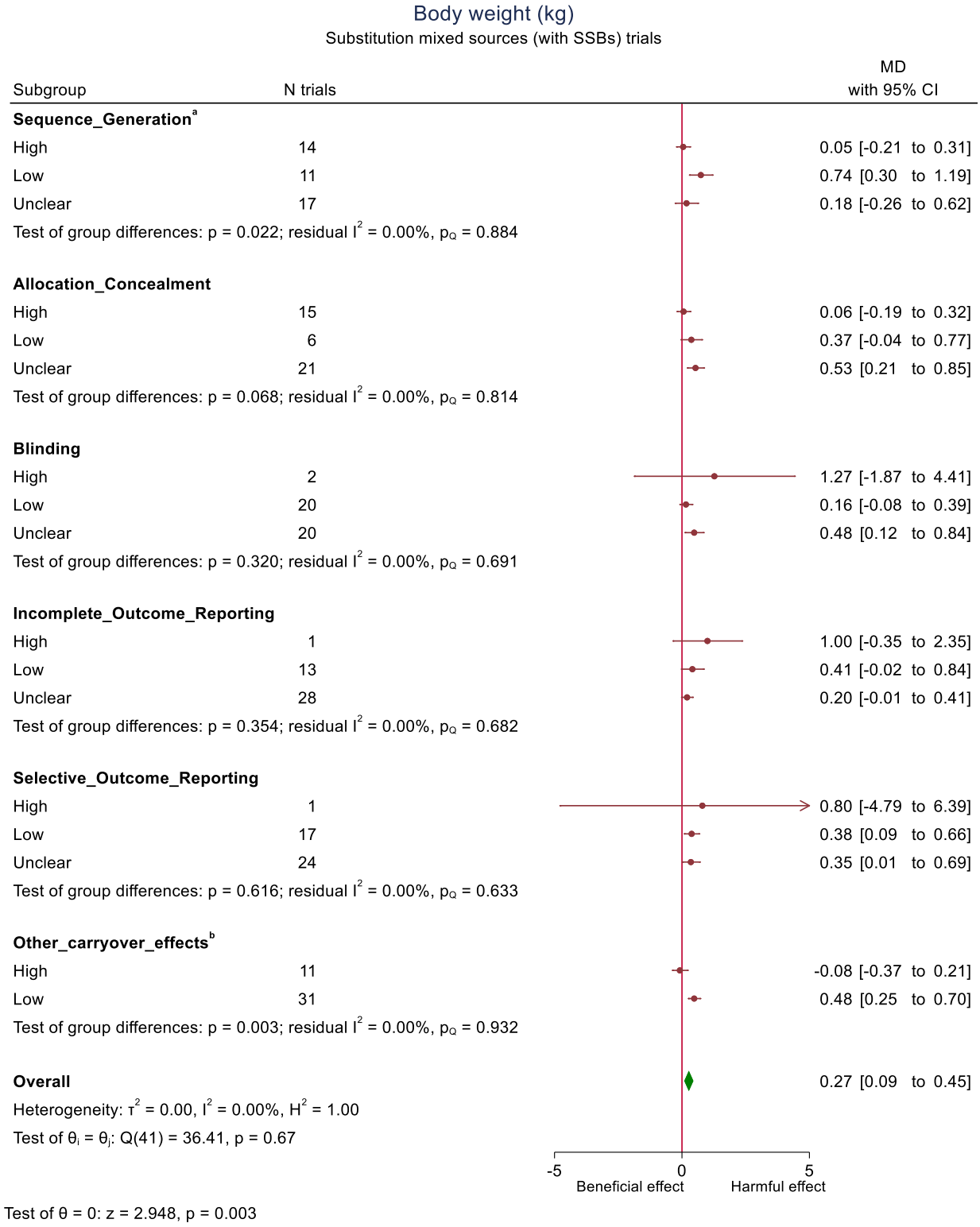
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 143 (3 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in substitution trials



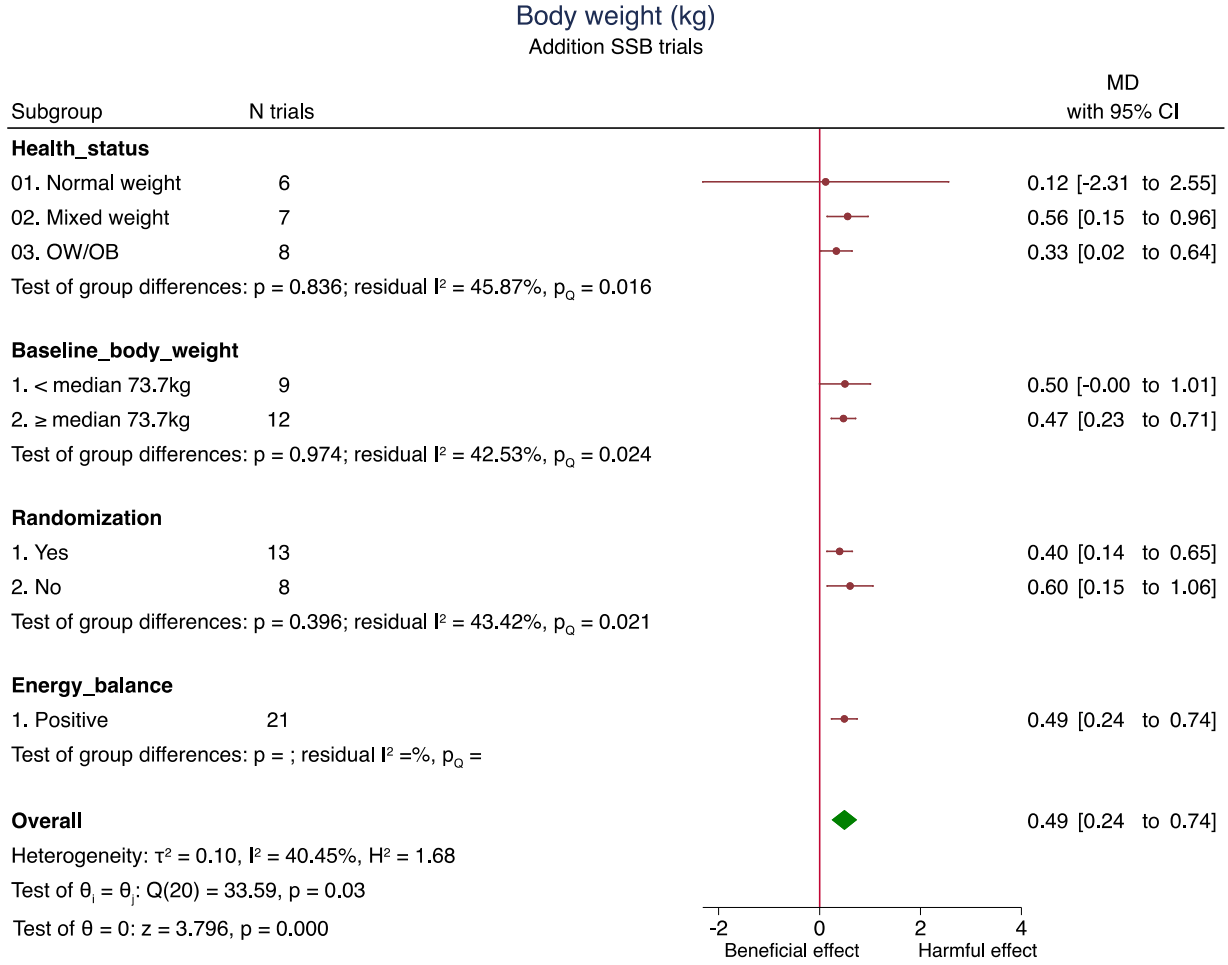
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for weight maintenance were as follows: (**1 vs. 2**) -1.070kg (-1.810, -0.327 kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 144: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of mixed sources (with SSBs) on body weight (kg) in substitution trials



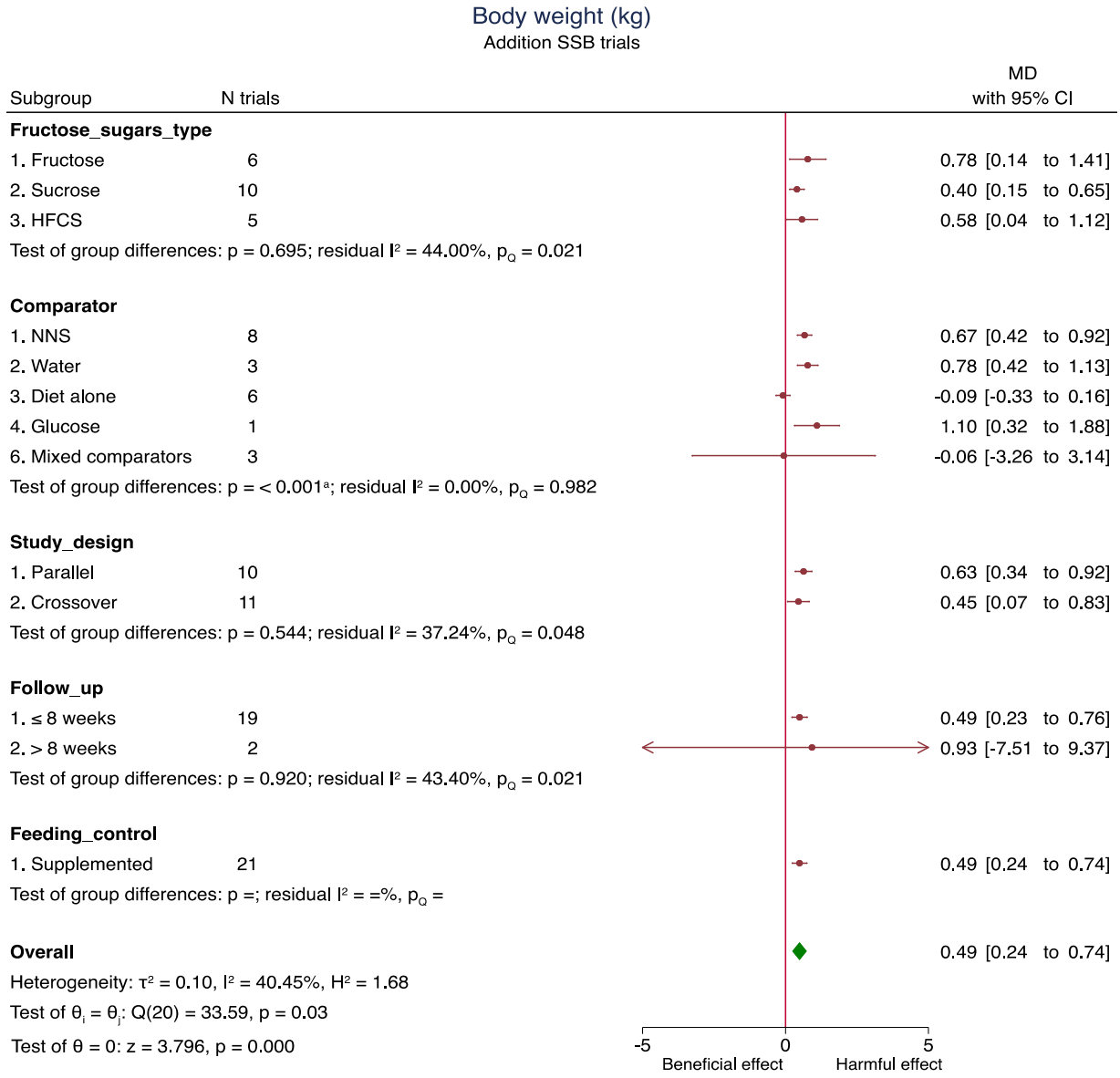
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for sequence generation were as follows: (**Low vs. High**) 0.548kg (0.154, 0.942 kg); (Unclear vs High) 0.131kg (-0.382, 0.644kg); (Unclear vs High) -0.417kg (-0.949, 0.116kg).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for other carryover effects were as follows: (**Low vs. High**) 0.561kg (0.191, 0.930 kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 145 (1 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in addition trials



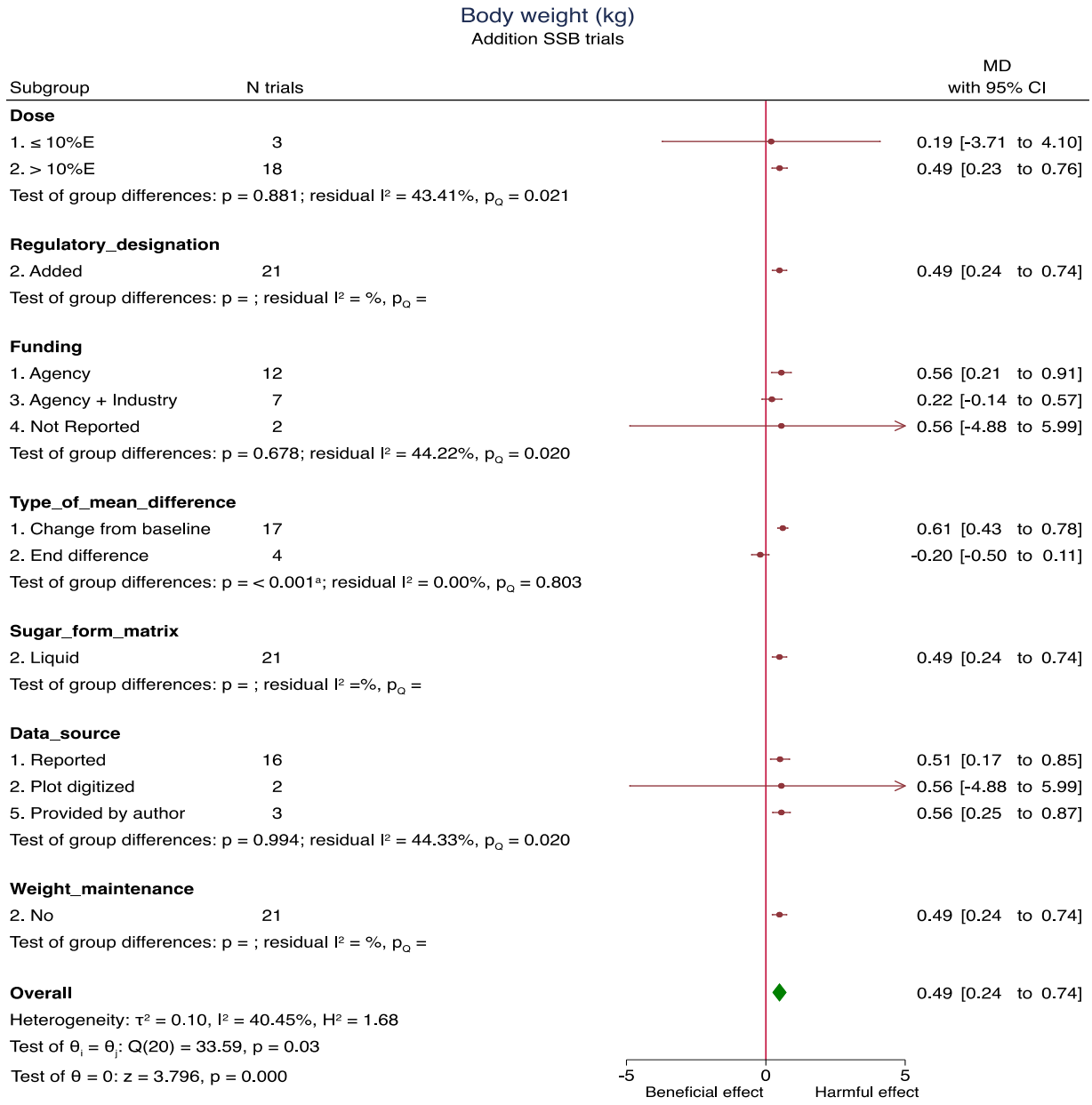
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 145 (2 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for comparator were as follows: (2 vs 1) 0.109kg (-0.326, 0.543kg); **(3 vs 1)** -0.754kg (-1.1, -0.405kg); (4 vs 1) 0.433kg (-0.388, 1.25kg); (6 vs 1) -0.728kg (-3.93, 2.48kg); **(3 vs 2)** -0.862kg (-1.29, -0.431kg); (4 vs 2) 0.325kg (-0.535, 1.18kg); (6 vs 2) -0.836kg (-4.05, 2.38kg); (4 vs 3) 1.19kg (0.367, 2.01kg); (6 vs 3) 0.026kg (-3.18, 3.23kg); (6 vs 4) -1.16kg (-4.45, 2.13kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at p<0.100 and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. p<0.050 indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference; NNS=non-nutritive sweetener; SSB=sugars-sweetened beverage.

Supplementary Figure 145 (3 of 3): Subgroup analyses for the effect of SSBs on body weight (kg) in addition trials

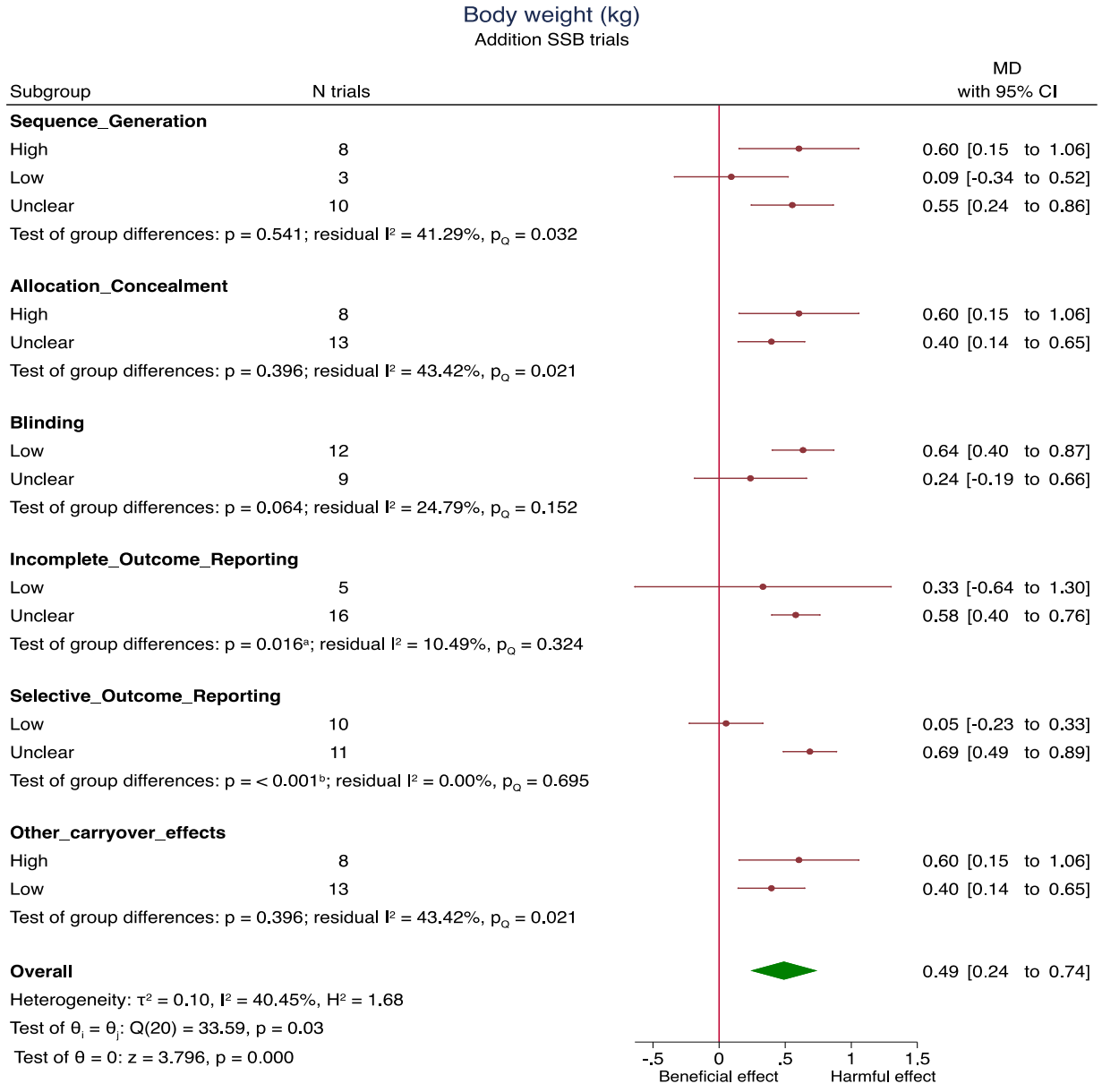


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for type of mean difference were as follows: **(2 vs 1)** -0.806kg (-1.6, -0.452kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

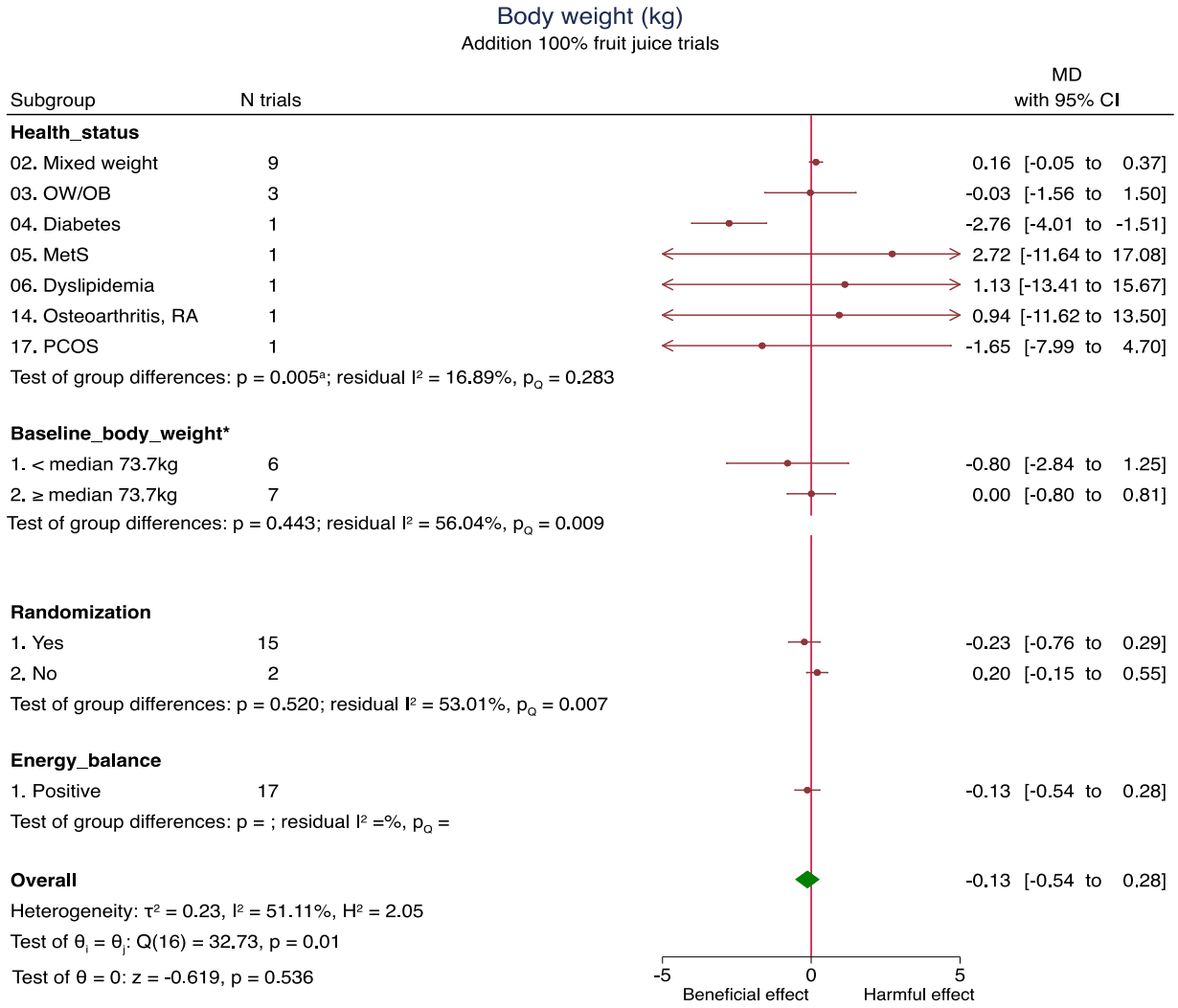
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 146: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of SSBs on body weight (kg) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for incomplete outcome reporting were as follows: **(unclear vs low)** 0.52kg (0.096, 0.944kg)
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows: **(unclear vs low)** 0.676kg (0.365, 0.987kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 147 (1 of 3): Subgroup analyses for the effect of 100% fruit juice on body weight (kg) in addition trials



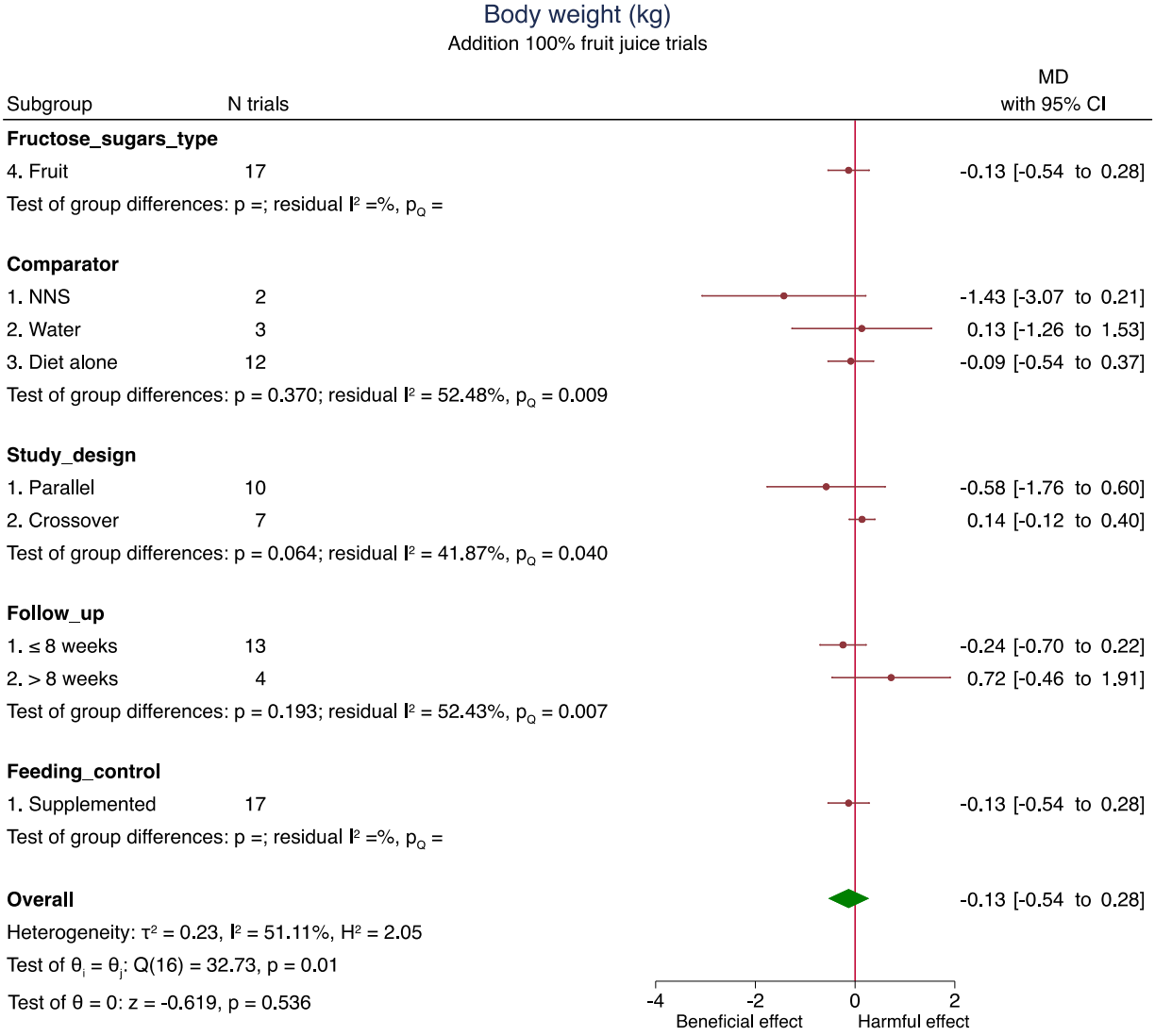
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for health status were as follows: (3 vs 2) -0.155kg (-1.21, 0.895kg); **(4 vs 2)** -2.89kg (-4.22, -1.57kg); (5 vs 2) 2.59kg (-11.8, 7kg); (6 vs 2) 0.998kg (-13.5, 15.5kg); (14 vs 2) 0.81kg (-11.8, 13.4kg); (17 vs 2) -1.78kg (-8.14, 4.58kg); **(4 vs 3)** -2.74kg (-4.39, -1.09kg); (5 vs 3) 2.74kg (-11.7, 17.1kg); (6 vs 3) 1.15kg (-13.4, 15.7kg); (14 vs 3) 0.965kg (-11.6, 13.6kg); (17 vs 3) -1.63kg (-8.06, 4.81kg); (5 vs 4) 5.48kg (-8.94, 19.9kg); (6 vs 4) 3.89kg (-10.7, 18.5kg); (14 vs 4) 3.7kg (-8.93, 16.3kg); (17 vs 4) 1.11kg (-5.38, 7.6kg); (6 vs 5) -1.59kg (-22, 18.8kg); (14 vs 5) -1.78kg (-20.9, 17.3kg); (17 vs 5) -4.37kg (-20.1, 11.3kg); (14 vs 6) -0.188kg (-19.4, 19kg); (17 vs 6) -2.78kg (-18.6, 13.1kg); (17 vs 14) -2.59kg (-16.7, 11.5kg).

*N=4 trials missing data for baseline body weight.

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

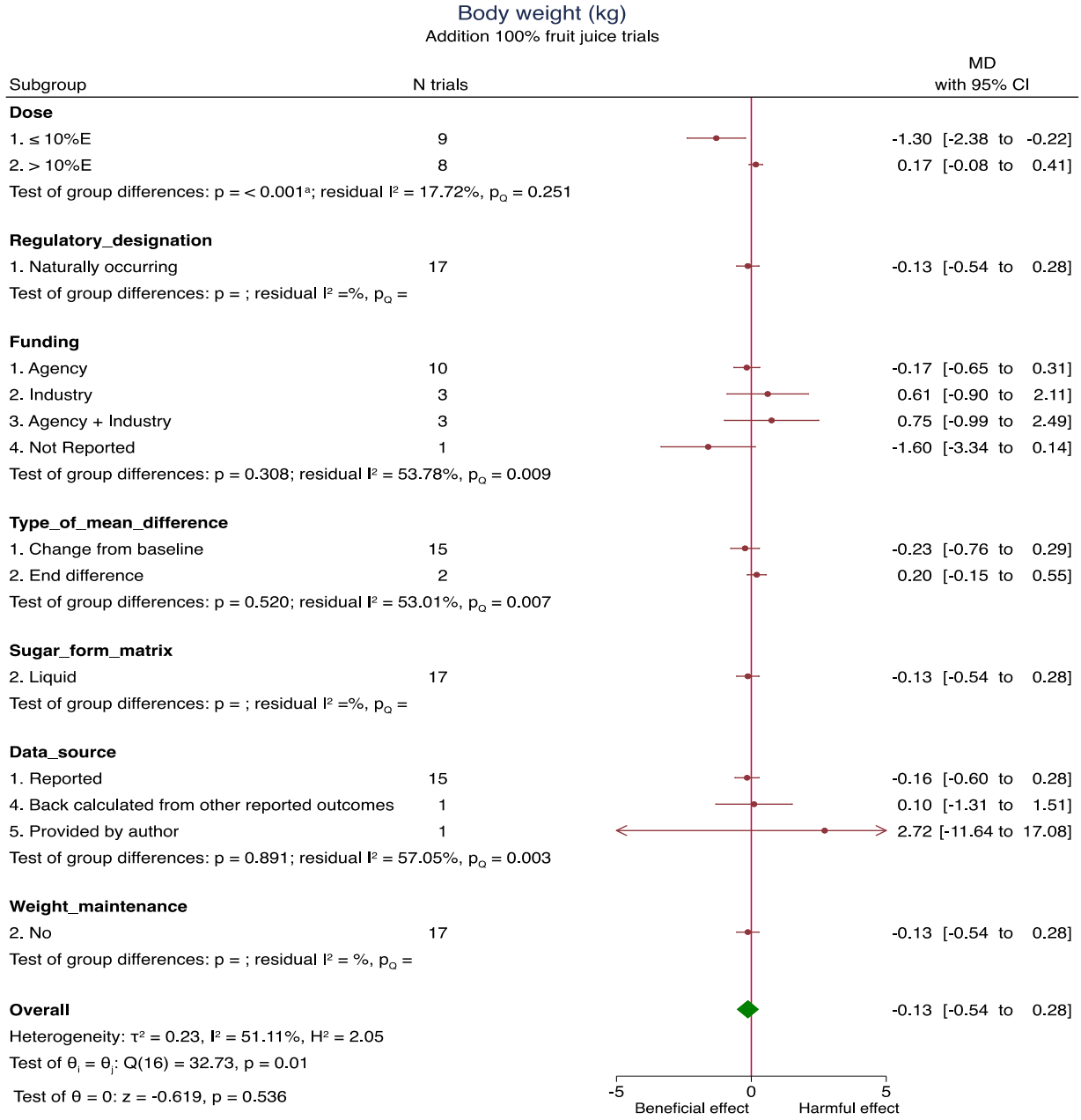
CI=confidence interval; HTN=hypertension; MD=mean difference; MetS=metabolic syndrome; OB=obese; OW=overweight; PCOS=polycystic ovarian syndrome; RA=rheumatoid arthritis.

Supplementary Figure 147 (2 of 3): Subgroup analyses for the effect of 100% fruit juice on body weight (kg) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 147 (3 of 3): Subgroup analyses for the effect of 100% fruit juice on body weight (kg) in addition trials

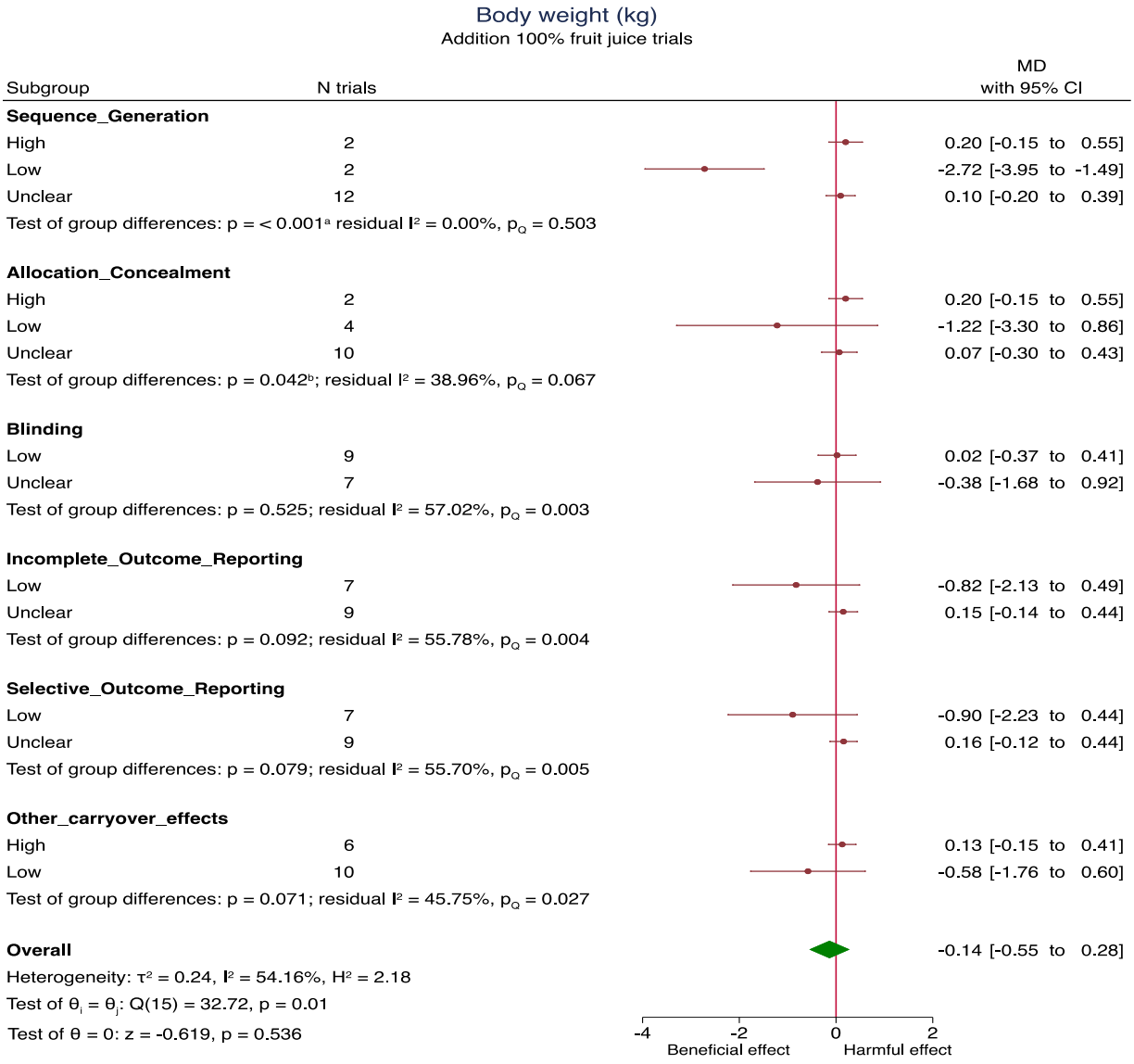


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: **(2 vs 1)** 1.56kg (0.633, 2.44kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 148: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of 100% fruit juice on body weight (kg) in addition trials



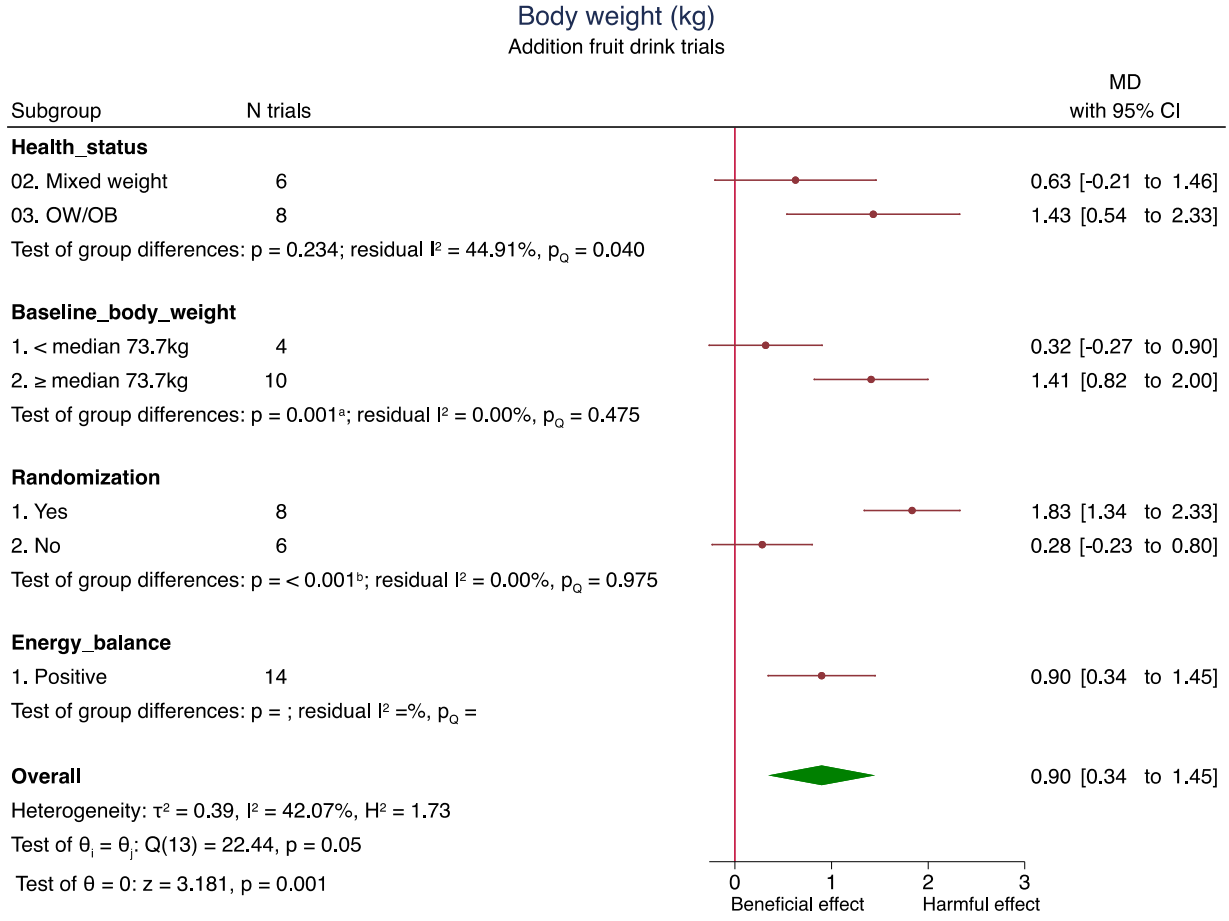
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for sequence generation were as follows: (**Low vs High**) -2.92kg (-4.21, -1.64kg); (Unclear vs High) -0.076kg (-0.507, 0.355kg); (**Unclear vs Low**) 2.84kg (1.58, 4.1kg).

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for allocation concealment were as follows: (**Low vs High**) -1.59kg (-2.99, -0.189kg); (Unclear vs High) -0.158kg (-1.17, 0.859kg); (**Unclear vs Low**) 1.43kg (0.266, 2.6kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

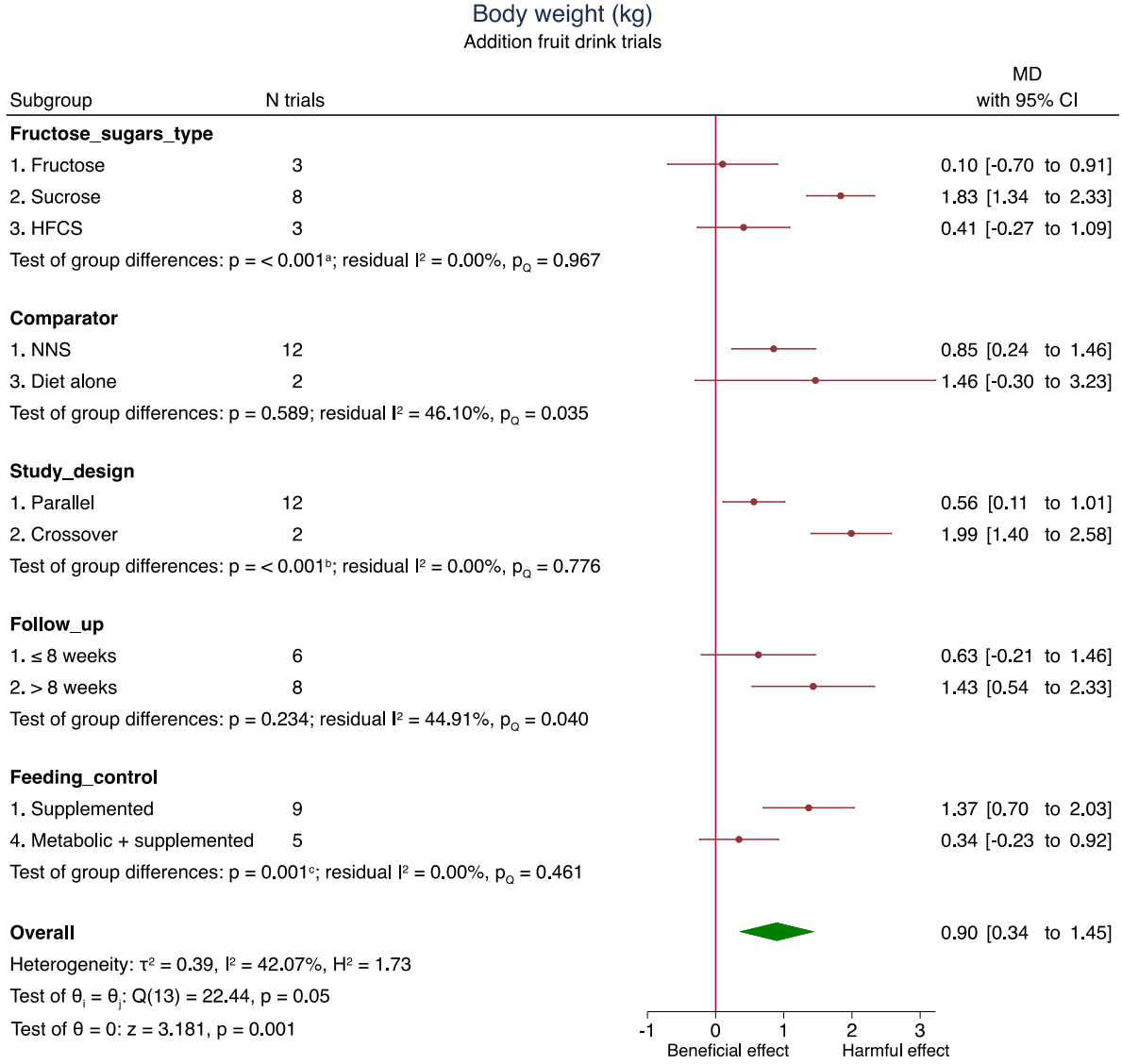
CI=confidence interval; MD=mean difference.

Supplementary Figure 149 (1 of 3): Subgroup analyses for the effect of fruit drink on body weight (kg) in addition trials



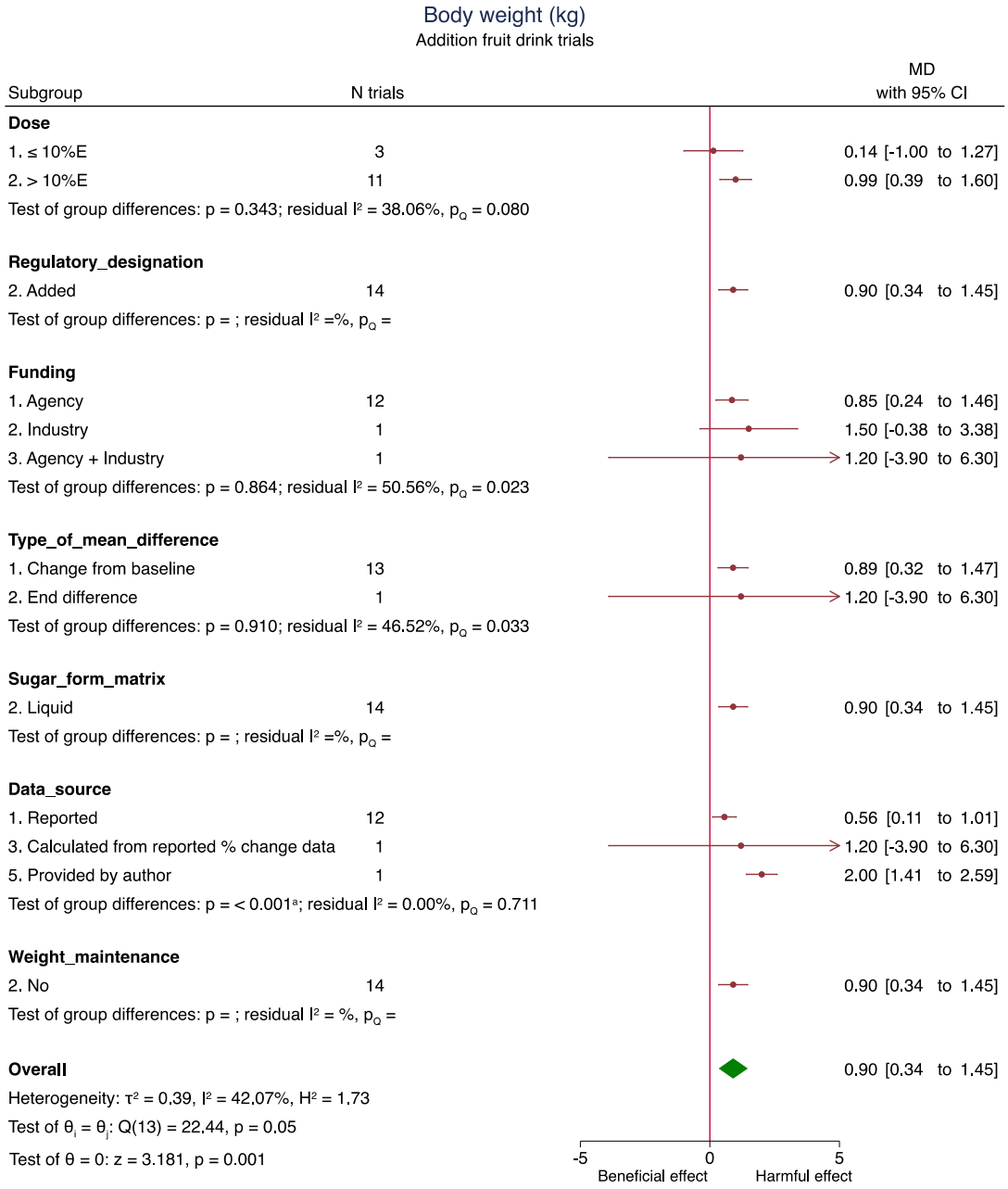
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for baseline body weight were as follows: **(2 vs 1)** 1.24kg (0.5, 1.98kg)
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for randomization were as follows: **(2 vs 1)** -1.55kg (-2.27, -0.835kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at p<0.100 and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. p<0.050 indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; OB=obese; OW=overweight.

Supplementary Figure 149 (2 of 3): Subgroup analyses for the effect of fruit drink on body weight (kg) in addition trials



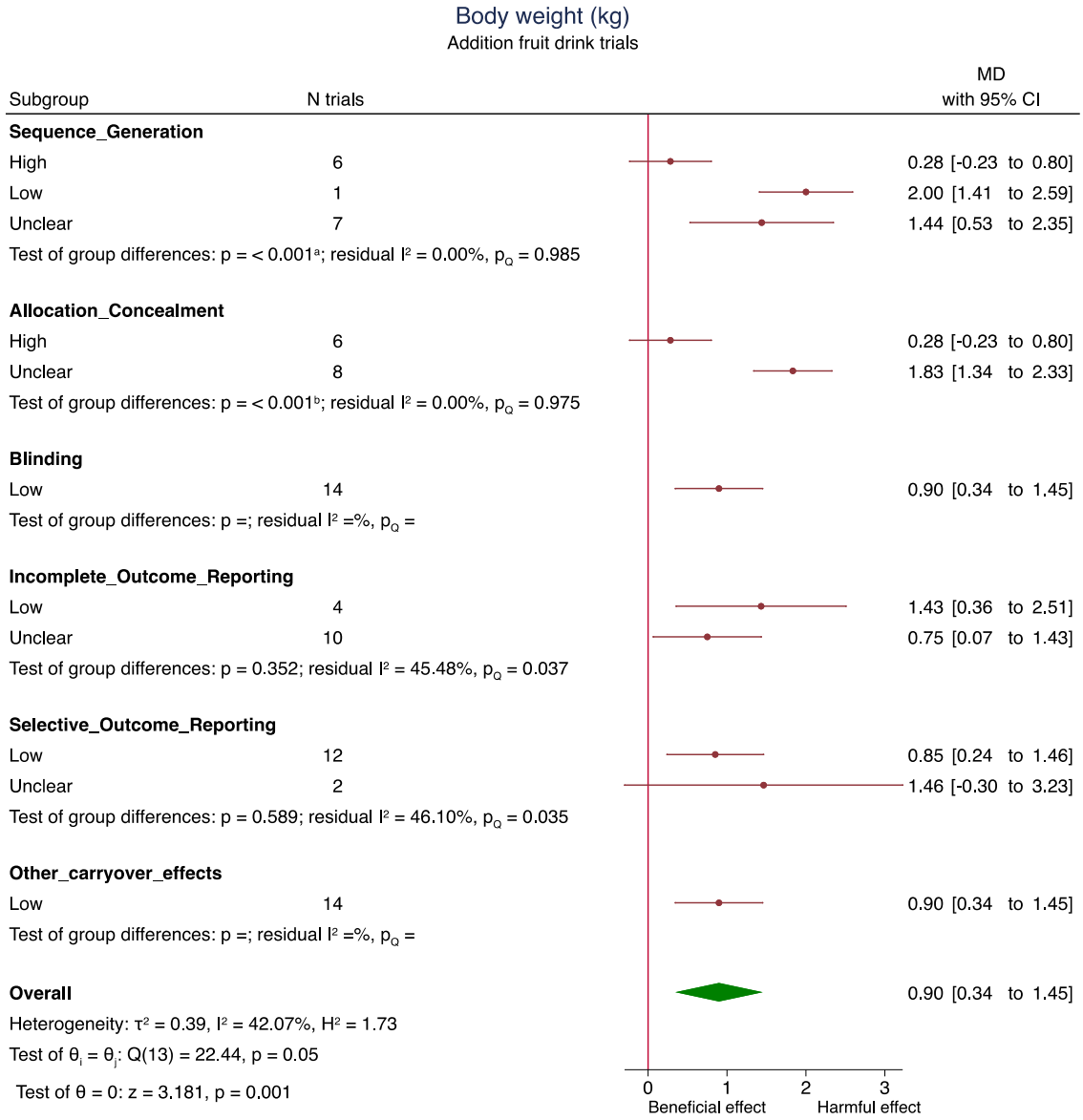
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for fructose sugars type were as follows: **(2 vs 1)** 1.73kg (0.787, 2.67kg); (3 vs 1) 0.307kg (-0.744, 1.36kg); **(3 vs 2)** -1.42kg (-2.26, -0.586kg).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for study design were as follows: **(2 vs 1)** 1.43kg (0.689, 2.17kg).
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for feeding control were as follows: **(2 vs 1)** -1.22kg (-1.96, -0.487kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 149 (3 of 3): Subgroup analyses for the effect of fruit drink on body weight (kg) in addition trials



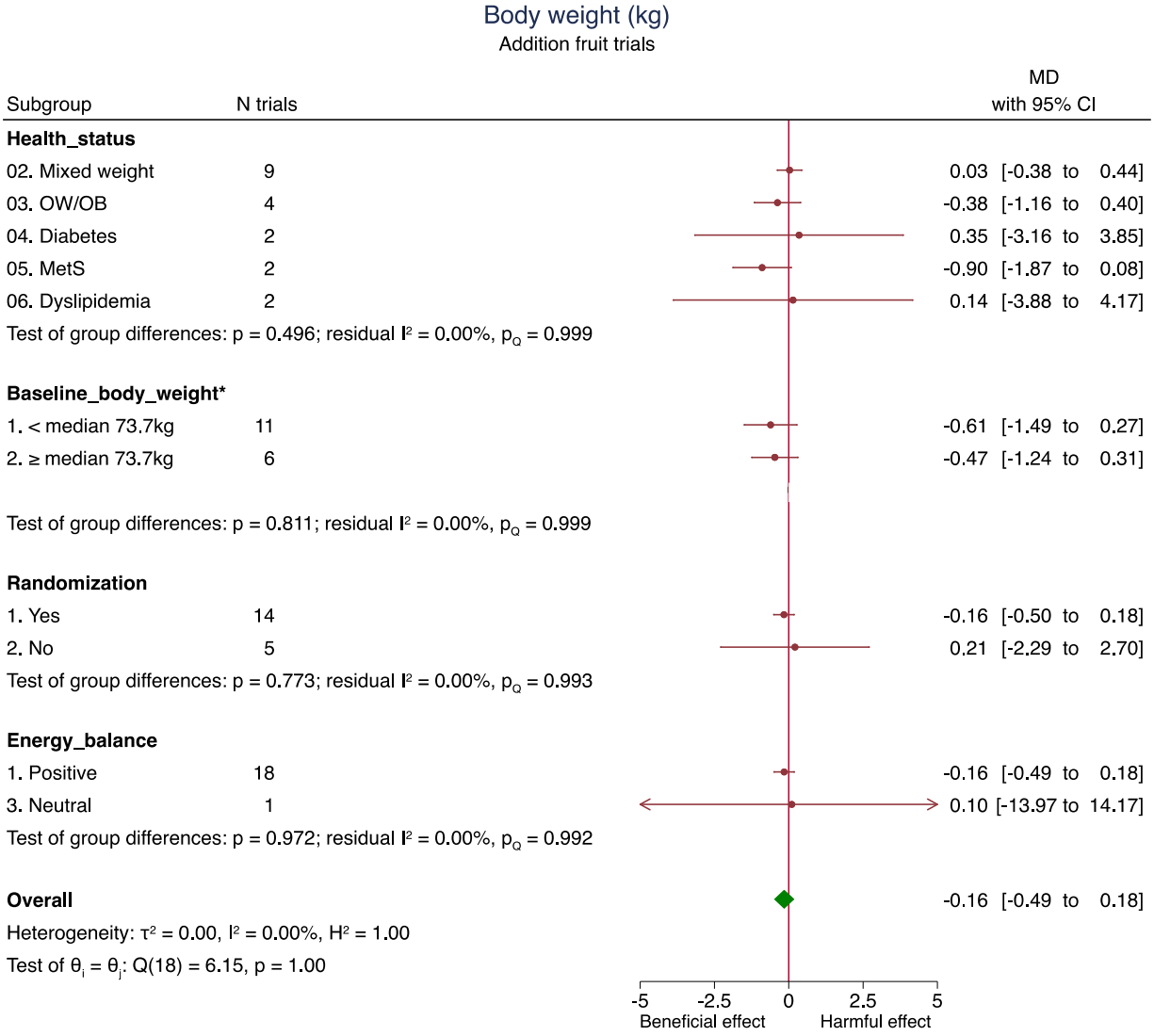
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for data source were as follows: (3 vs 1) 0.638kg (-4.48, 5.75kg); **(5 vs 1)** 1.44kg (0.696, 2.18kg); (5 vs 3) 0.801kg (-4.33, 5.93kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 150: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of fruit drink on body weight (kg) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for sequence generation were as follows: **(low vs high)** 1.72kg (0.933, 2.5kg); **(unclear vs high**) 1.16kg (0.111, 2.2kg); (unclear vs low) -0.561kg (-1.64, 0.522kg).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for allocation concealment were as follows: **(unclear vs high)** 1.55kg (0.835, 2.27kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at p<0.100 and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. p<0.050 indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 151 (1 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials

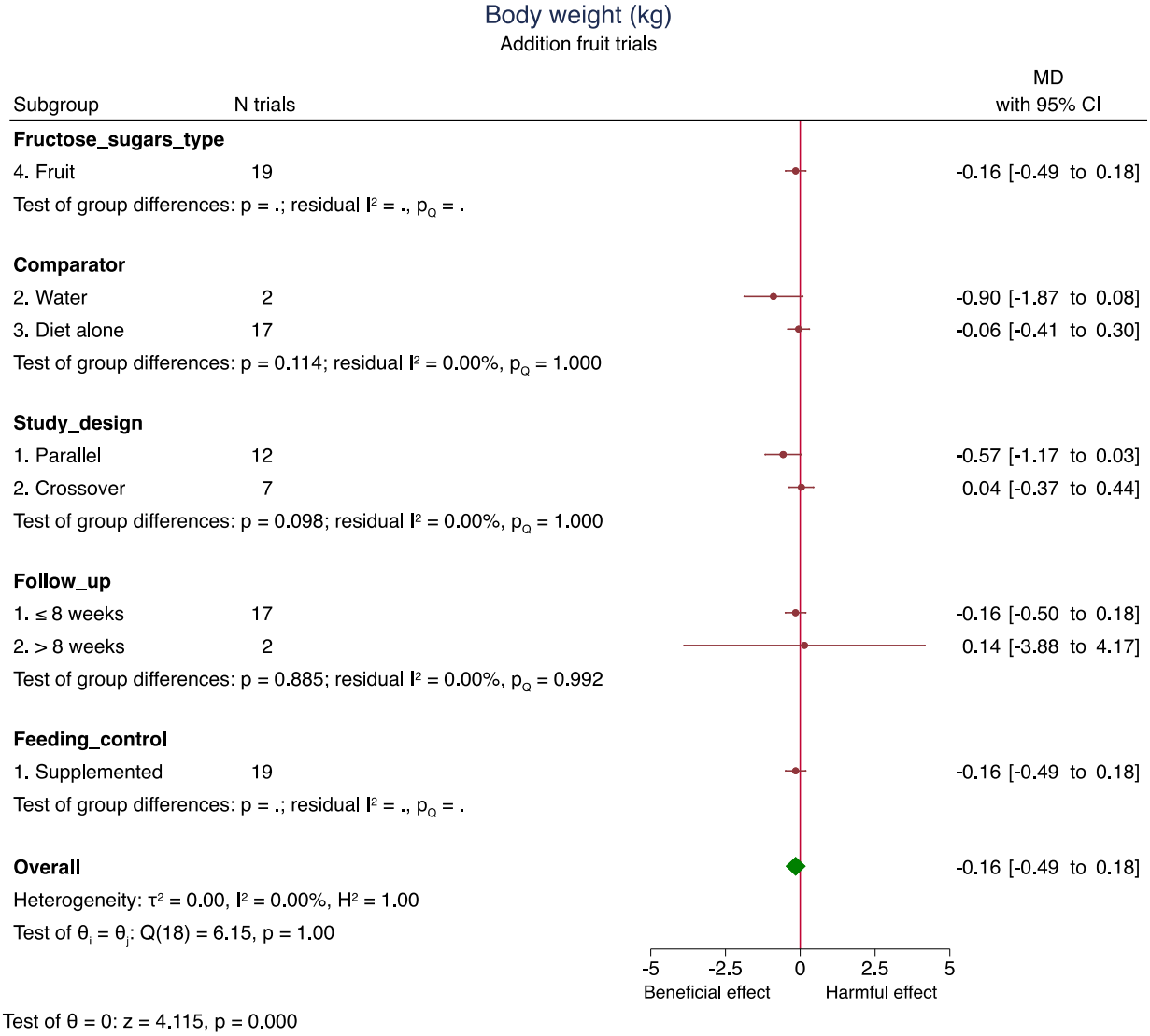


*N=2 trials missing data for baseline body weight.

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

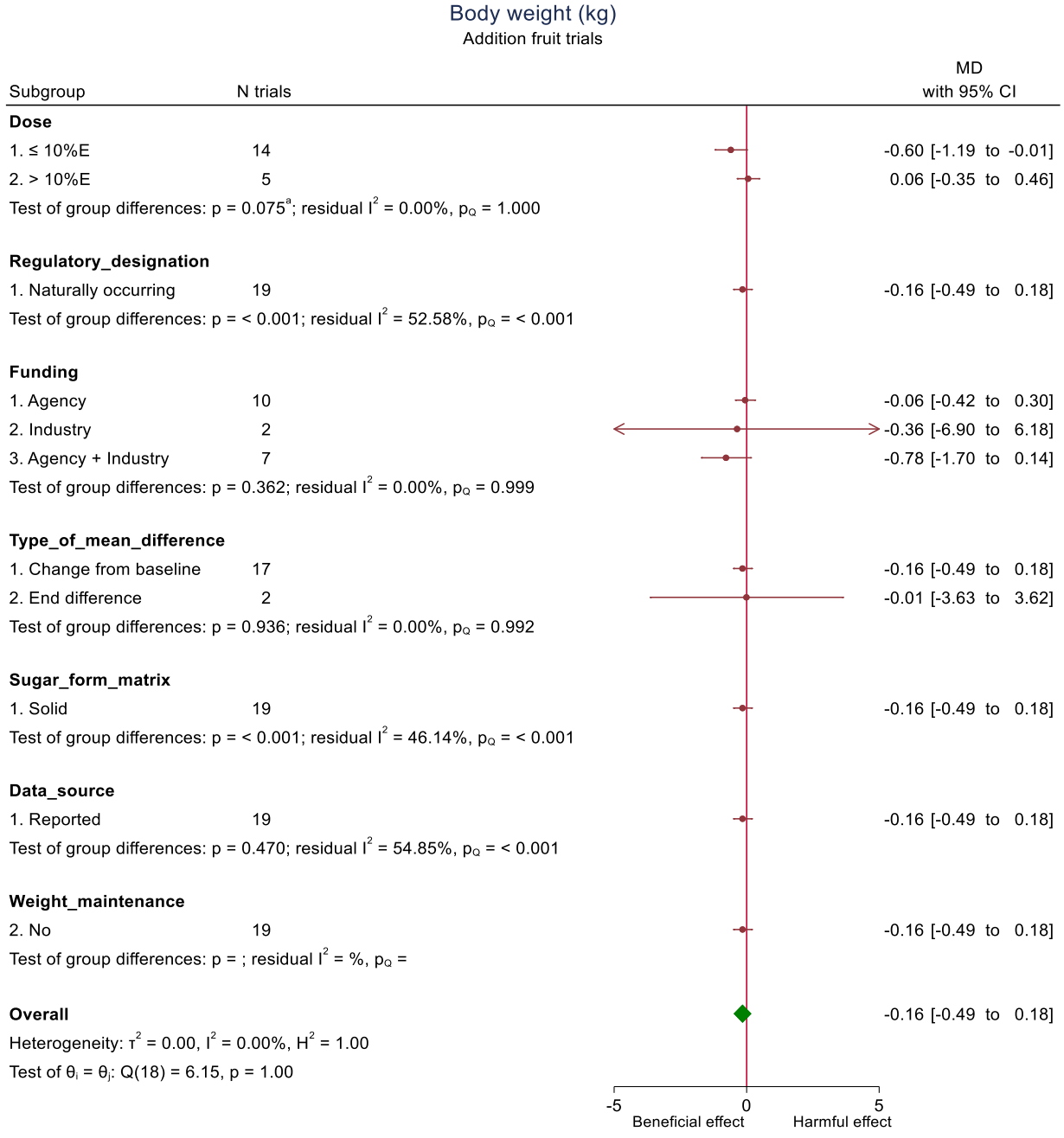
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome OB=obese; OW=overweight.

Supplementary Figure 151 (2 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 151 (3 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials



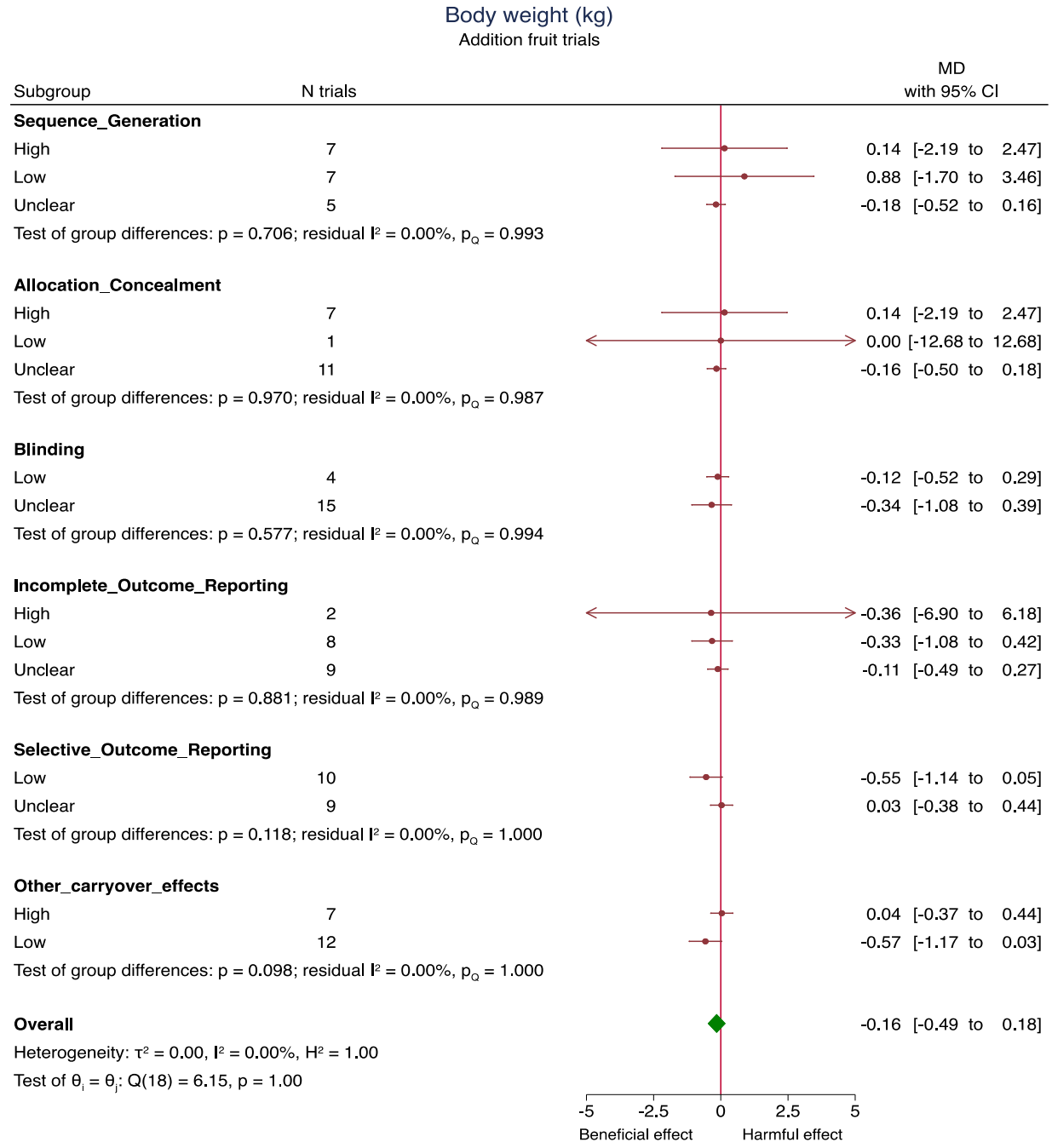
Test of θ = 0: z = -0.905, p = 0.366

[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: (**2 vs 1**) 0.653kg (-0.067, 1.37kg).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

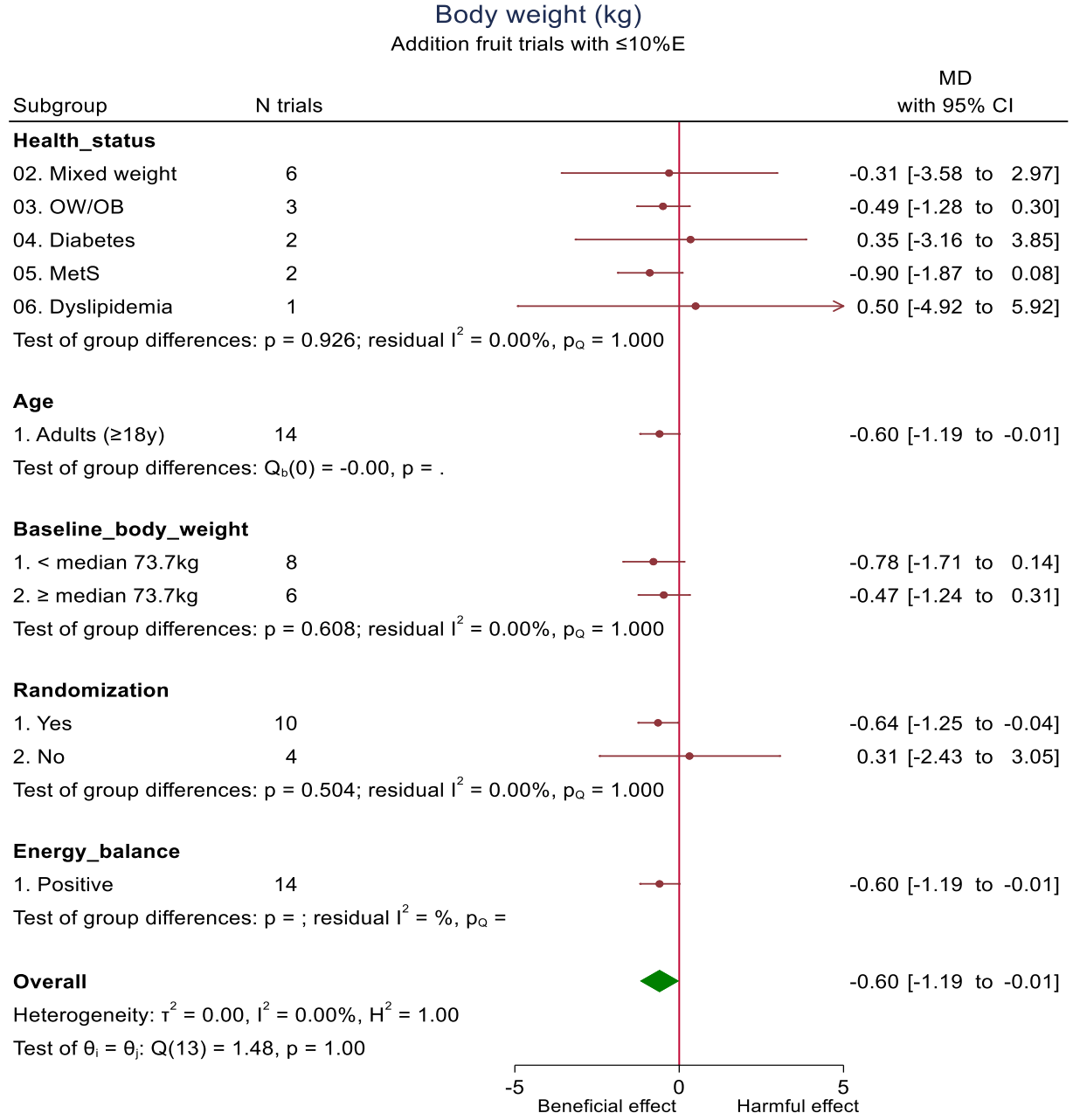
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 152: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of fruit on body weight (kg) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

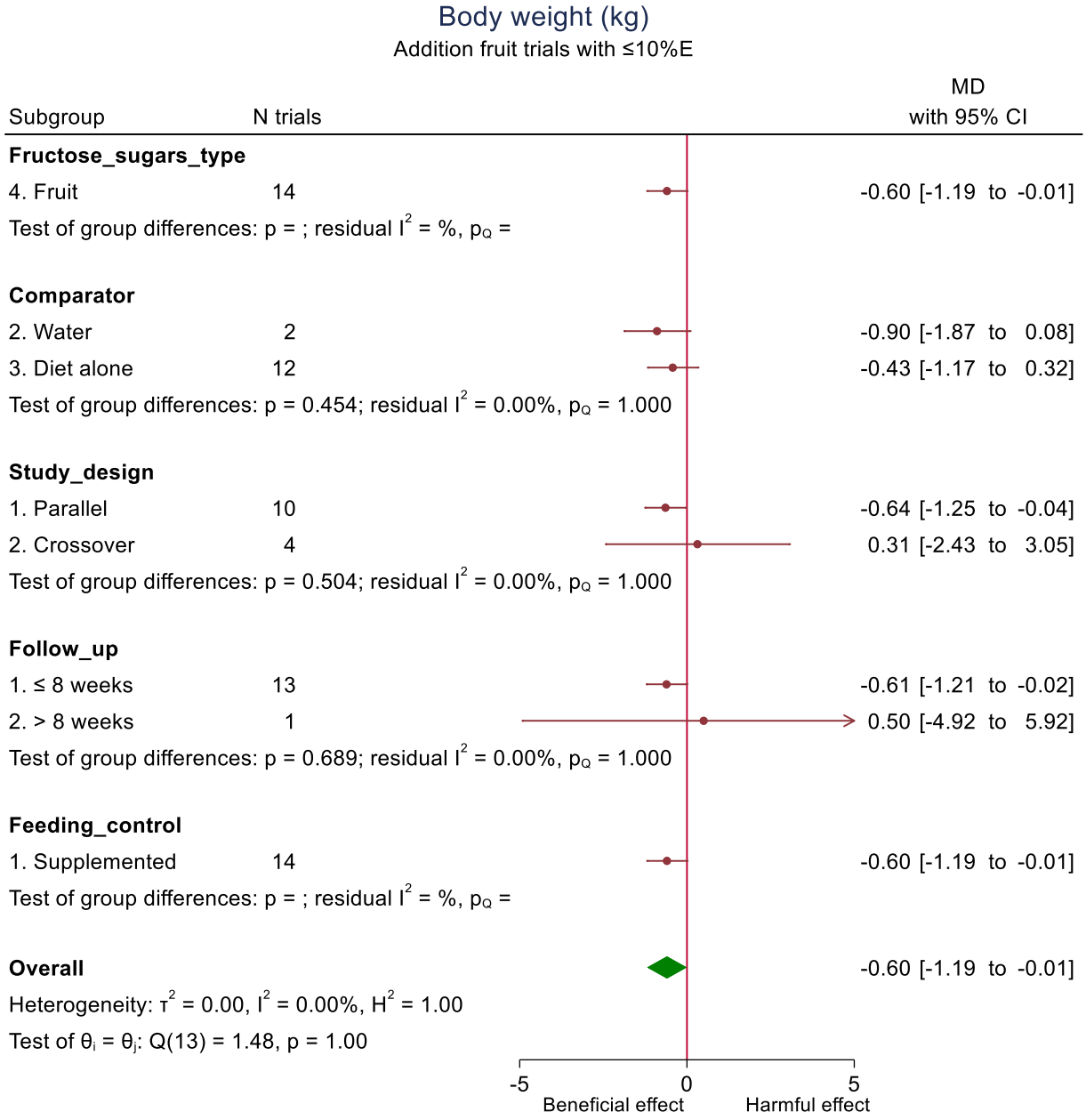
Supplementary Figure 153 (1 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials with ≤10%E



Test of θ = 0: z = -1.978, p = 0.048

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MetS=metabolic syndrome; MD=mean difference; OB=obese; OW=overweight.

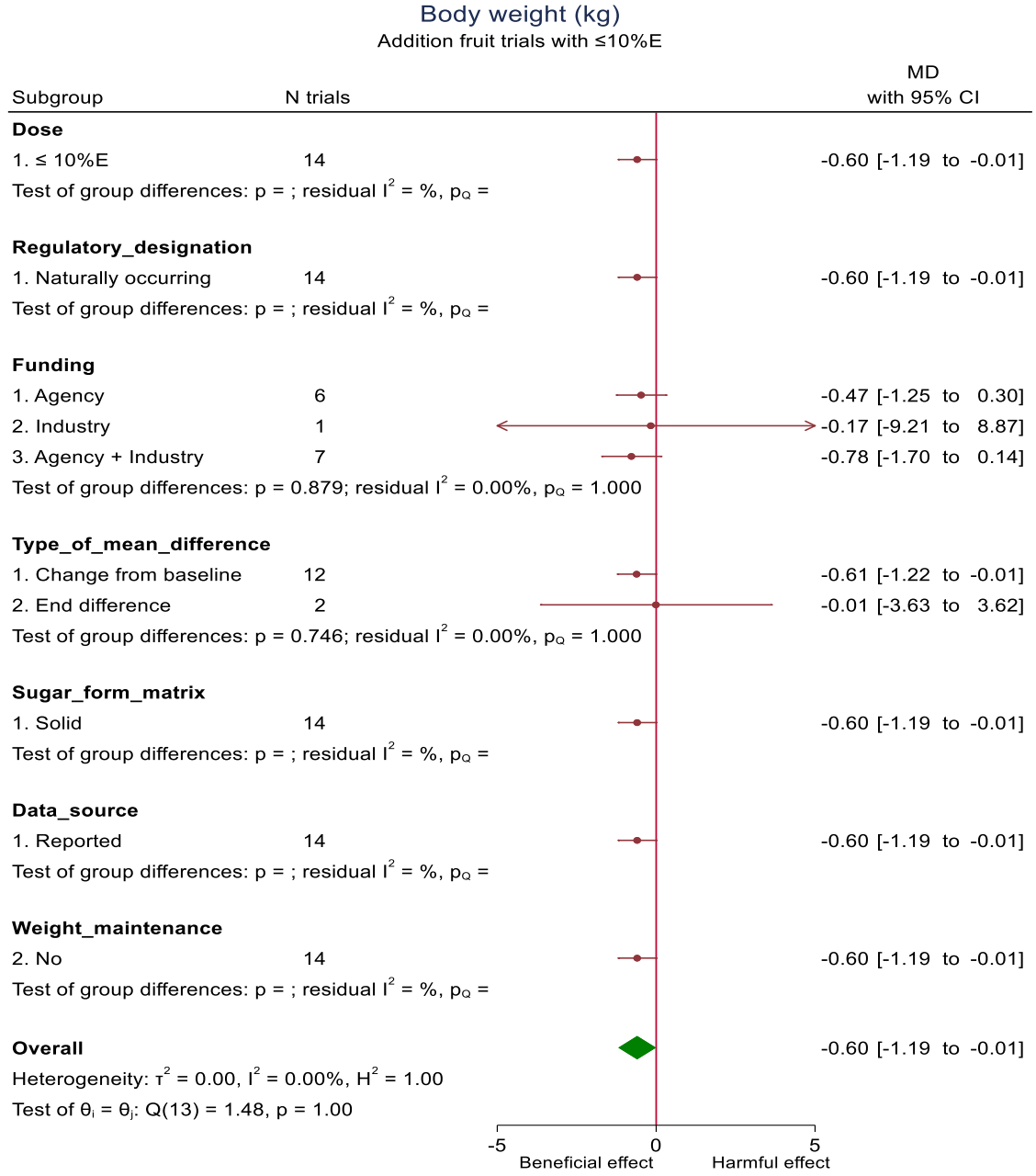
Supplementary Figure 153 (2 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials with ≤10%E



Test of θ = 0: z = -1.978, p = 0.048

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

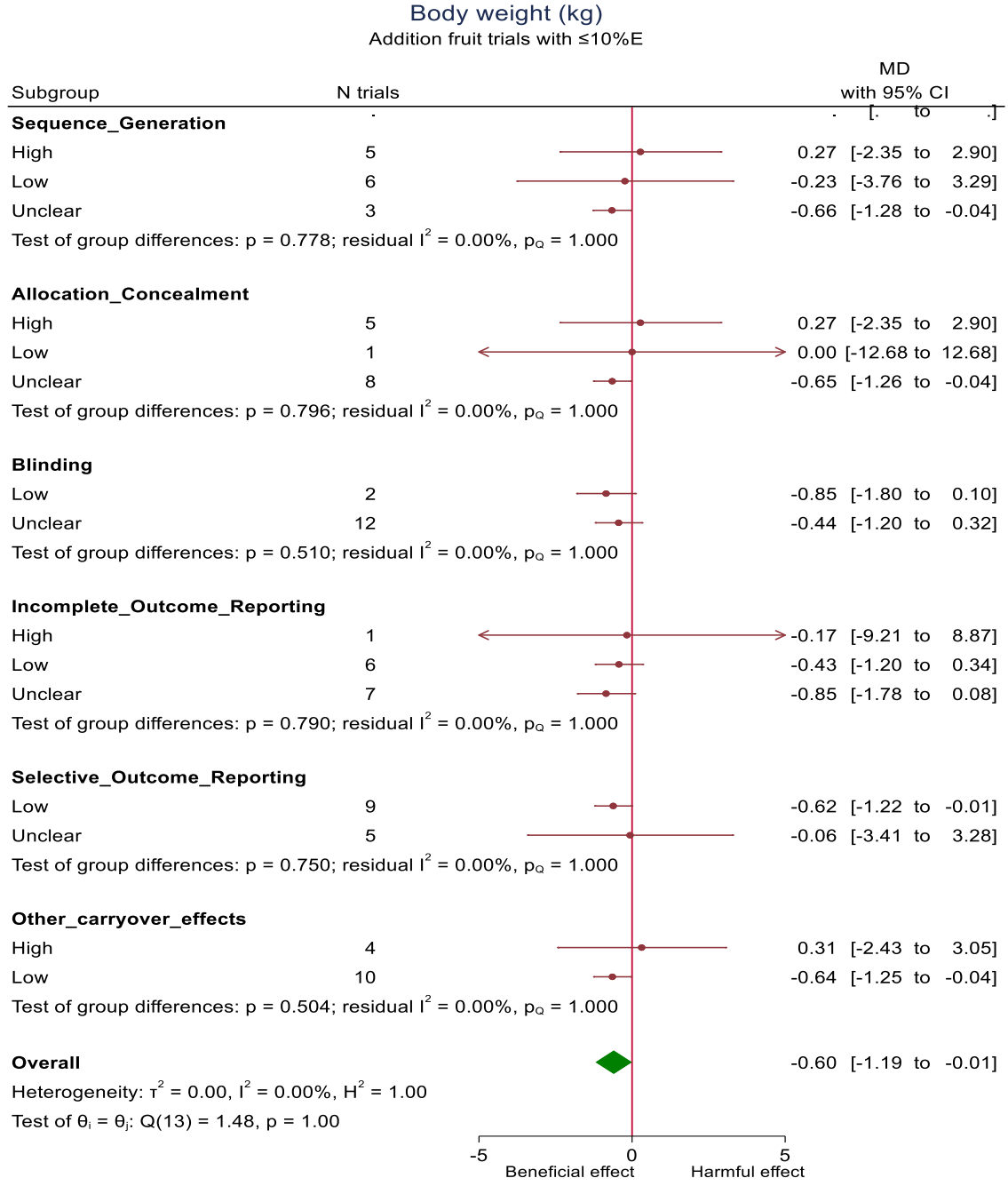
Supplementary Figure 153 (3 of 3): Subgroup analyses for the effect of fruit on body weight (kg) in addition trials with ≤10%E



Test of θ = 0: z = -1.978, p = 0.048

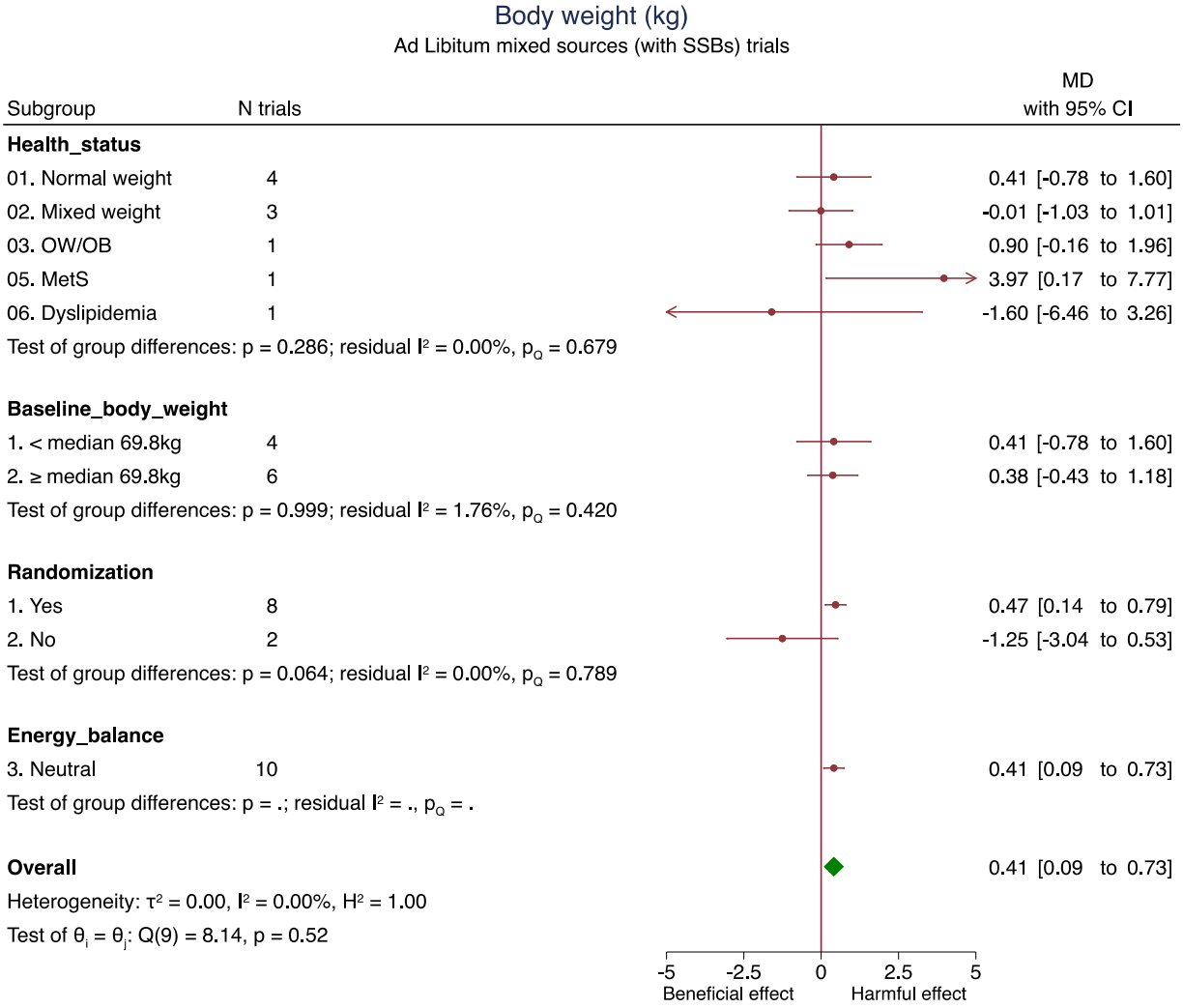
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 154: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of fruit on body weight (kg) in addition trials with ≤10%E



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 155 (1 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in *ad libitum* trials

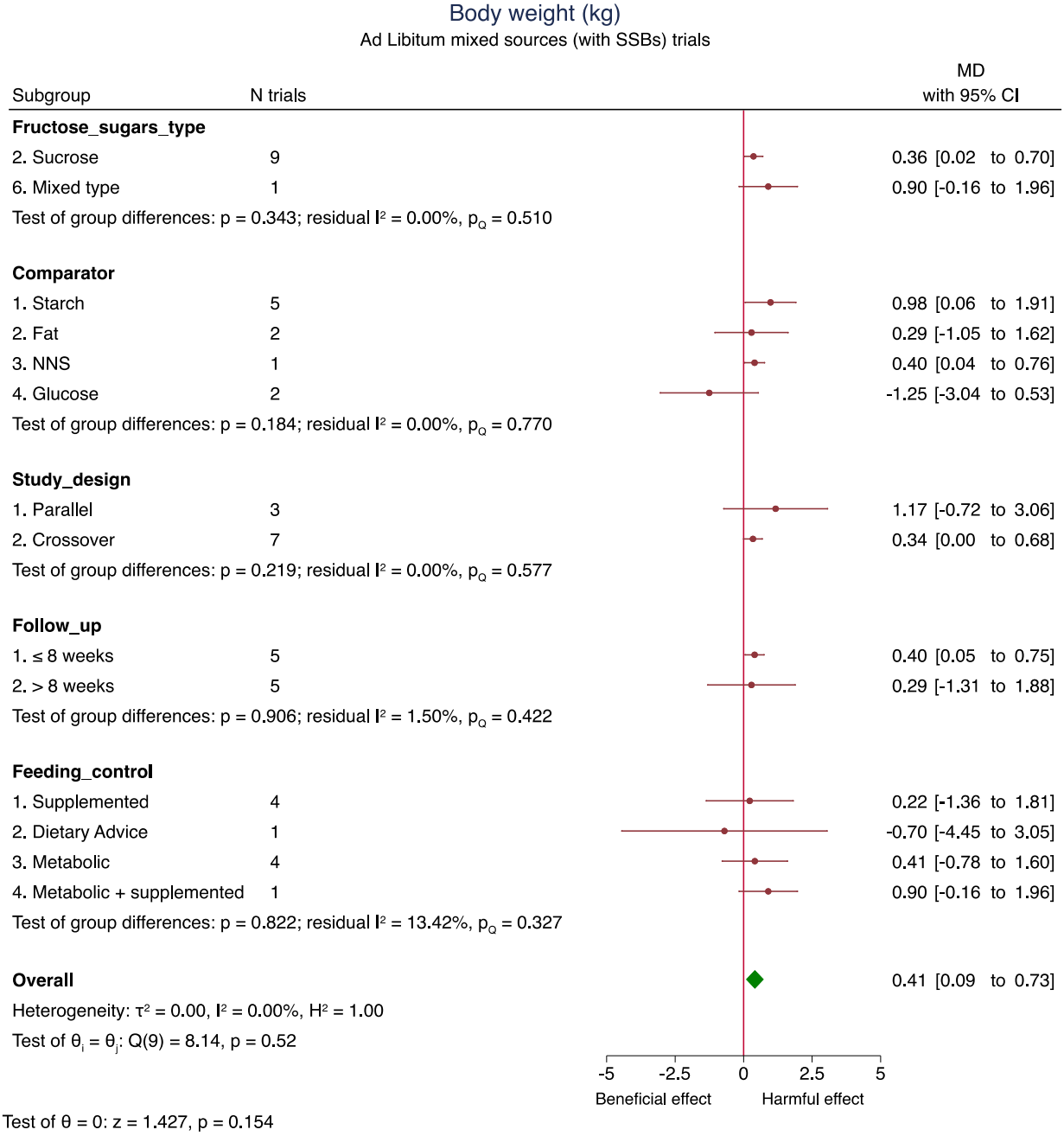


Test of θ = 0: z = 1.427, p = 0.154

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

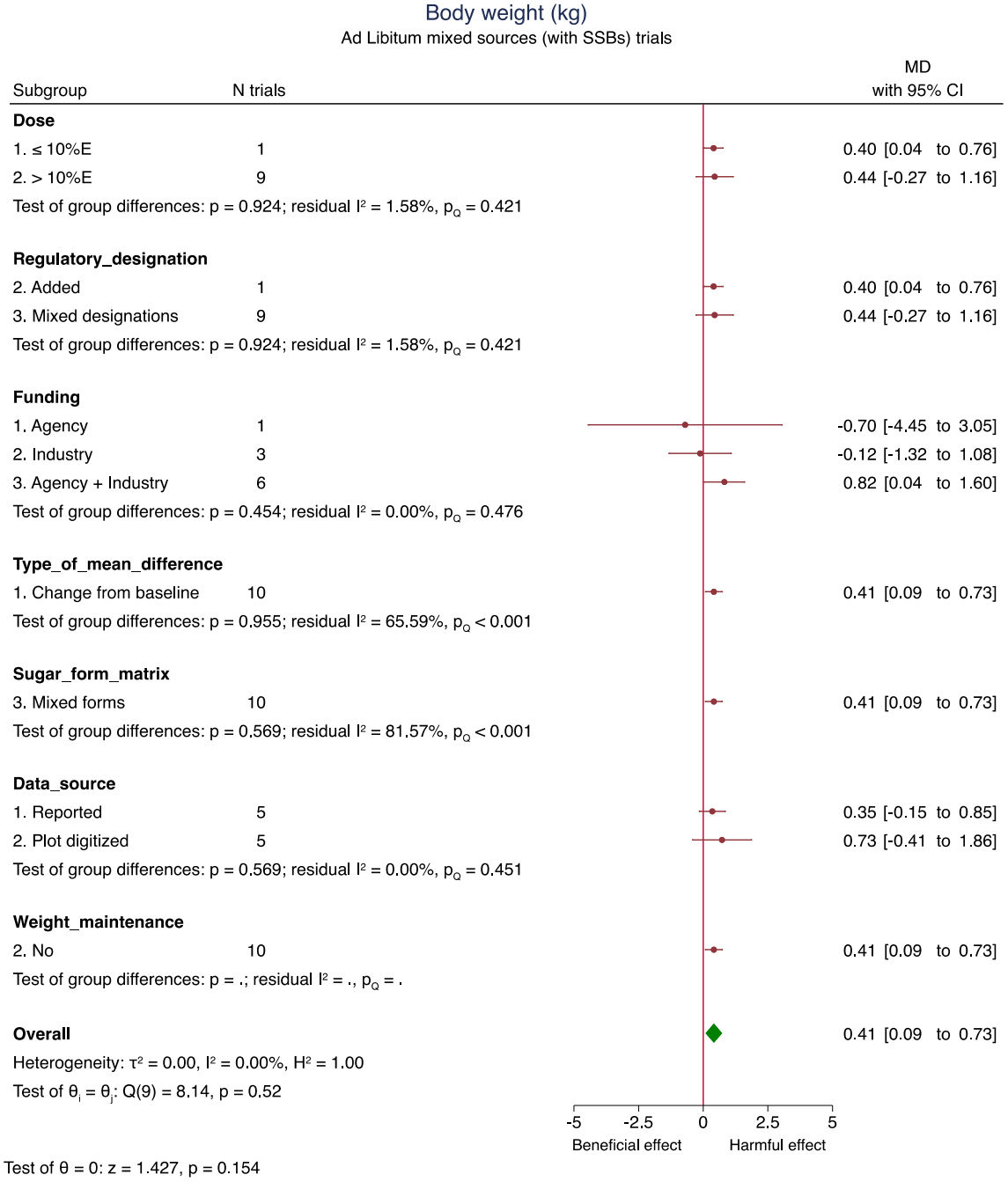
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 155 (2 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in *ad libitum* trials



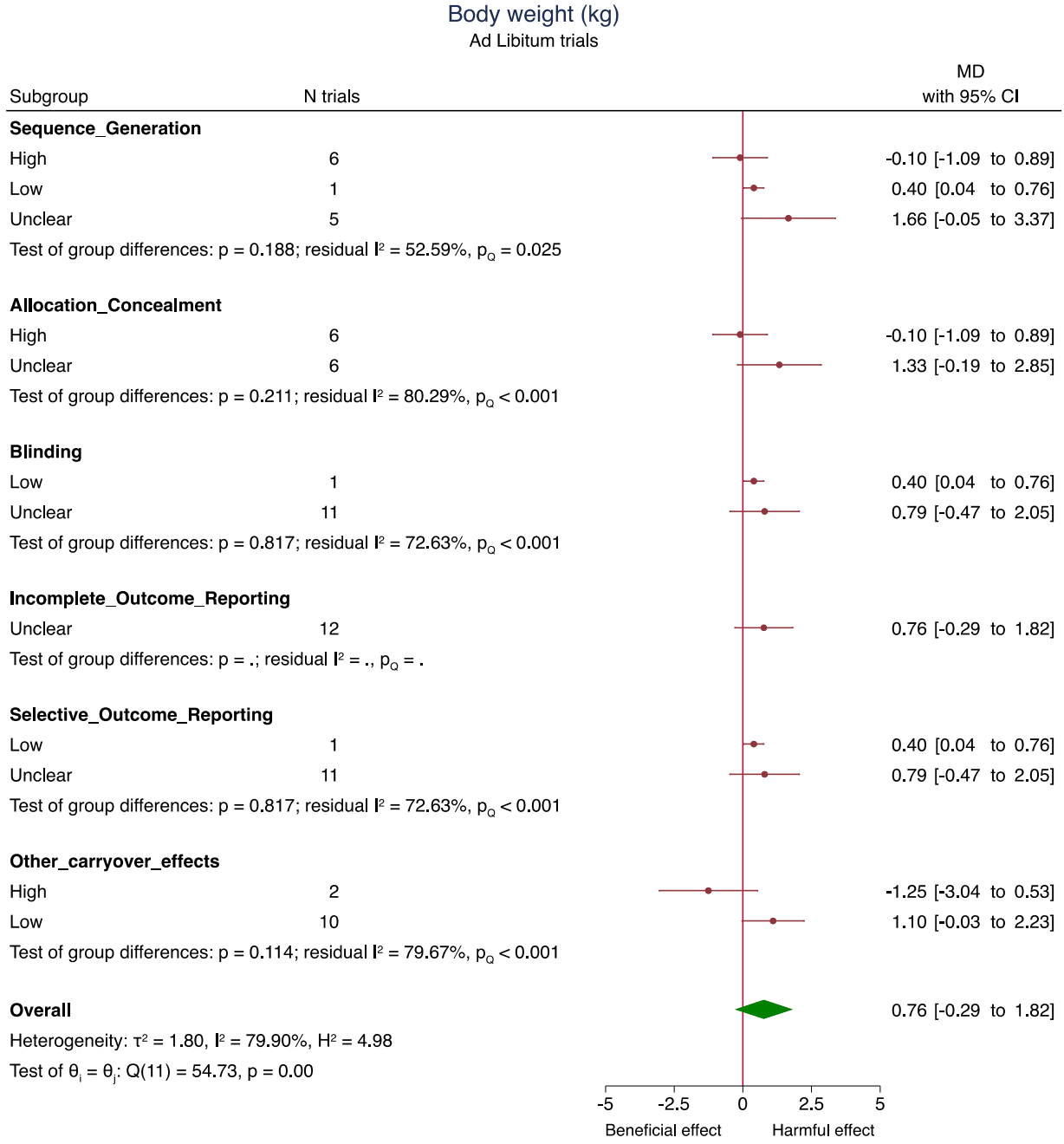
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener; SSB=sugars-sweetened beverage.

Supplementary Figure 155 (3 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on body weight (kg) in *ad libitum* trials



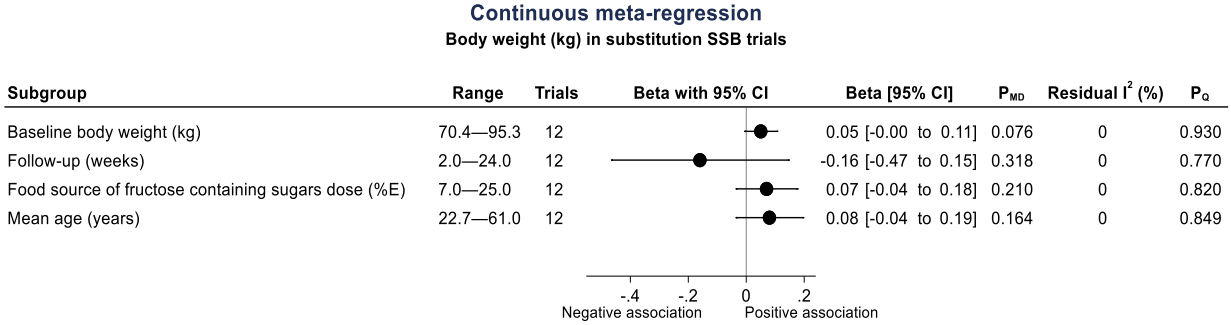
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 156: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of mixed sources (with SSBs) on body weight (kg) in *ad libitum* trials



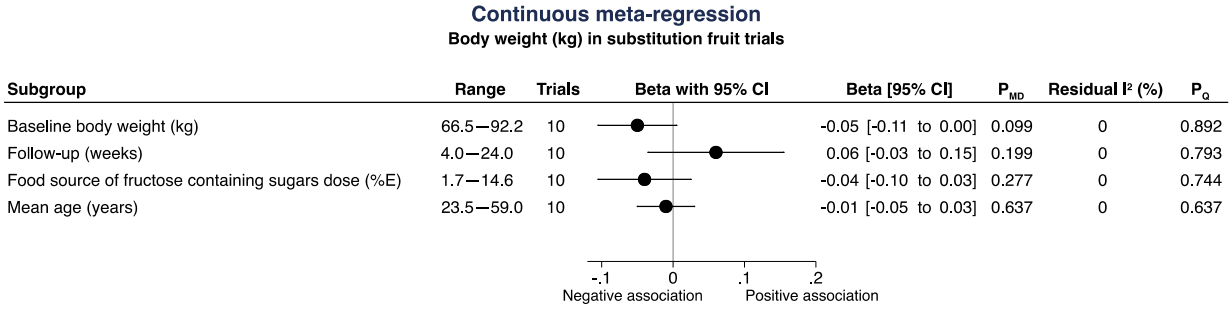
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 157: Continuous meta-regression analysis for the effect of SSBs and body weight (kg) in substitution trials



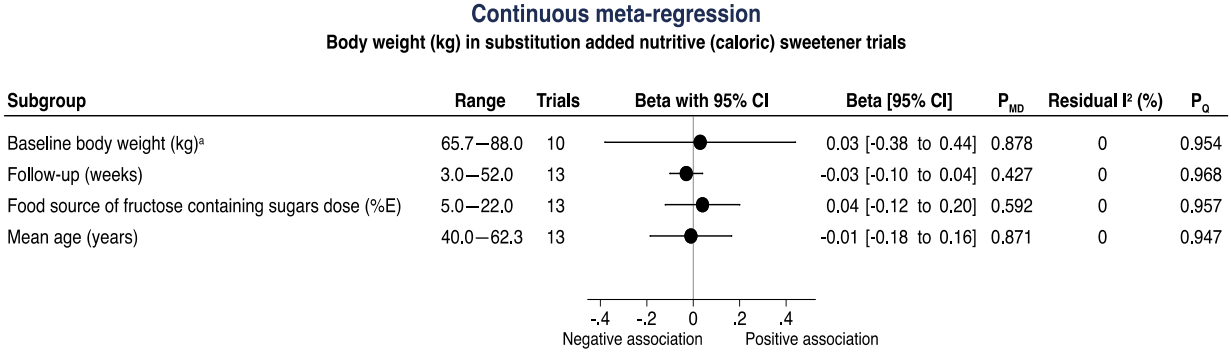
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 158: Continuous meta-regression analysis for the effect of fruit and body weight (kg) in substitution trials



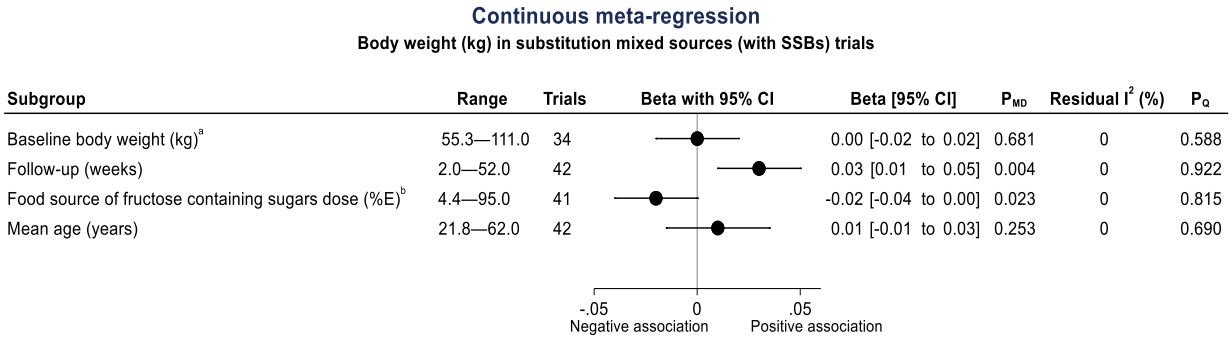
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 159: Continuous meta-regression analysis for the effect of added nutritive (caloric) sweetener and body weight (kg) in substitution trials



Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
[a]N=3 trials missing data for baseline body weight.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

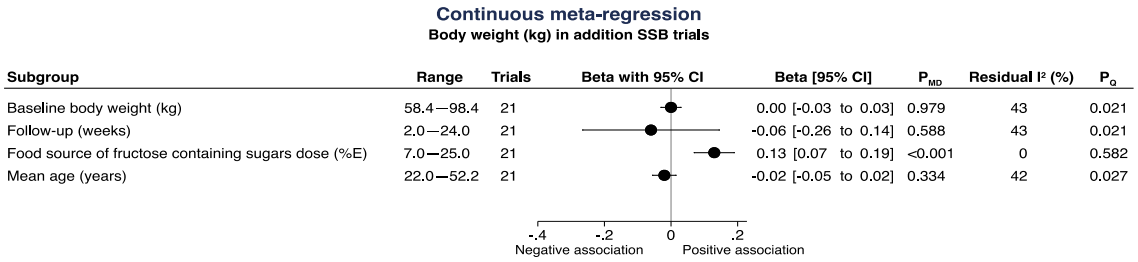
Supplementary Figure 160: Continuous meta-regression analysis for the effect of mixed sources (with SSBs) and body weight (kg) in substitution trials



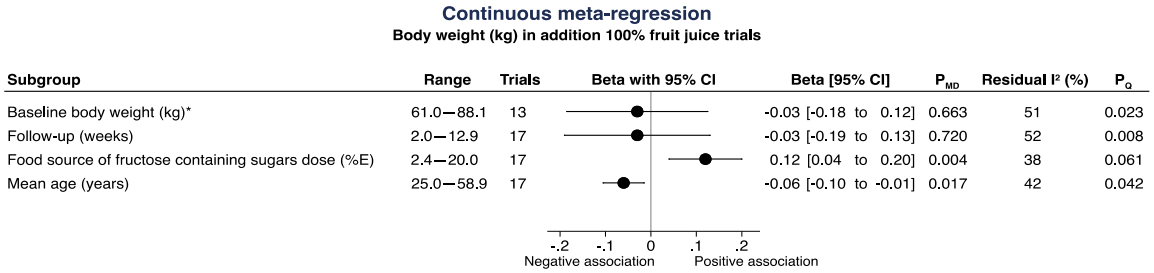
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
[a]N=8 trials missing data for baseline body weight.
[b]N=1 trial missing data for dose.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 161: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars on body weight (kg) in addition trials by food source

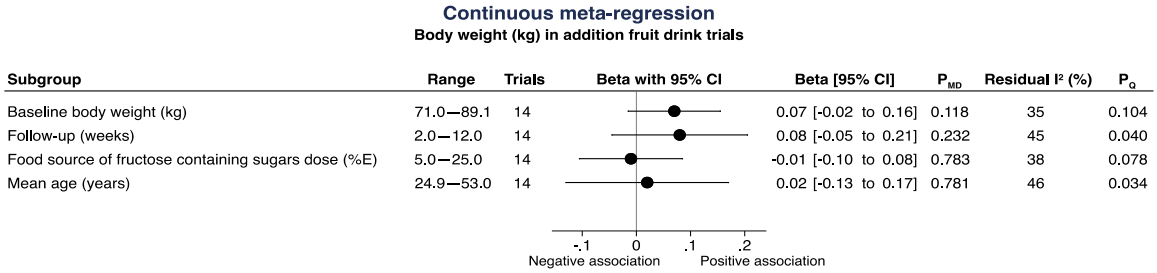
A



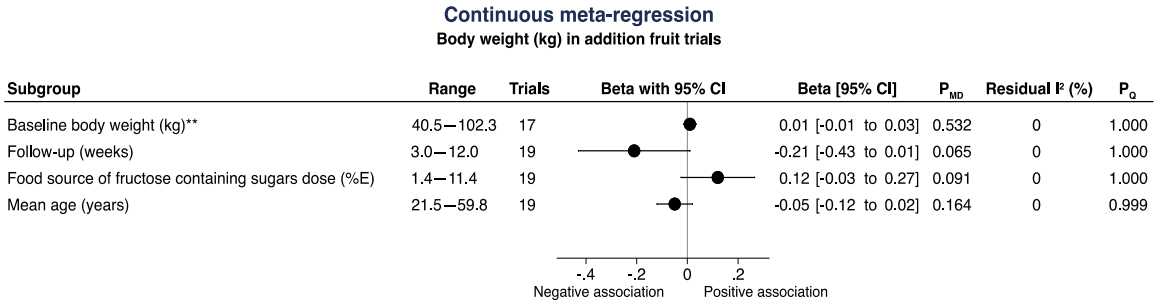
B



C

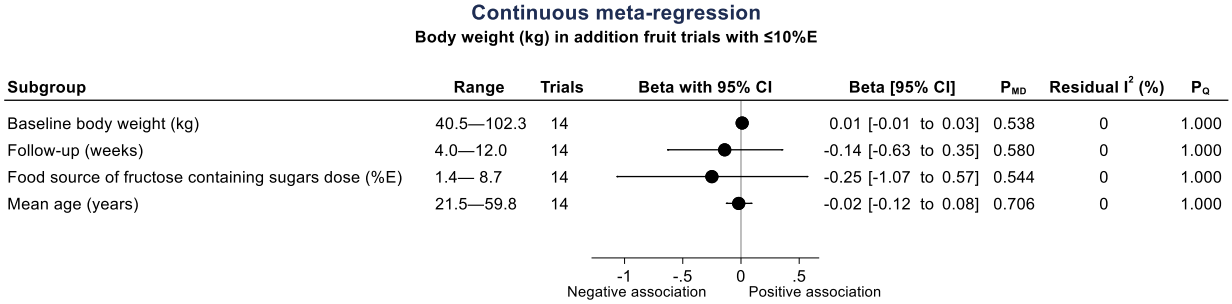


D



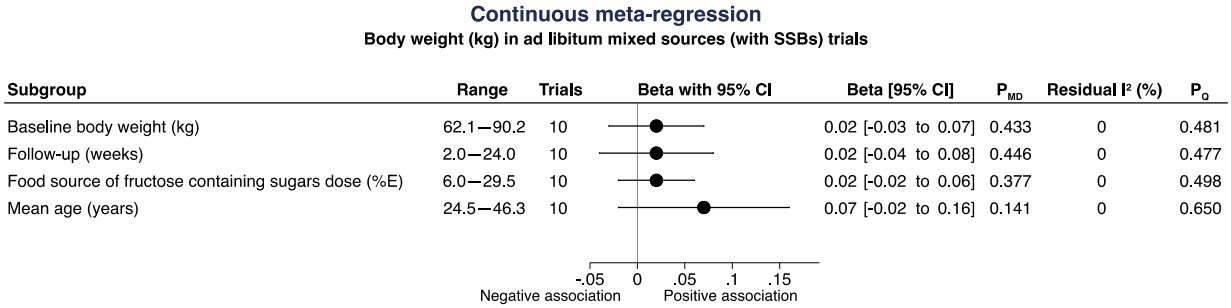
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
*N=4 trials missing data for baseline body weight. **N=2 trials missing data for baseline body weight.
Panel A: SSBs; B: 100% fruit juice; C: fruit drink; D: fruit.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 162: Continuous meta-regression analysis for the effect of fruit on body weight (kg) in addition trials with ≤10%E



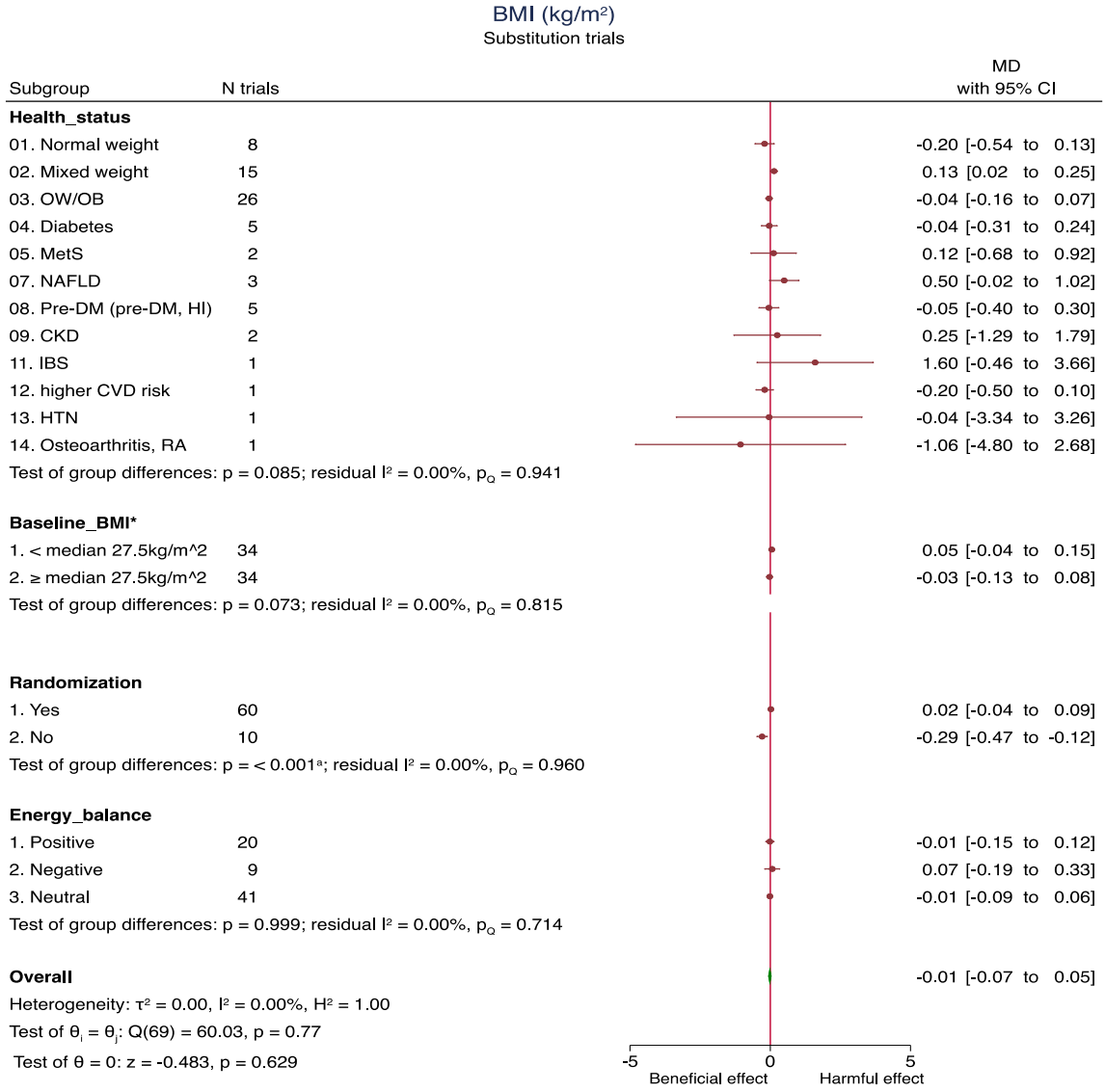
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 163: Continuous meta-regression analysis for the effect of mixed sources (with SSBs) and body weight (kg) in *ad libitum* trials



Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body weight (kg) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 164 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in substitution trials



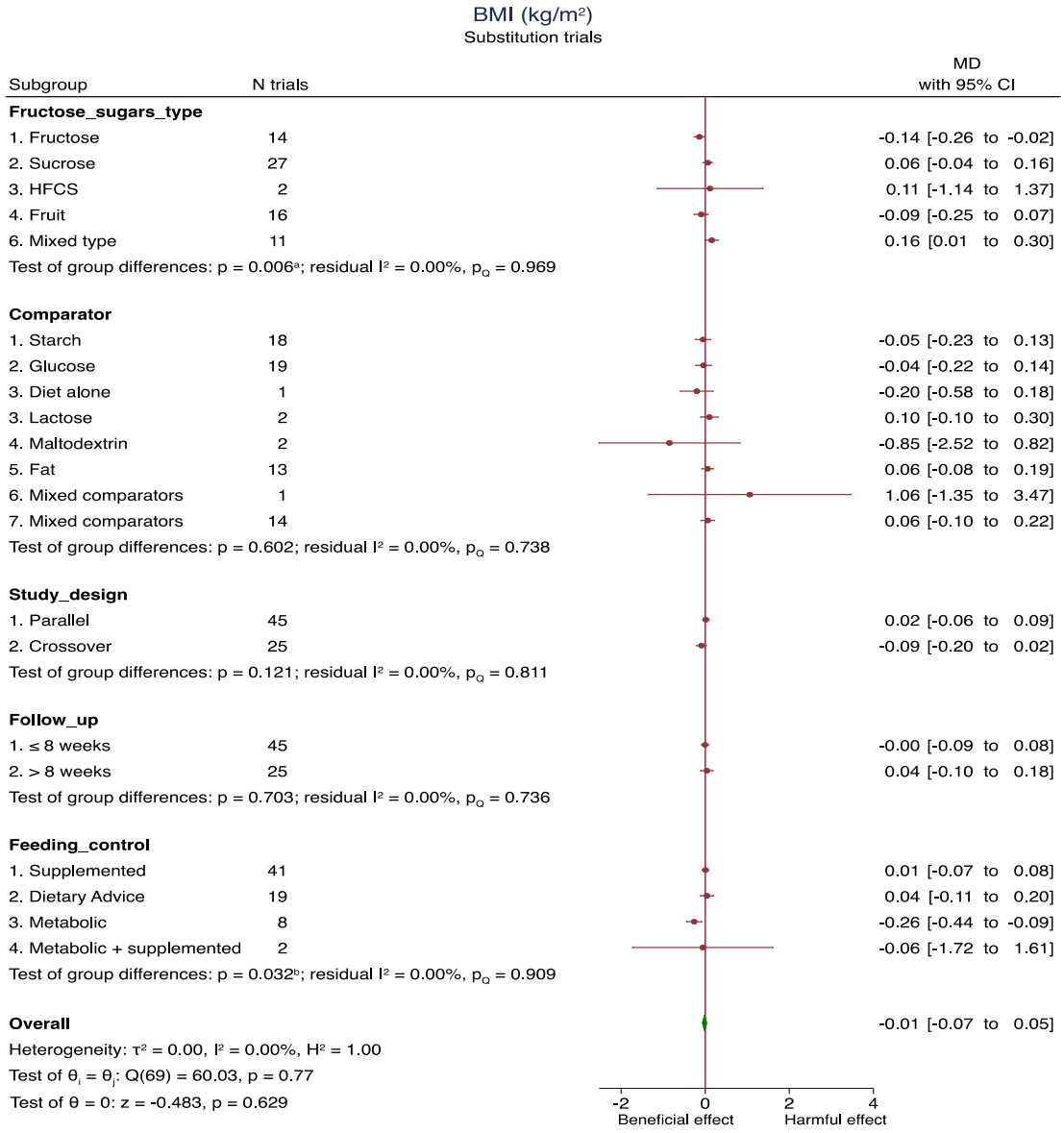
*N=2 trials missing data for baseline BMI.

[a]Pairwise between-subgroup mean differences (95% confidence intervals) for randomization were as follows: **(2 vs 1)** -0.315kg/m^2 (-0.501, -0.129 kg/m^2).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; CKD=chronic kidney disease; CVD=cardiovascular disease; DM=diabetes mellitus; HI=hyperinsulinemia; HIV=human immunodeficiency virus; HTN=hypertension; IBS=irritable bowel syndrome; MD=mean difference; MetS=metabolic syndrome; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; RA=rheumatoid arthritis.

Supplementary Figure 164 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in substitution trials

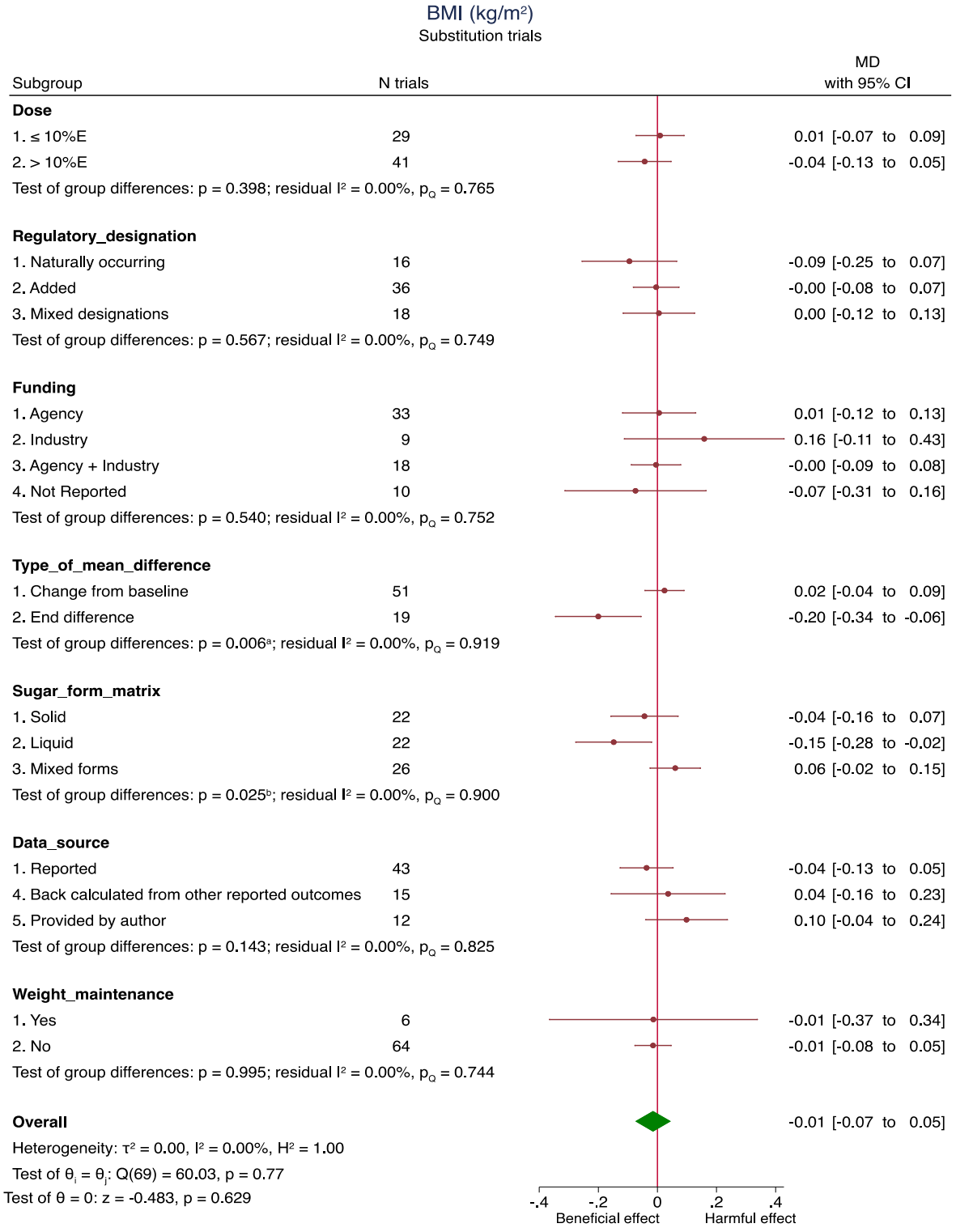


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for fructose sugars type were as follows: (**2 vs 1**) 0.206 kg/m^2 (0.0602, 0.351 kg/m^2); (3 vs 1) 0.26 kg/m^2 (-0.999, 1.52 kg/m^2); (4 vs 1) 0.502 kg/m^2 (-0.14, 0.241 kg/m^2); (**6 vs 1**) 0.302 kg/m^2 (0.124, 0.479 kg/m^2); (3 vs 2) 0.054 kg/m^2 (-1.2, 1.31 kg/m^2); (**4 vs 2**) -0.155 kg/m^2 (-0.346, 0.0347 kg/m^2); (6 vs 2) 0.096 kg/m^2 (-0.0816, 0.274 kg/m^2); (4 vs 3) -0.209kg (-1.47, 1.06kg); (6 vs 3) 0.042 kg/m^2 (-1.22, 1.31kg); (**6 vs 4**) 0.251 (0.0356, 0.467).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference.

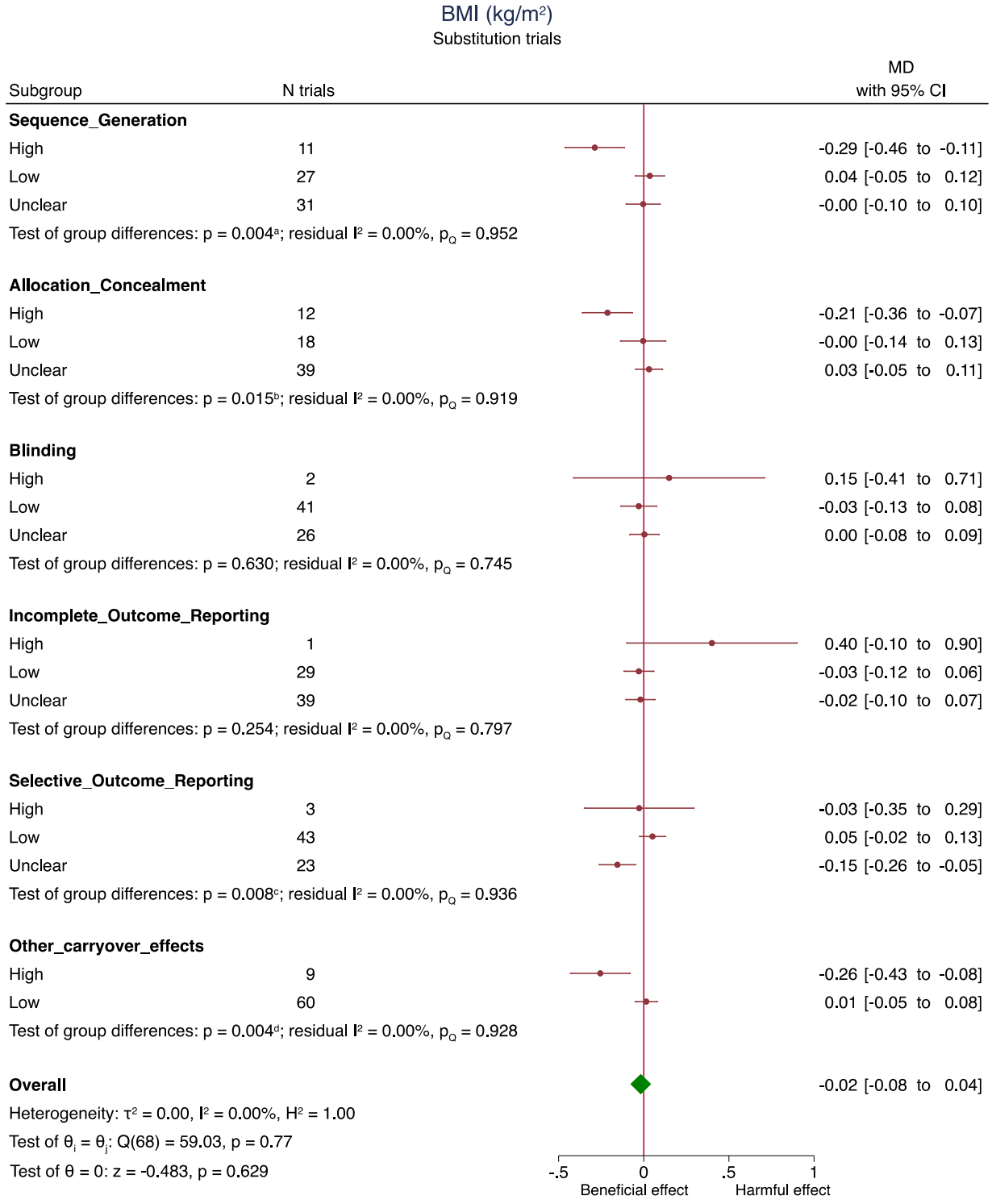
Supplementary Figure 164 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in substitution trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for type of mean differences were as follows: **(2 vs 1)** -0.224 kg/m^2 (-0.383, -0.065 kg/m^2).

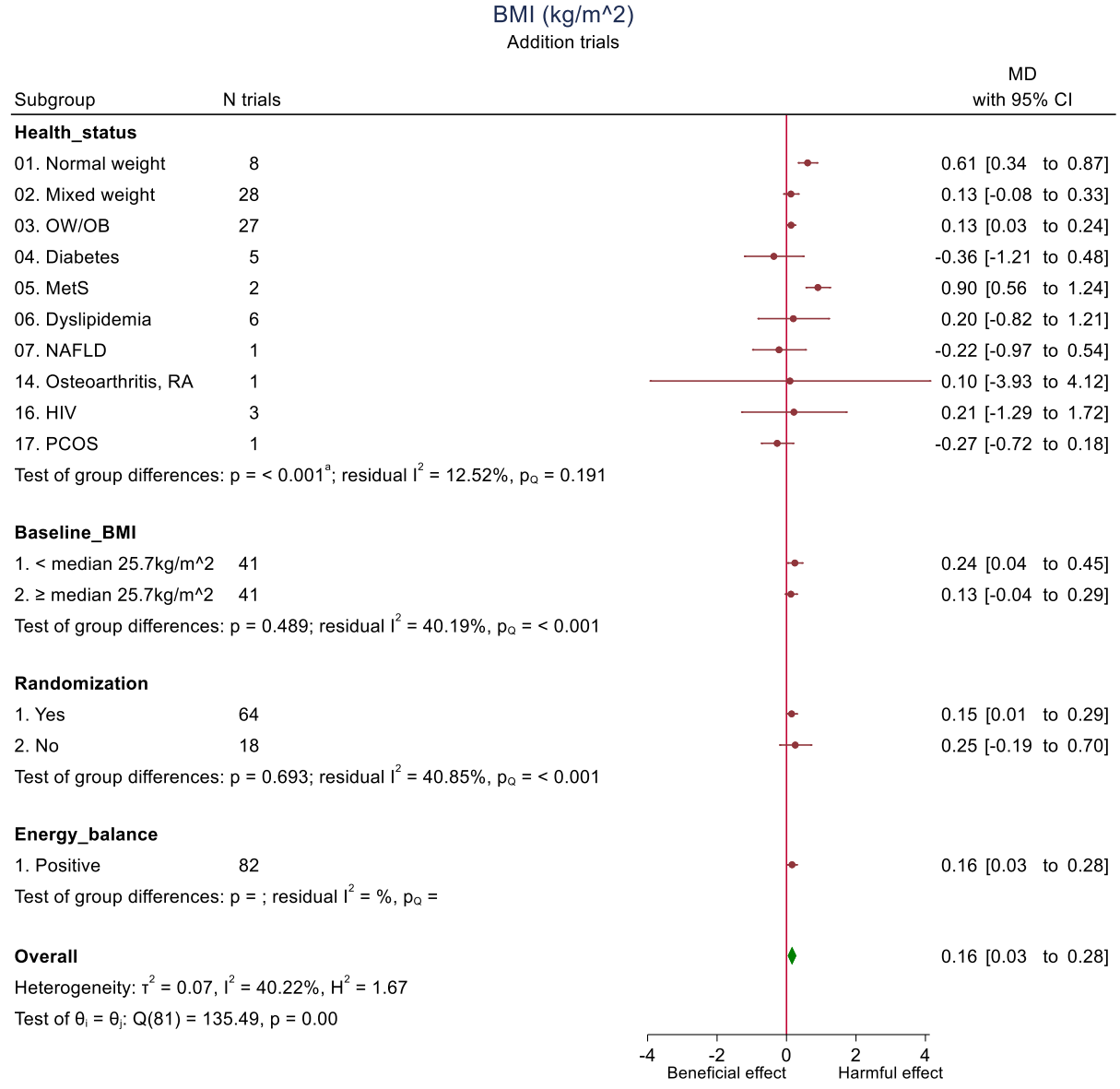
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for sugar form matrix were as follows: (2 vs 1) -0.104 kg/m^2 (-0.275, 0.0672 kg/m^2); (3 vs 1) 0.104 kg/m^2 (-0.0377, 0.246 kg/m^2); **(3 vs 2)** 0.208 kg/m^2 (0.0545, 0.362 kg/m^2)
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 165: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in substitution trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for sequence generation were as follows: (**Low vs High**) 0.324 kg/m^2 (0.13, 0.517 kg/m^2); (**Unclear vs High**) 0.284 kg/m^2 (0.0842, 0.485 kg/m^2); (Unclear vs Low) -0.0394 (-0.17, 0.0911 kg/m^2).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for allocation concealment were as follows: **(Low vs High)** 0.214 kg/m^2 (0.217, 0.406 kg/m^2); (**Unclear vs High**) 0.244 kg/m^2 (0.0778, 0.411 kg/m^2); (Unclear vs Low) 0.304 kg/m^2 (-0.116, 0.177 kg/m^2).
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows: (Low vs High) 0.0785 kg/m^2 (-0.252, 0.409 kg/m^2); (Unclear vs High) -0.128 kg/m^2 (-0.467, 0.211 kg/m^2); **(Unclear vs Low)** -0.206 kg/m^2 (-0.337, -0.758 kg/m^2).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for other (carry-over effects) were as follows: **(Low vs High)** 0.27 kg/m^2 (0.0841, 0.456 kg/m^2).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference.

Supplementary Figure 166 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in addition trials



Test of θ = 0: z = 2.502, p = 0.012

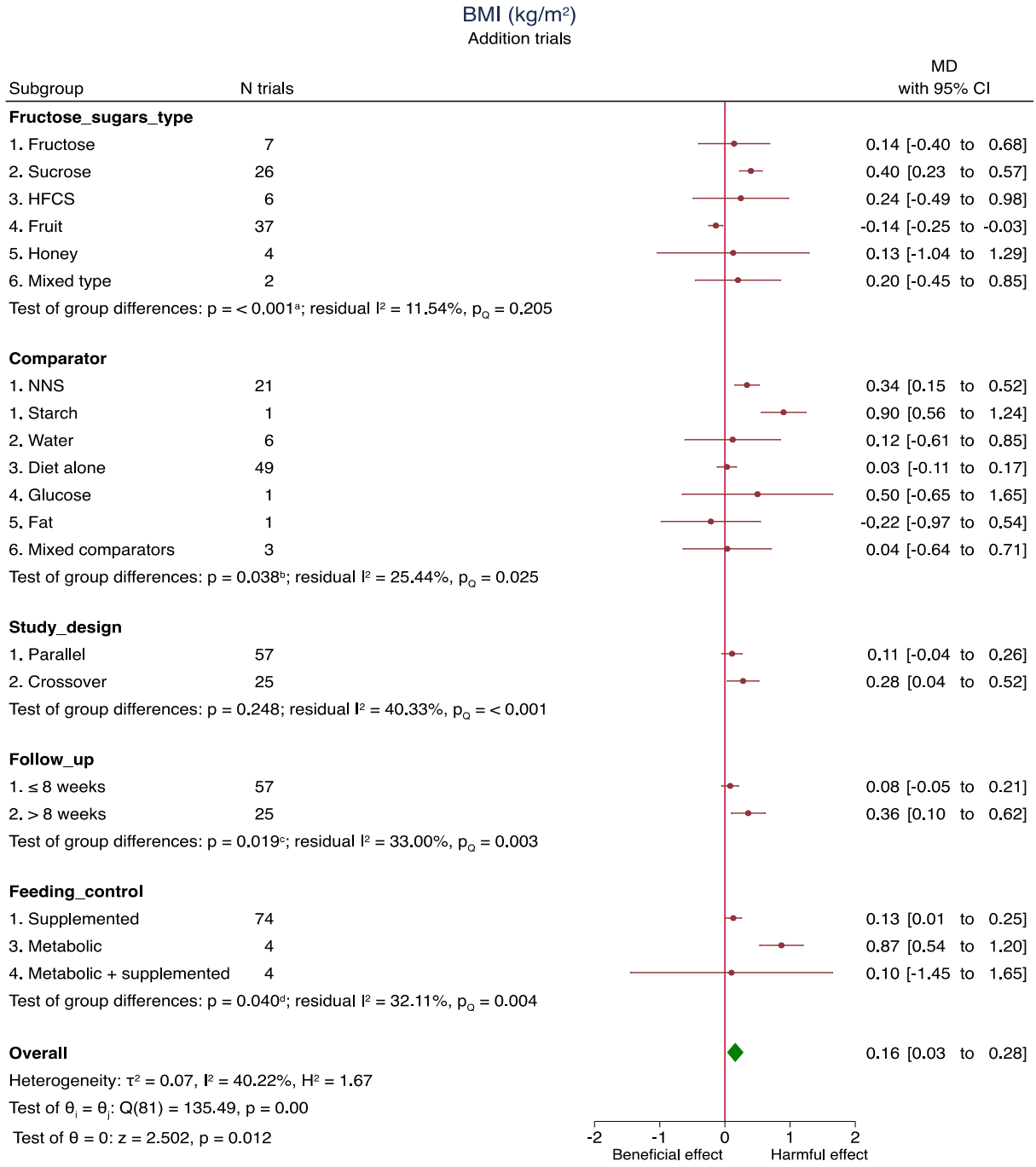
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for health status were as follows**: (2 vs 1)** -0.42kg/m^2 (-0.769, -0.0713kg/m^2); **(3 vs 1)** -0.395kg/m^2 (-0.724, -0.0666kg/m^2); **(4 vs 1)** -1.180kg/m^2 (-1.68, -0.681kg/m^2); (5 vs 1) 0.348kg/m^2 (-.172, 0.869kg/m^2); (6 vs 1) -0.361 kg/m^2 (-1.42, 0.702 kg/m^2); (7 vs 1) -0.772 kg/m^2 (-1.63, 0.0828 kg/m^2); (16 vs 1) -0.344 kg/m^2 (-1.88, 1.2 kg/m^2); **(17 vs 1)** -0.826 kg/m^2 (-1.43, -0.225); (3 vs 2) 0.0247 kg/m^2 (-0.195, 0.244 kg/m^2); **(4 vs 2)** -0.763 kg/m^2 (-1.2, -0.325 kg/m^2); **(5 vs 2)** 0.768 kg/m^2 (0.31, 1.23 kg/m^2); (6 vs 2) 0.0591 kg/m^2 (-0.975, 1.23 kg/m^2); (7 vs 2) -0.352 kg/m^2 (-1.17, 0.467 kg/m^2); (16 vs 2) -0.0366 kg/m^2 (-4.07, 4 kg/m^2); (17 vs 2) -0.406 kg/m^2 (-0.956, 0.143 kg/m^2); **(4 vs 3)** -0.787 kg/m^2 (-1.21, -0.366 kg/m^2); (5 vs 3) 0.744 kg/m^2 (0.3, 1.19 kg/m^2); (6 vs 3) 0.0345 kg/m^2 (-0.993, 1.06 kg/m^2); (7 vs 3) -0.377 kg/m^2 (-1.19, 0.434 kg/m^2); (16 vs 3) 0.051 kg/m^2 (-1.46, 1.57 kg/m^2); (17 vs 3) -0.431 kg/m^2 (-0.969, 0.106 kg/m^2); **(5 vs 4)** 1.53 kg/m^2 (0.948, 2.11 kg/m^2); (6 vs 4) 0.822 kg/m^2 (-0.274, 1.92 kg/m^2); (7 vs 4) 0.41 kg/m^2 (-0.485, 1.31 kg/m^2); (16 vs 4) 0.838 kg/m^2 (-0.724, 2.4 kg/m^2); (17 vs 4) 0.356 kg/m^2 (-0.301, 1.01 kg/m^2); (6 vs 5) -0.709 kg/m^2 (-1.81, 0.395 kg/m^2); **(7 vs 5)** -1.12 (-2.03, -0.215 kg/m^2); (16 vs 5) -0.693 kg/m^2 (-2.26, 0.876 kg/m^2); **(17 vs 5)** -1.17 kg/m^2 (-1.85, -0.503 kg/m^2); (7 vs 6) -0.412 kg/m^2 (-1.71, 0.885 kg/m^2); (16 vs 6) 0.0165 kg/m^2 (-1.81, 1.84 kg/m^2); (17 vs

6) -0.466 kg/m^2 (-1.61, 0.679 kg/m^2); (16 vs 7) 0.428 kg/m^2 (-1.28, 2.14 kg/m^2); (17 vs 7) -0.054 kg/m^2 (-1.01, 0.901 kg/m^2); (16 vs 4) 0.112 kg/m^2 (-4.19, 4.42 kg/m^2); (17 vs 14) -0.37 kg/m^2 (-4.44, 3.7 kg/m^2); (17 vs 16) -0.482 kg/m^2 (-2.08, 1.12 kg/m)

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; HIV=human immunodeficiency virus; MetS=metabolic syndrome; MD=mean difference; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; PCOS=polycystic ovarian syndrome; RA=rheumatoid arthritis.

Supplementary Figure 166 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for fructose sugars type were as follows: (2 vs 1) 0.27 kg/m^2 (-0.3, 0.84 kg/m^2); (3 vs 1) 0.105kg (-0.824, 1.03 kg/m^2); (4 vs 1) -0.319kg (-0.895, 0.256 kg/m^2); (5 vs 1) -0.0133 kg/m^2 (-1.31, 1.28 kg/m^2); (6 vs 1) -0.0122 kg/m^2 (-0.661, 0.636 kg/m^2); **(3 vs 2)** -0.166 kg/m^2 (-0.785, -0.395 kg/m^2); (**4 vs 2**) -0.59 kg/m^2 (-0.785, -0.395 kg/m^2); (5 vs 2) -0.284 kg/m^2 (-1.46, 0.892 kg/m^2); (6 vs 2) -0.283 kg/m^2 (-0.639, 0.0738 kg/m^2); (4 vs 3) -0.424 kg/m^2 (-1.18, 0.334 kg/m^2); (5 vs 3) -0.118 kg/m^2 (-1.5, 1.27 kg/m^2); (6 vs 3) -0.117 kg/m^2 (-0.932, 0.698 kg/m^2); (5 vs 4) 0.306 kg/m^2 (-0.0586, 0. 673 kg/m^2); (6 vs 4) 0.307 kg/m^2 (-0.0586, 0.673 kg/m^2); (6 vs 5) 0.00108 kg/m^2 (-1.21, 1.22 kg/m^2).

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for comparator were as follows: (2 vs 1) -0.282 kg/m^2 (-1.06, 0.5 kg/m^2); (**3 vs 1**) -0.375 kg/m^2 (-0.602, -0.149 kg/m^2); (4 vs 1) 0.0941 kg/m^2 (-1.13, 1.32 kg/m^2); (5 vs 1) -0.622 kg/m^2 (-1.48, 0.241 kg/m^2); (6 vs 1) -0.371 kg/m^2 (-1.1, 0.359 kg/m^2); (3 vs 2) -0.0934 kg/m^2 (-0.868, 0.681 kg/m^2); (4 vs 2) 0.376 kg/m^2 (-1.05, 1.81 kg/m^2); (5 vs 2) -0.34 kg/m^2 (-1.48, 0.797 kg/m^2); (6 vs 2) -0.0891 kg/m^2 (-1.13, 0.95 kg/m^2); (4 vs 3) 0.469 kg/m^2 (-0.749, 1.69 kg/m^2); (5 vs 3) -0.247 kg/m^2 (-1.1, 0.609 kg/m^2); **(6 vs 3)** 0.00429 kg/m^2 (-0.717, 0.725 kg/m^2); (5 vs 4) -0.716 kg/m^2 (-0.219, 0.759 kg/m^2); (6 vs 4) -0.465 kg/m^2 (-1.87, 0.937 kg/m^2); (6 vs 5) 0.251 kg/m^2 (-0.85, 1.35 kg/m^2)

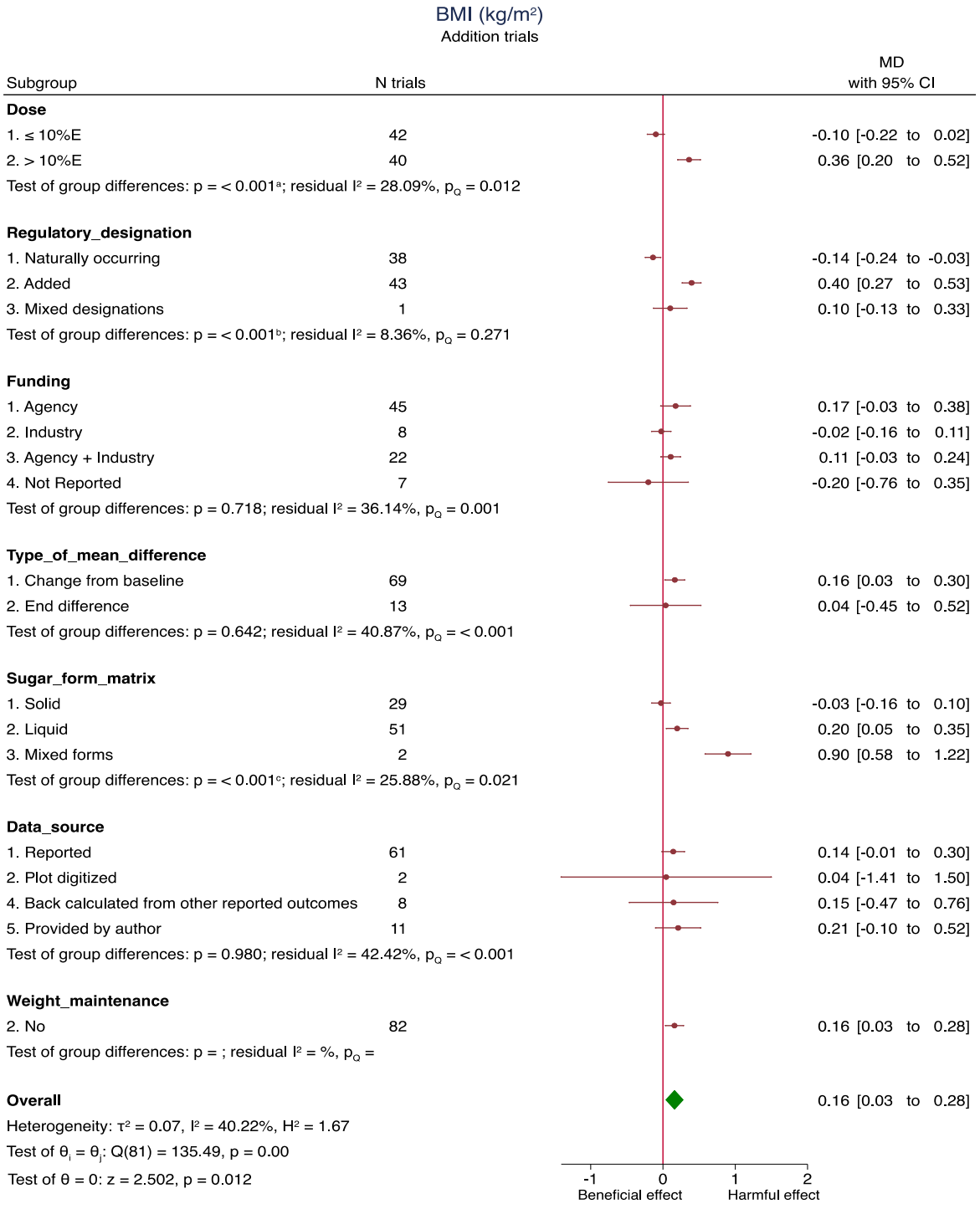
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for follow-up were as follows: **(2 vs 1)** 0.311 kg/m^2 (0.0515, 0.57 kg/m^2)

[d]Pairwise between-subgroup mean differences (95% confidence intervals) for feeding control were as follows: **(3 vs 1)** 0.69 kg/m^2 (0.157, 1.22 kg/m^2); (4 vs 1) -0.0285 kg/m^2 (-1.6, 1.54 kg/m^2); (4 vs 3) -0.719 kg/m^2 (-2.37, 0.929 kg/m^2)

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 166 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in addition trials

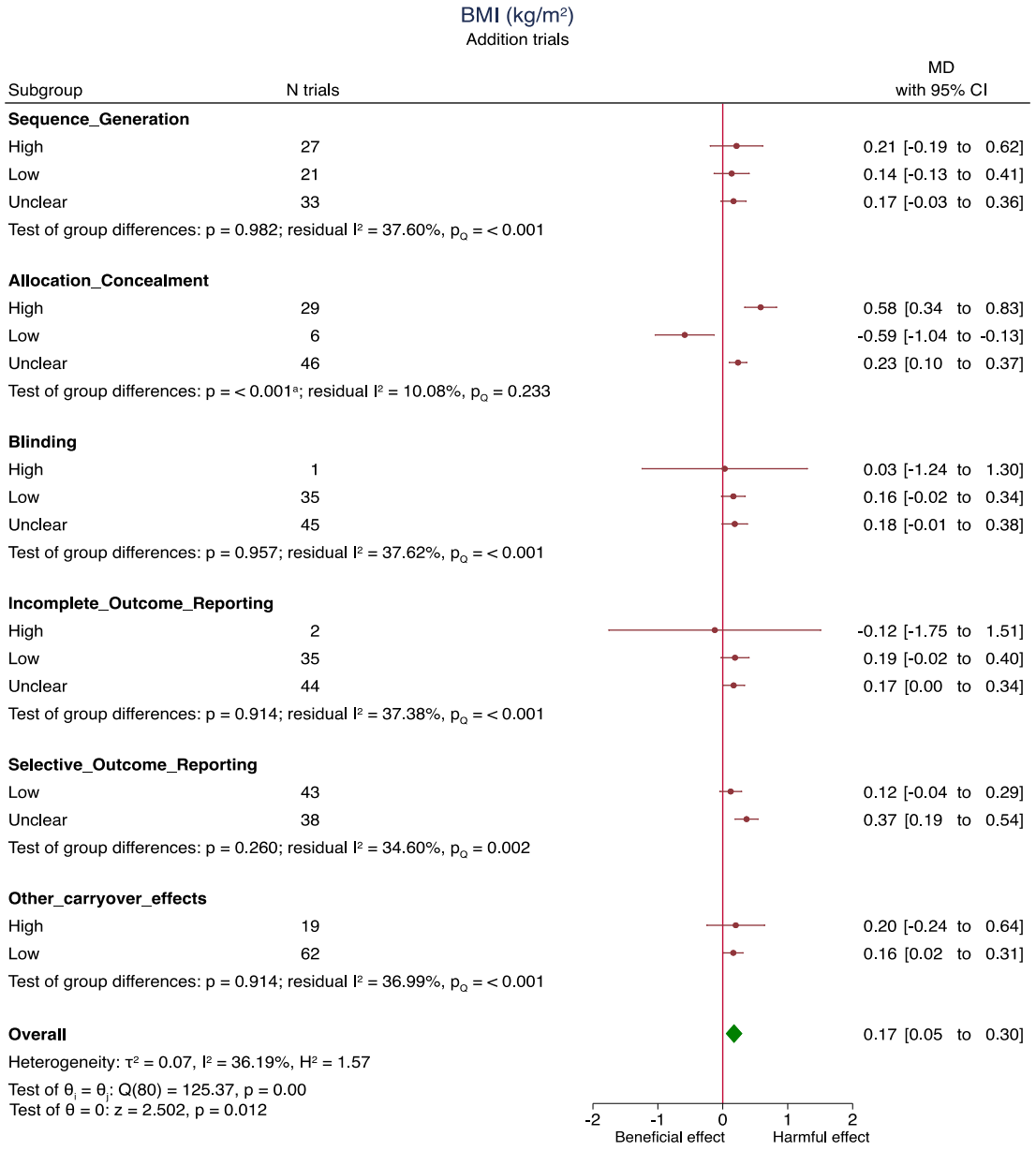


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: **(2 vs 1)** 0.525 kg/m^2 (0.296, 0.755 kg/m^2)

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for regulatory designation were as follows: (**2 vs 1**) 0.546 kg/m^2 (0.384, 0.745 kg/m^2); (3 vs 1) 0.269 kg/m^2 (-0.0728, 0.61 kg/m^2); (3 vs 2) -0.296 kg/m^2 (-0.627, 0.036 kg/m^2).

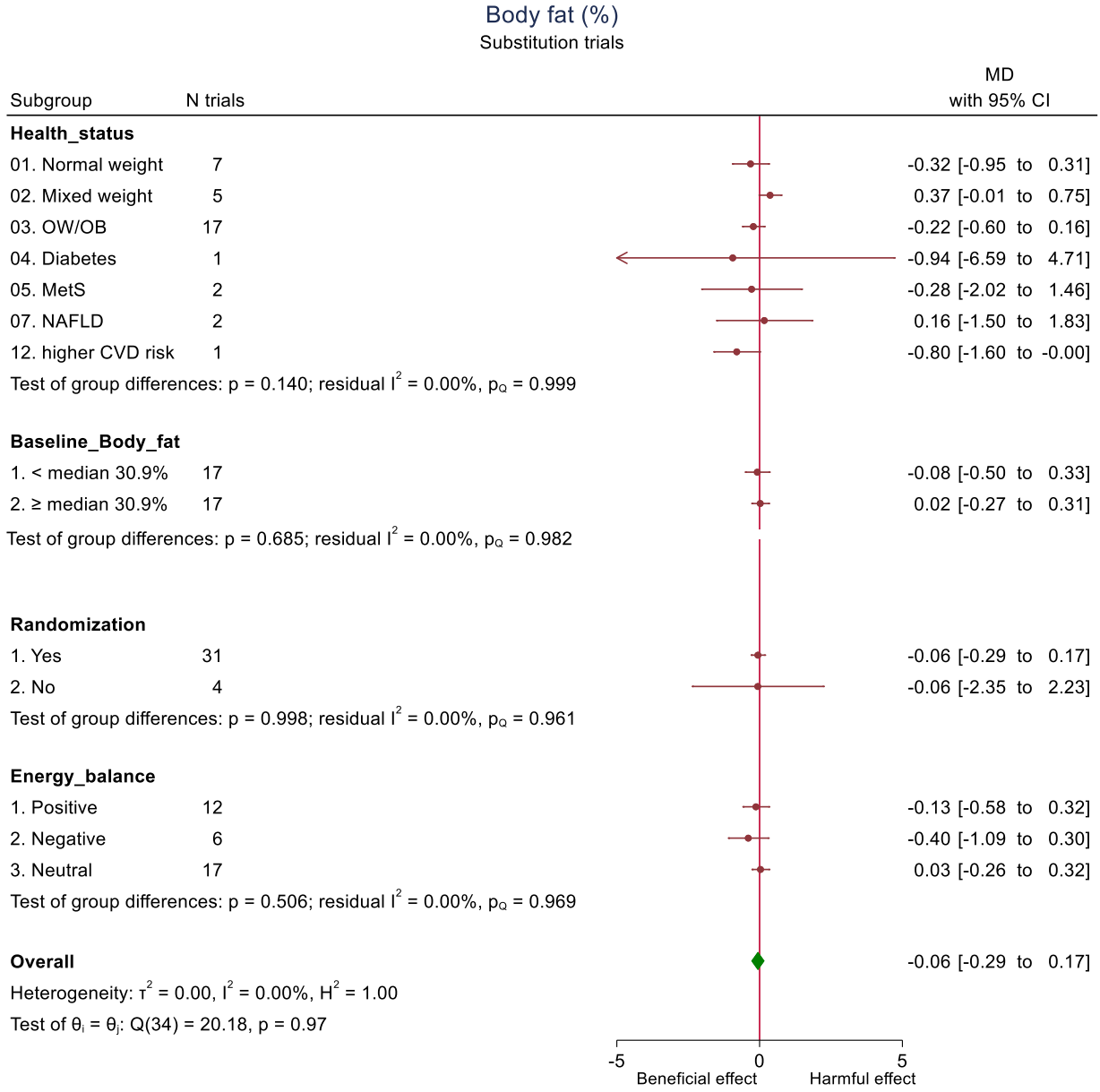
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for sugar form matrix were as follows: (**2 vs 1**) 0.273 kg/m^2 (0.0254, 0.521 kg/m^2); (**3 vs 1**) 0.701 kg/m^2 (0.473, 1.48 kg/m^2); **(3 vs 2)** 0.701 kg/m^2 (0.227, 1.18kg).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 167: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on BMI (kg/m^2) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for allocation concealment were as follows: (**Low vs High**) -1.12 kg/m^2 (-1.53, -0.717 kg/m^2); (**Unclear vs High**) -0.311 kg/m^2 (-0.597, -0.0244 kg/m^2); (**Unclear vs Low**) 0.811 kg/m^2 (0.489, 1.13 kg/m^2).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference.

Supplementary Figure 168 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in substitution trials

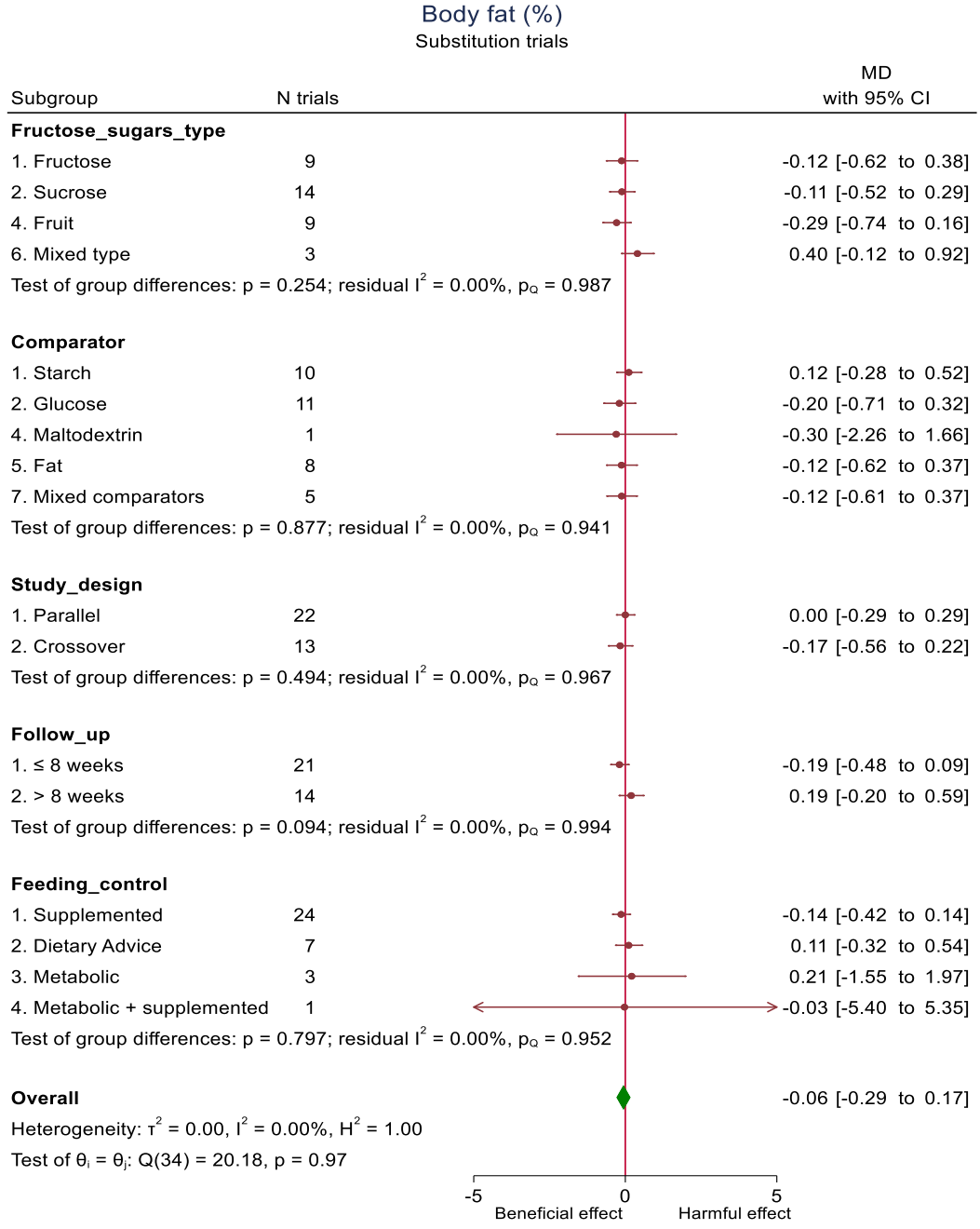


* N=1 trial missing data for baseline body fat.

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

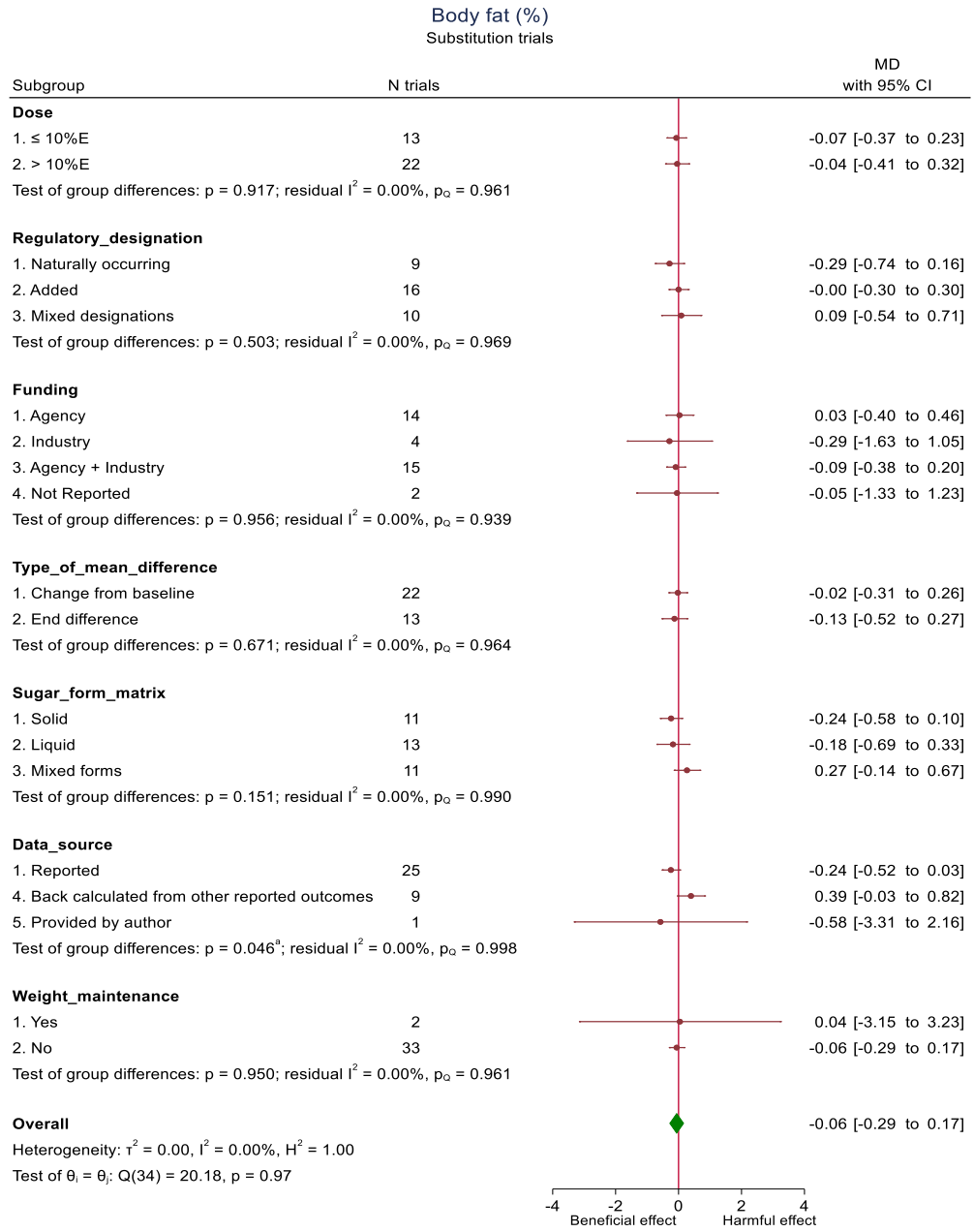
CI=confidence interval; CVD=cardiovascular disease; MetS=metabolic syndrome; MD=mean difference; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight

Supplementary Figure 168 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in substitution trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 168 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in substitution trials

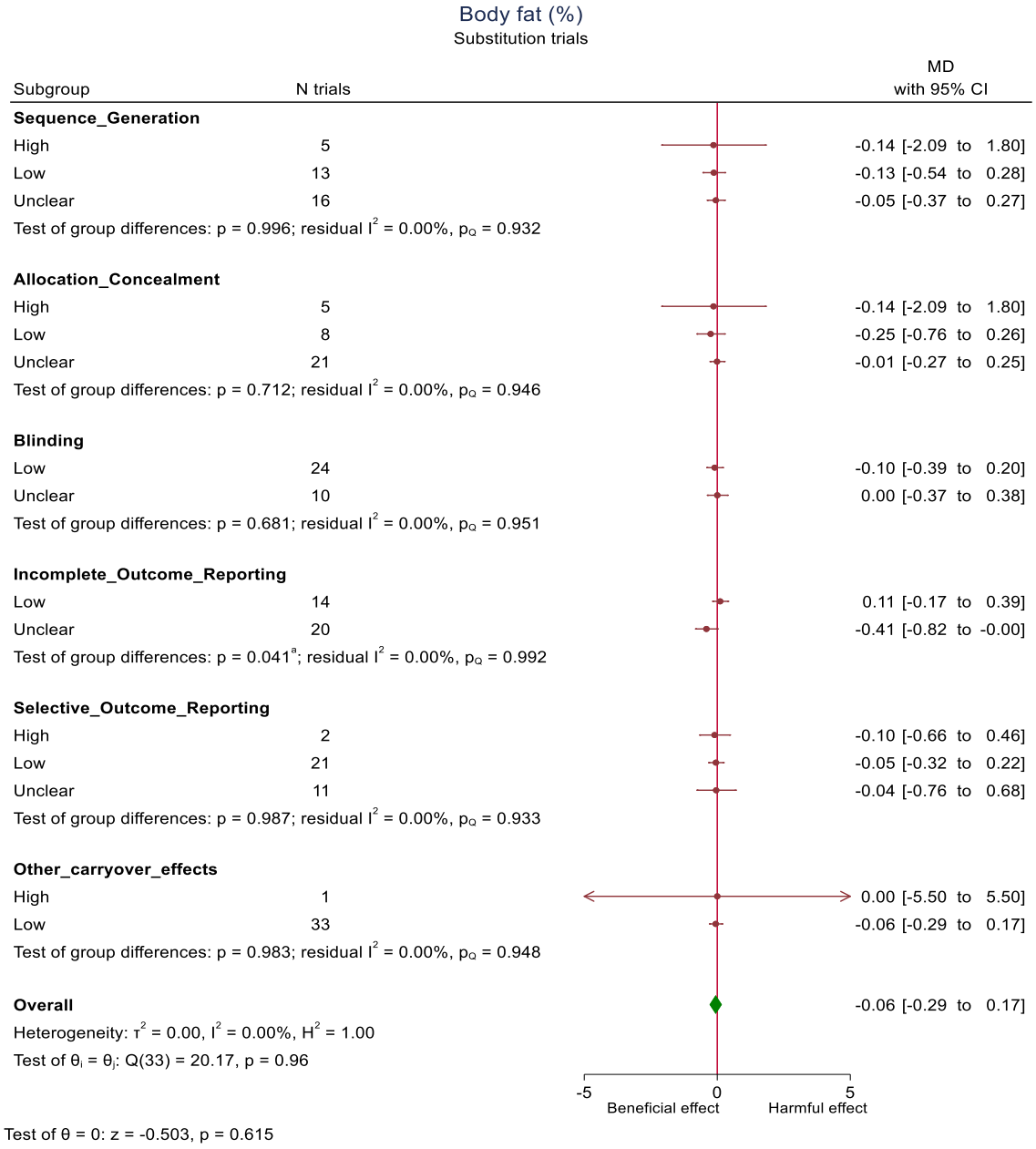


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for data source were as follows: (**4 vs 1**) 0.639% (0.129, 1.150%); (5 vs 1) -0.332% (-3.08, 2.42%); (5 vs 4) -0.971% (-3.74, 1.80%).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 169: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on body fat (%) in substitution trials

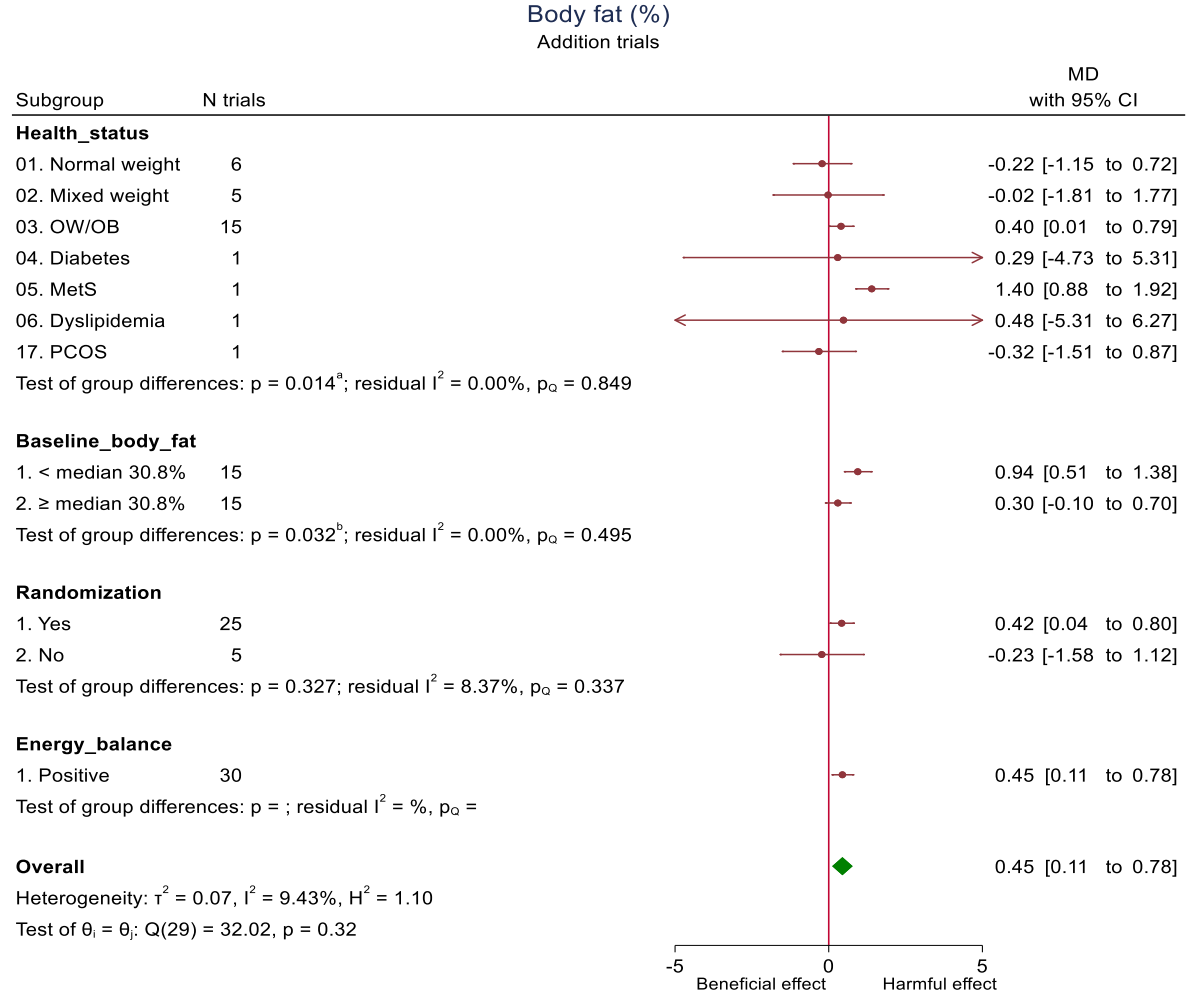


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for incomplete outcome were as follows: **(unclear vs low)** -0.517% (-1.010, -0.022%).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

CI=confidence interval; MD=mean difference.

Supplementary Figure 170 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in addition trials



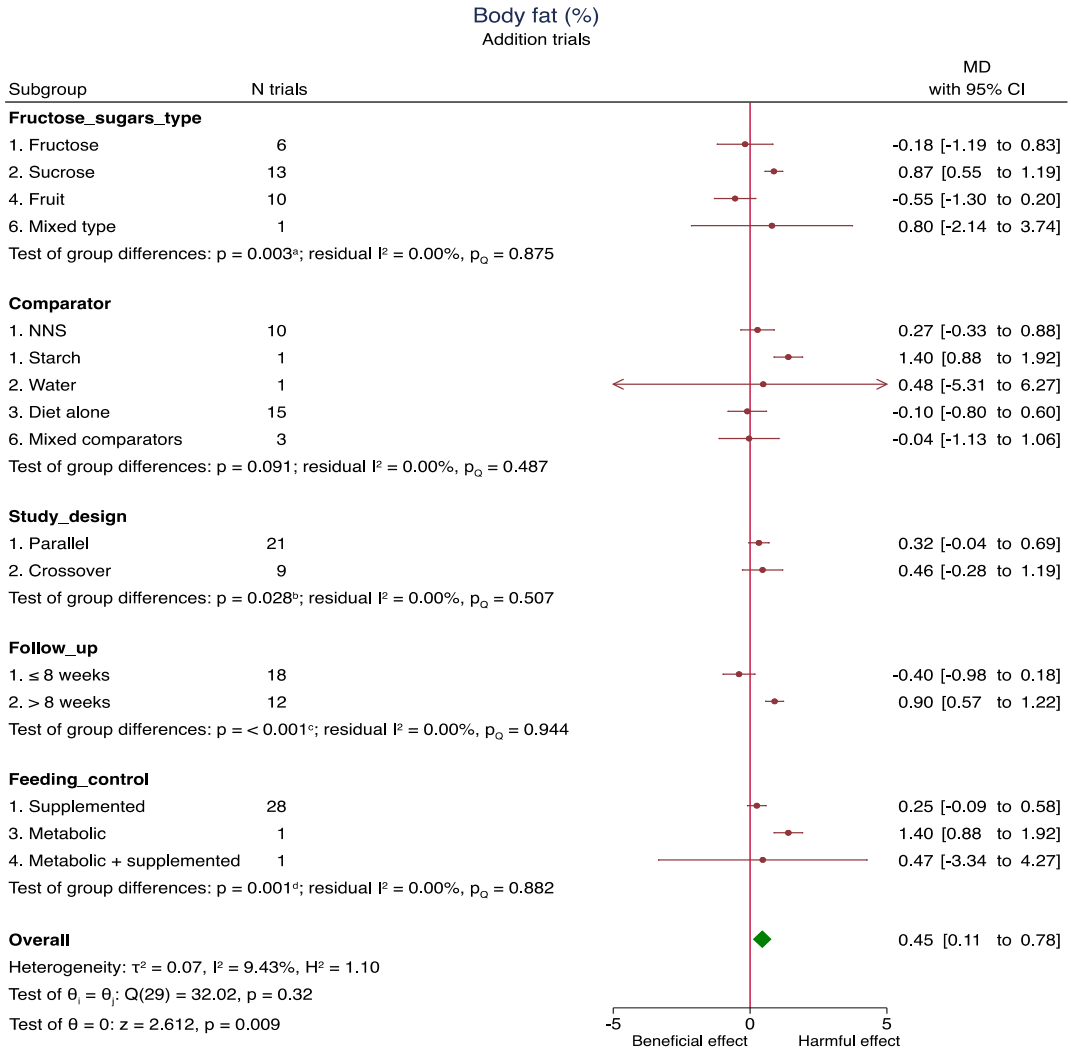
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for health status were as follows: (2 vs 1) 0.195% (-1.82, 2.21%); (3 vs 1) 0.616% (-0.397, 1.63%); (4 vs 1) 0.509% (-4.6, 5.62%); **(5 vs 1)** 1.62% (0.547, 2.69%); (6 vs 1) 0.696% (-5.17, 6.57%); (17 vs 1) -0.104% (-1.61, 1.41%); (3 vs 2) 0.421% (-1.41, 2.25%); (4 vs 2) 0.313% (-5.02, 5.64%); (5 vs 2) 1.42% (-0.441, 3.28%); (6 vs 2) 0.501% (-5.56, 6.57%); (17 vs 2) -0.299% (-2.44, 1.85%); (4 vs 3) -0.108% (-5.15, 4.93%); **(5 vs 3)** 1% (0.352, 1.65%); (6 vs 3) 0.0799% (-5.73, 5.89%); (17 vs 3) -0.72% (-1.97, 0.528%); (5 vs 4) 1.11% (-3.94, 6.16%); (6 vs 4) 0.188% (-7.48, 7.86%); (17 vs 4) -0.612% (-5.77, 4.55%); (6 vs 5) -0.92% (-6.74, 4.9%); **(17 vs 5)** -1.72% (-3.01, -0.425%); (17 vs 6) -0.8% (-6.71, 5.11)%.

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for baseline body fat were as follows: **(2 vs 1)** -0.623% (-1.19, -0.531%).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

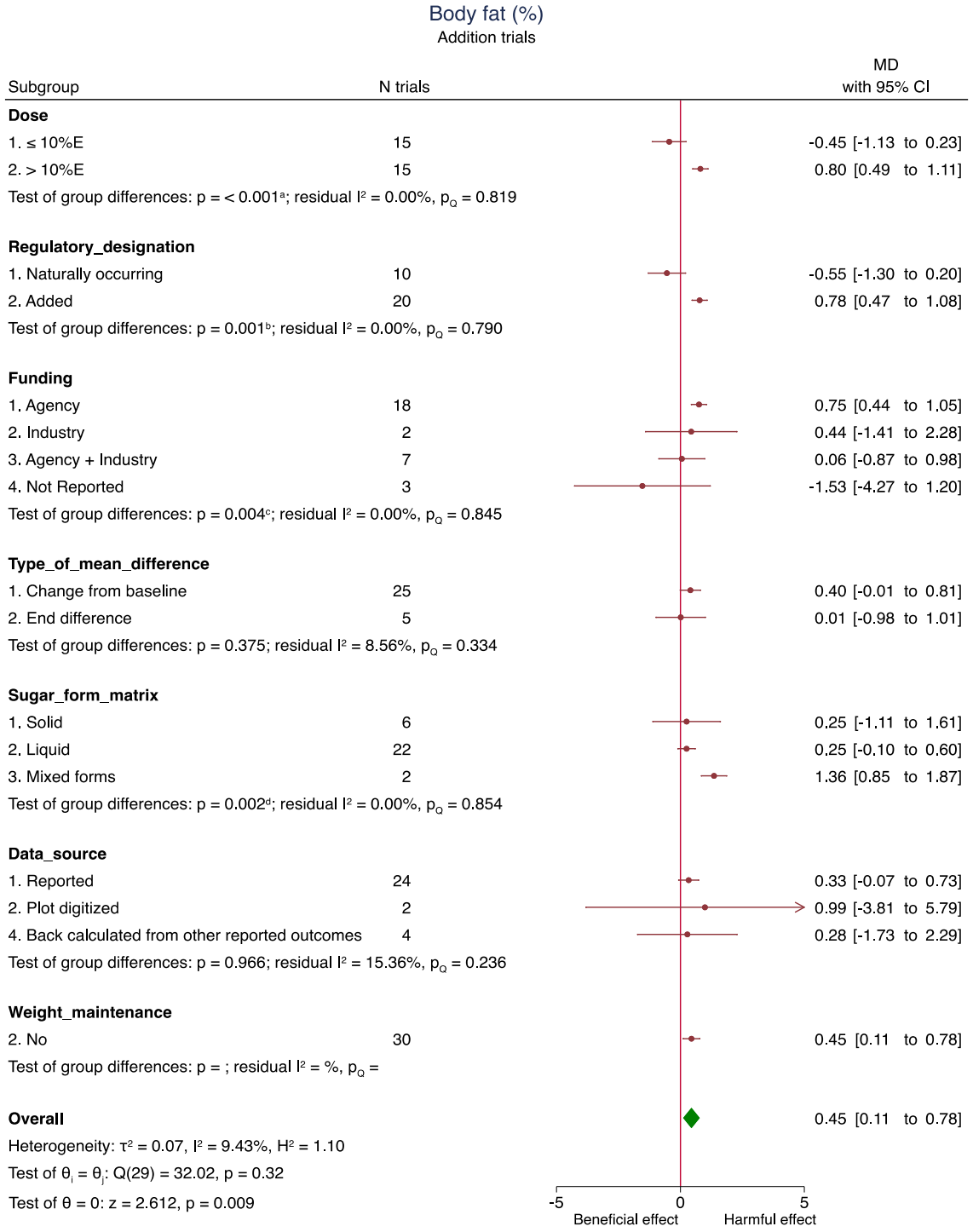
CI=confidence interval; MetS=metabolic syndrome; OB=obese; OW=overweight; PCOS=polycystic ovarian syndrome.

Supplementary Figure 170 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in addition trials



[a]Pairwise between-subgroup mean differences (95% confidence intervals) for fructose sugars type were as follows: (2 vs 1) 1.05% (-0.00967, 2.11%); (4 vs 1) -0.364% (1.62, 0.896%); (6 vs 1) 0.982% (-2.13, 4.09%); **(4 vs 2)** -1.42% (-2.33, -0.6%); (6 vs 2) -0.071% (-3.03, 2.89%); (6 vs 4) 1.35% (-1.69, 4.38%).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for study design were as follows: **(2 vs 1)** 0.642% (0.0687, 1.22%).
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for follow-up were as follows: **(2 vs 1)** 1.3% (0.639, 1.96%).
[d]Pairwise between-subgroup mean differences (95% confidence intervals) for feeding control were as follows: **(3 vs 1)** 1.15% (0.535, 1.77%); (4 vs 1) 0.22% (-3.6, 4.04%); (4 vs 3) -0.934% (-4.78, 2.91%).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 170 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on body fat (%) in addition trials

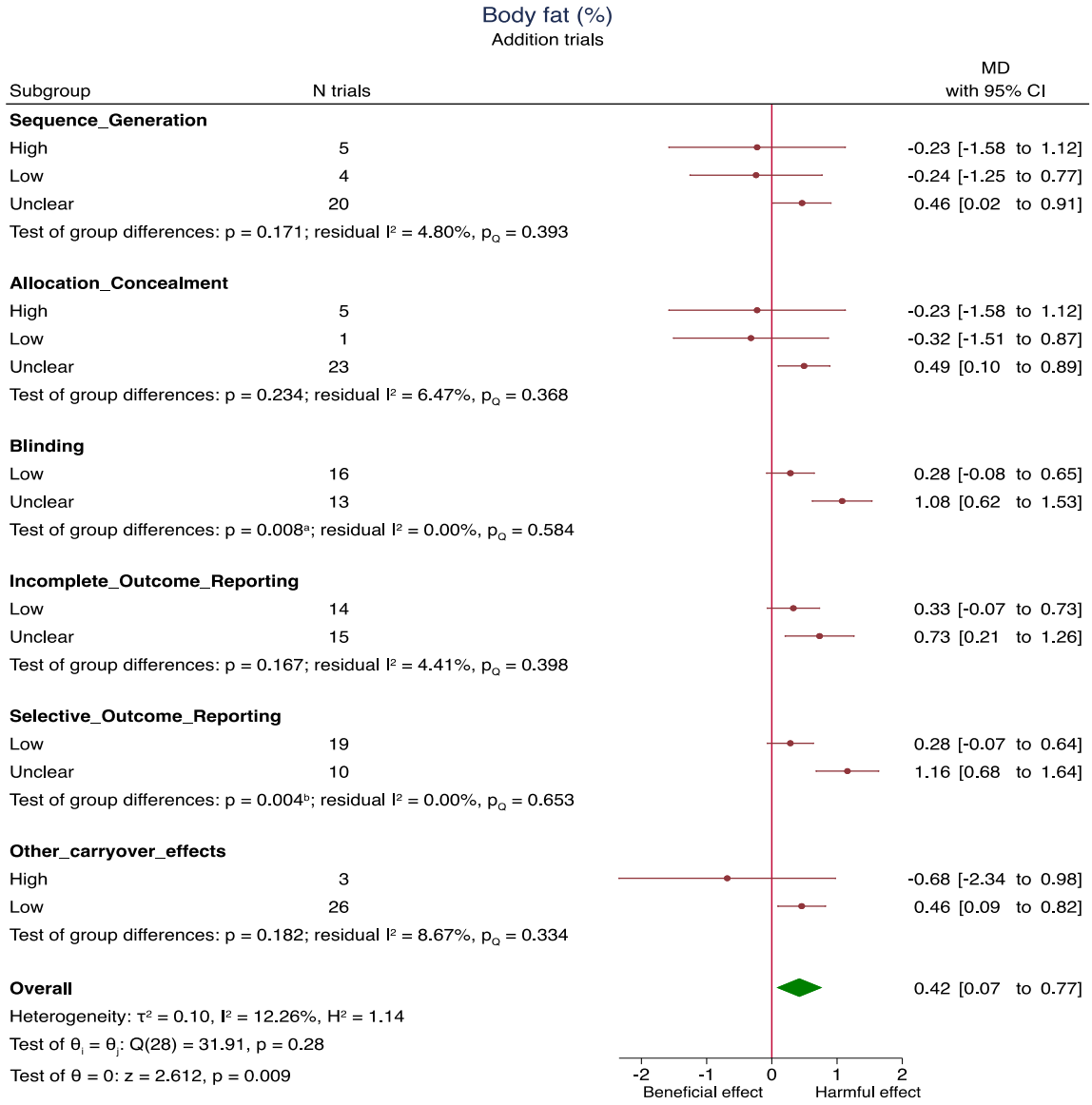


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: **(2 vs 1)** 1.26 % (0.509, 2%)

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for regulatory designation were as follows: **(2 vs 1)** 1.32% (0.511, 2.13 %)

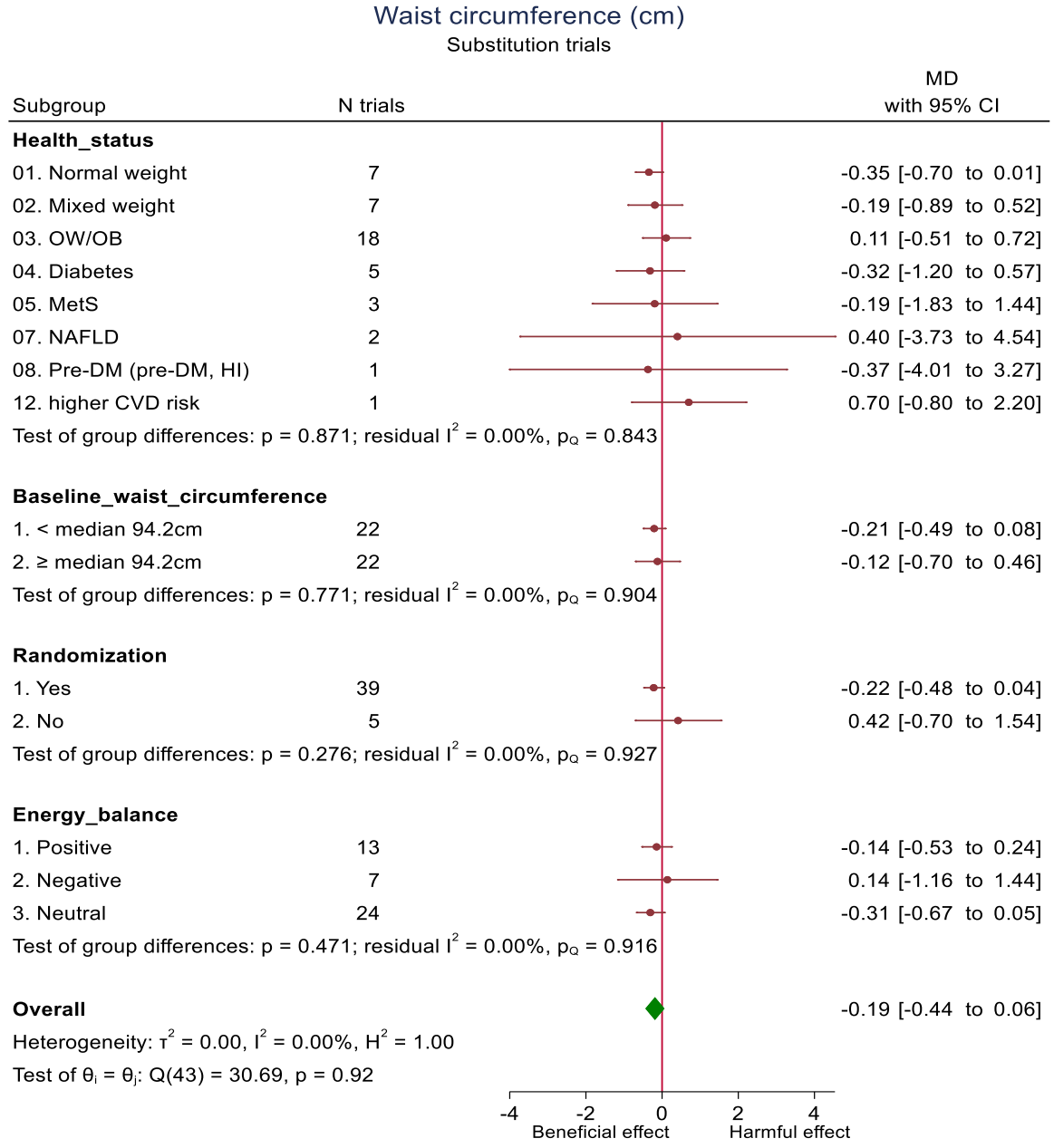
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for funding were as follows: (2 vs 1) -0.313% (-2.18, 1.55%); (3 vs 1) -0.691 (-1.67, 0.283%); **(4 vs 1)** -2.86 (-4.49, -1.23%); (3 vs 2) -0.378% (-2.44, 1.68%); **(4 vs 2)** -2.55% (-4.99, -0.13%); **(4 vs 3)** -2.17% (-4.02, -0.315%).
[d]Pairwise between-subgroup mean differences (95% confidence intervals) for sugar form matrix were as follows: (2 vs 1) -0.000337% (-1.4, 1.4%); (3 vs 1) 1.11% (-0.344, 2.56%); (3 vs 2) 1.11% (0.49, 1.73%).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 171: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on body fat (%) in addition trials



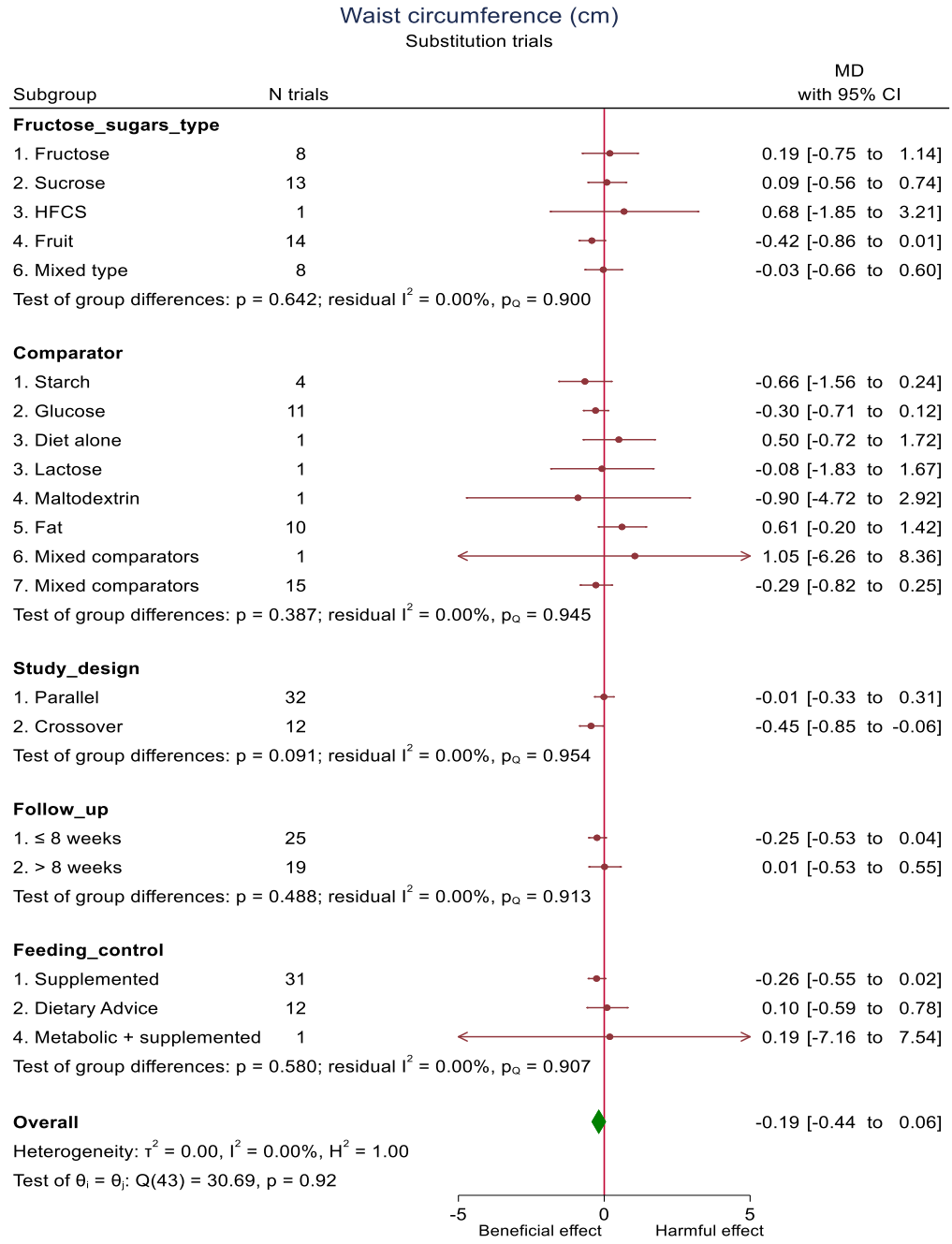
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for blinding were as follows: **(low vs unclear)** 0.792% (0.209, 1.37%)
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows**: (unclear vs low)** 0.875% (0.281, 1.47%).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 172 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in substitution trials



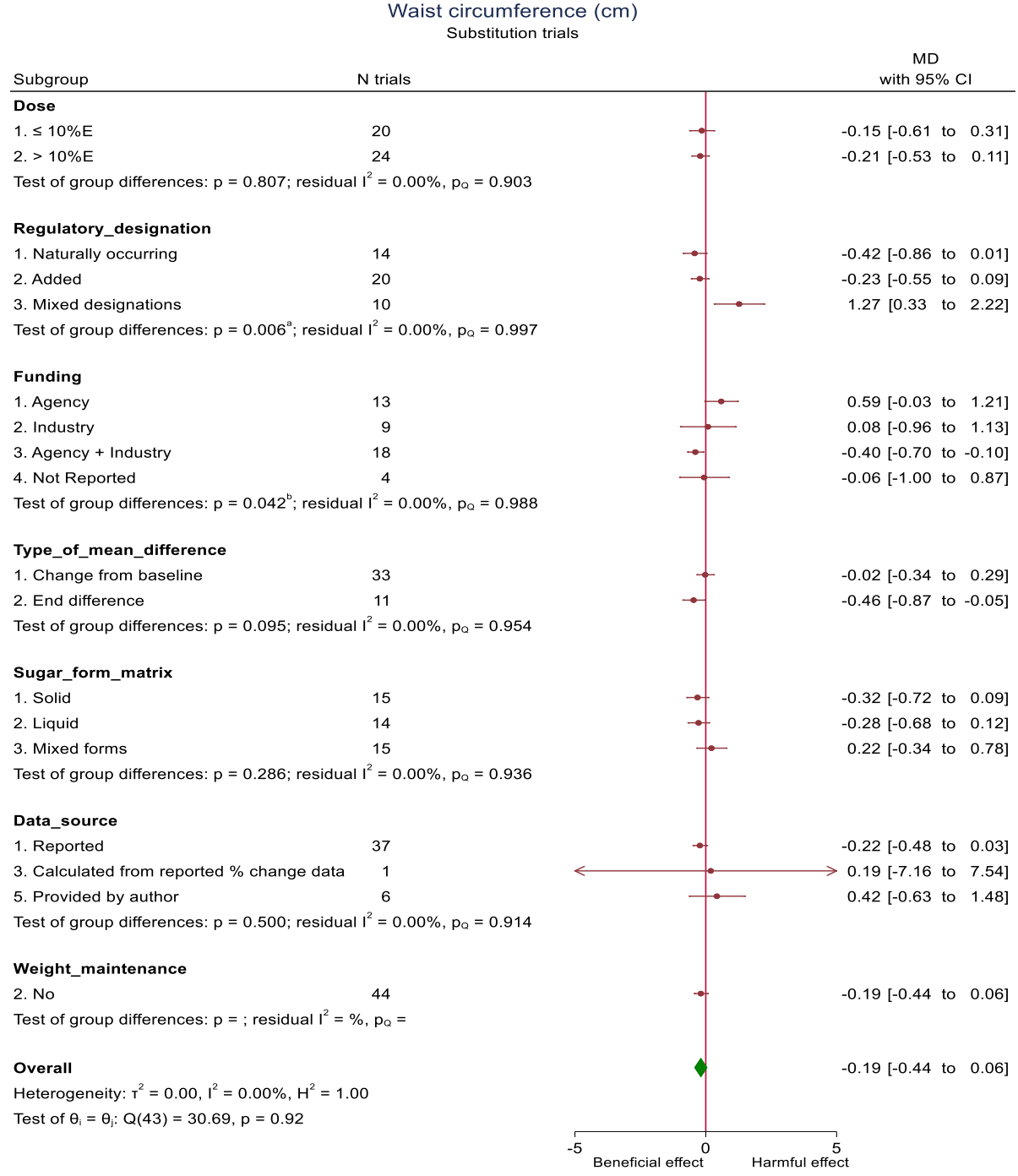
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; CVD=cardiovascular disease; DM=diabetes mellitus; HI=hyperinsulinemia; MD=mean difference; MetS=metabolic syndrome; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight.

Supplementary Figure 172 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in substitution trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference.

Supplementary Figure 172 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in substitution trials

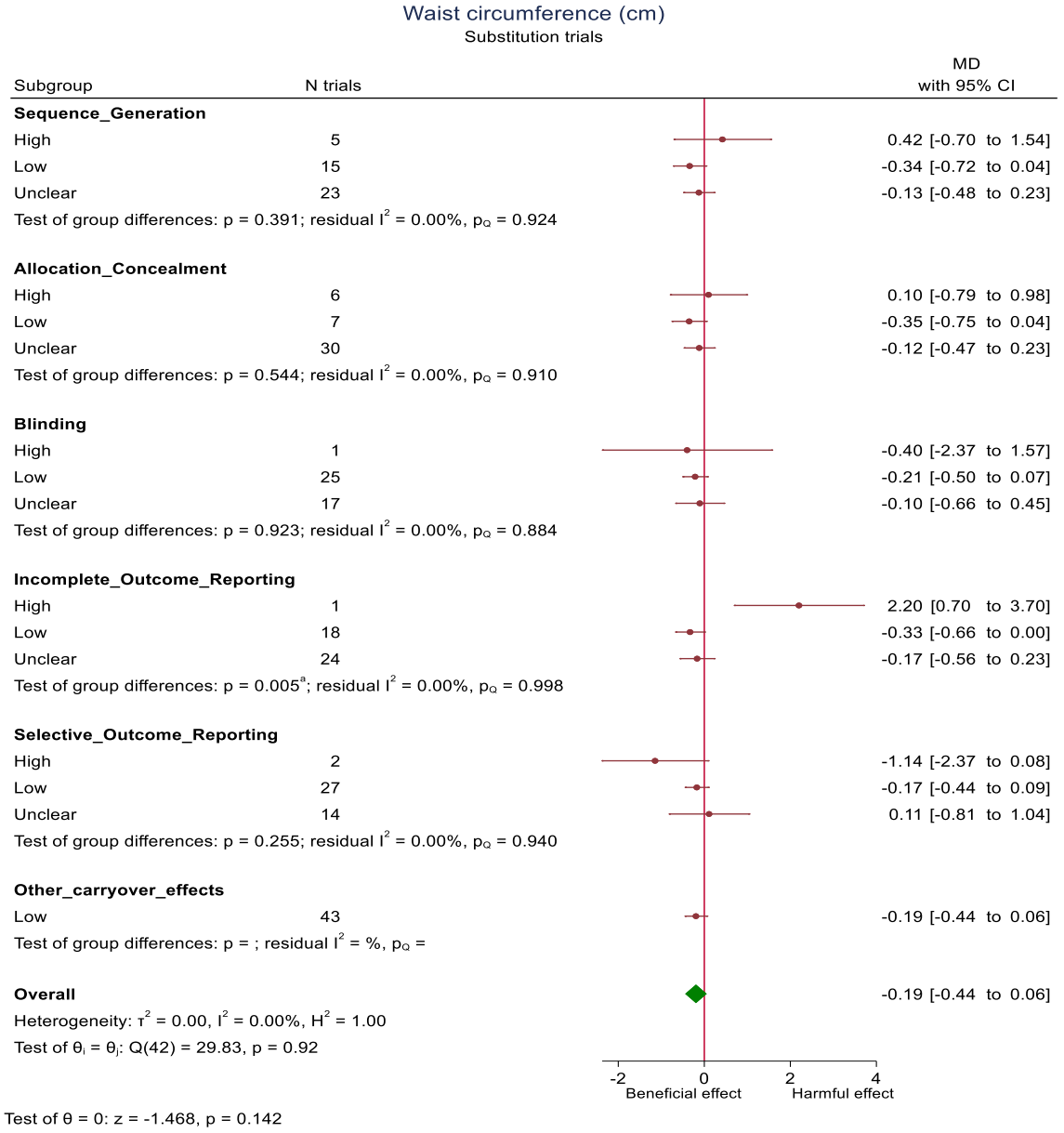


Test of θ = 0: z = -1.468, p = 0.142

[a]Pairwise between-subgroup mean differences (95% confidence intervals) for regulatory designation were as follows: (2 vs 1) 0.196cm (-0.347, 0.740cm); (**3 vs 1**) 1.7cm (0.655, 2.74cm); (**3 vs 2**) 1.5 (0.501, 2.5cm).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for funding were as follows: (2 vs 1) -0.506cm (-1.73, 0.714cm); **(3 vs 1)** -0.988cm (-1.68, -0.296cm); (4 vs 1) -0.655 (-1.78, 0.467cm); (3 vs 2) -0.482cm (-1.57, 0.607cm); (4 vs 2) -0.148cm (-1.55, 1.25cm); (4 vs 3) 0.334cm (-0.644, 1.31cm).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle.

95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 173: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in substitution trials

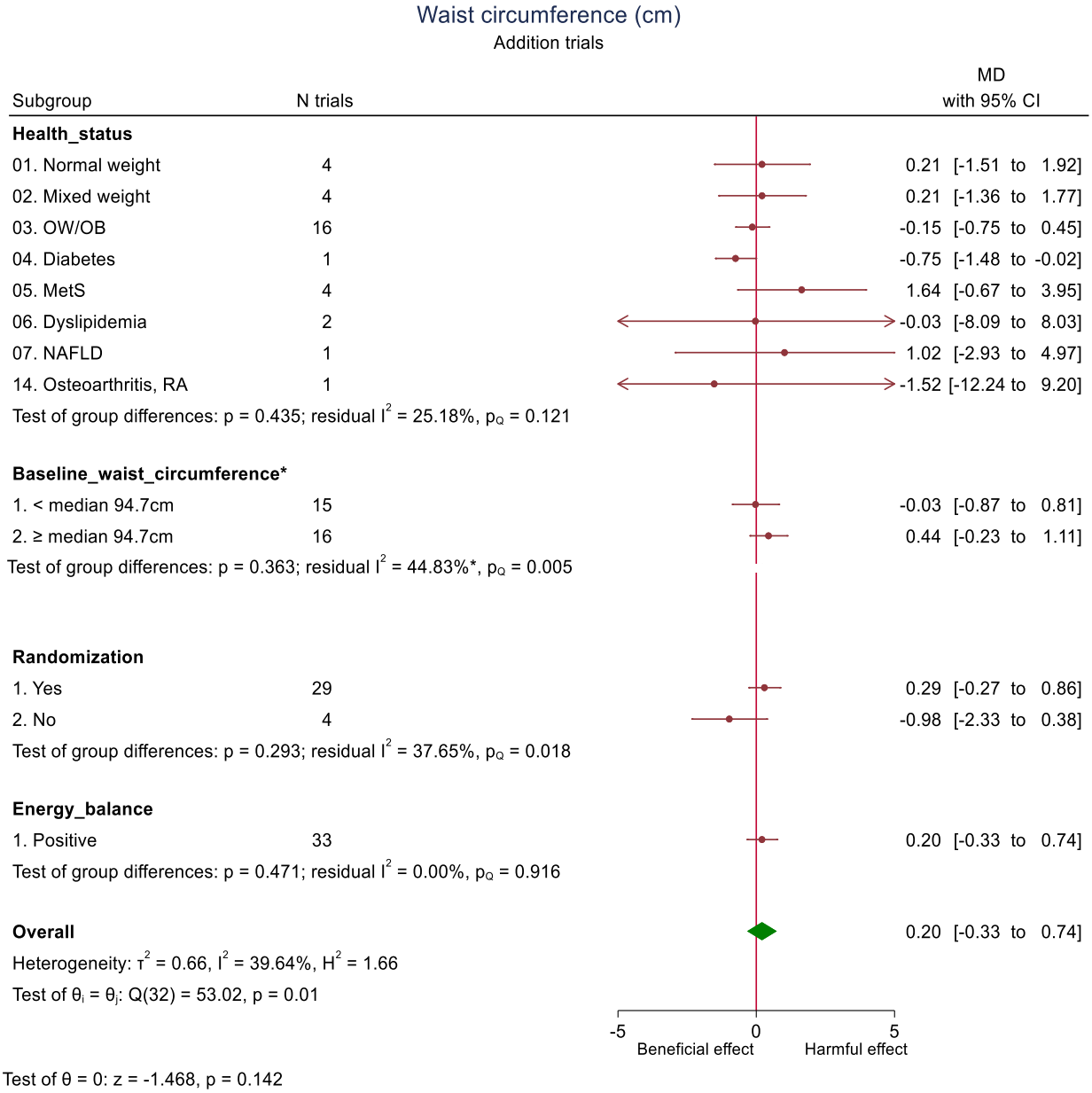


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for incomplete outcome reporting were as follows: **(low vs high)** -2.53cm (-4.07, -0.995cm); **(unclear vs high)** -2.37cm (-3.92, -0.816cm); (unclear vs low) 0.164cm (-0.352, 0.680cm).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

CI=confidence interval; MD=mean difference.

Supplementary Figure 174 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in addition trials

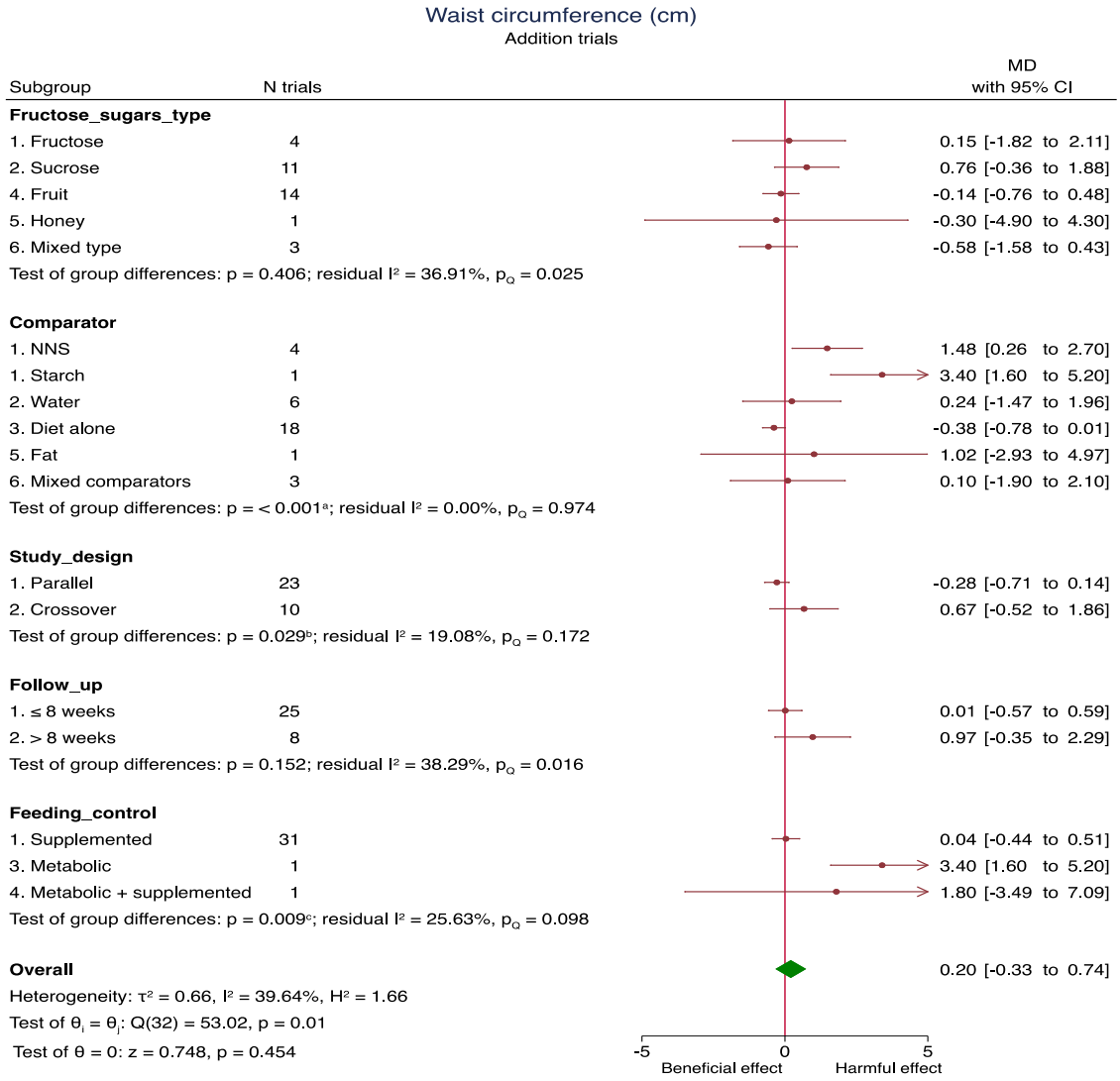


*N=2 trials missing data for baseline waist circumference

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

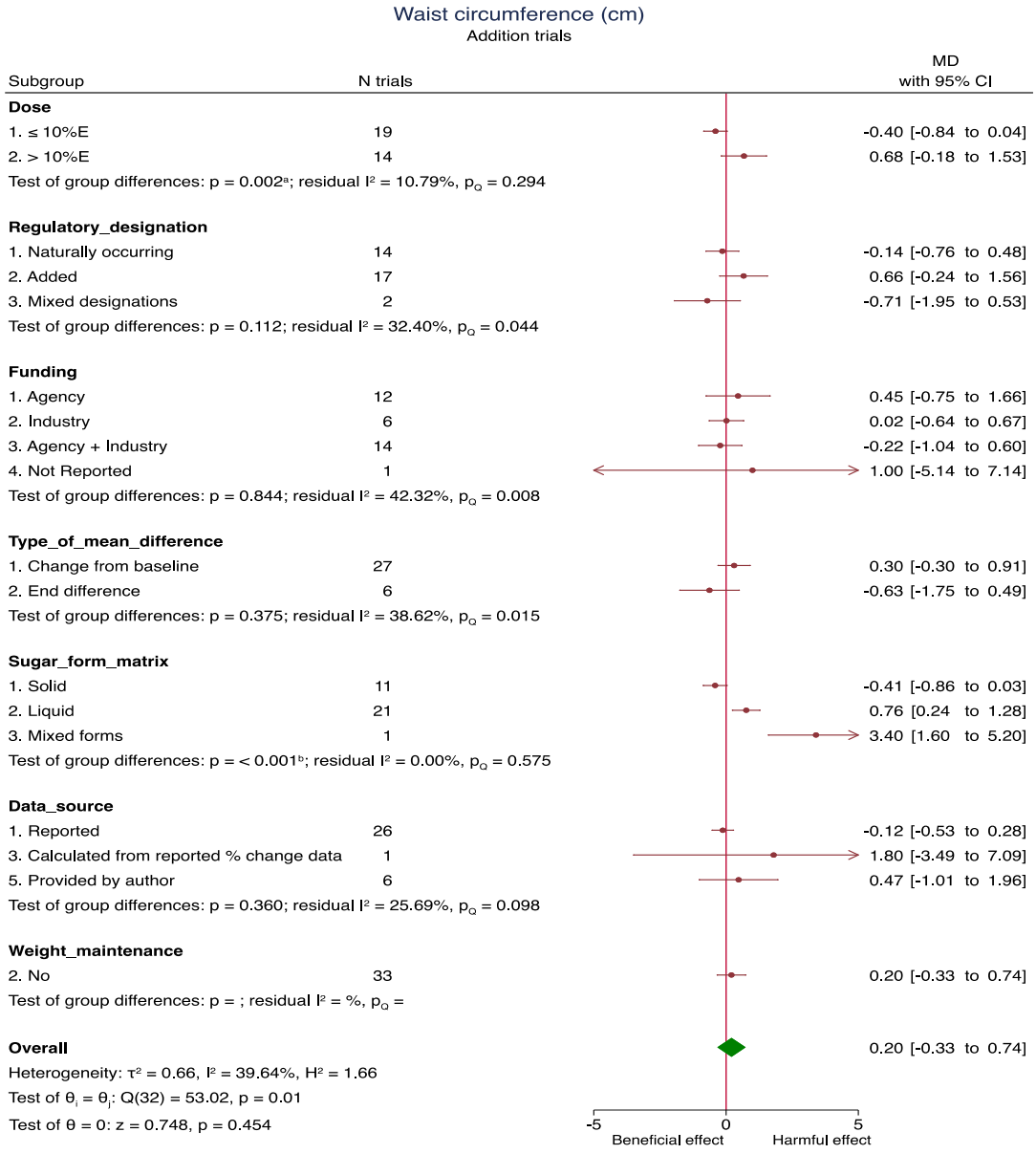
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; RA= rheumatoid arthritis

Supplementary Figure 174 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in addition trials



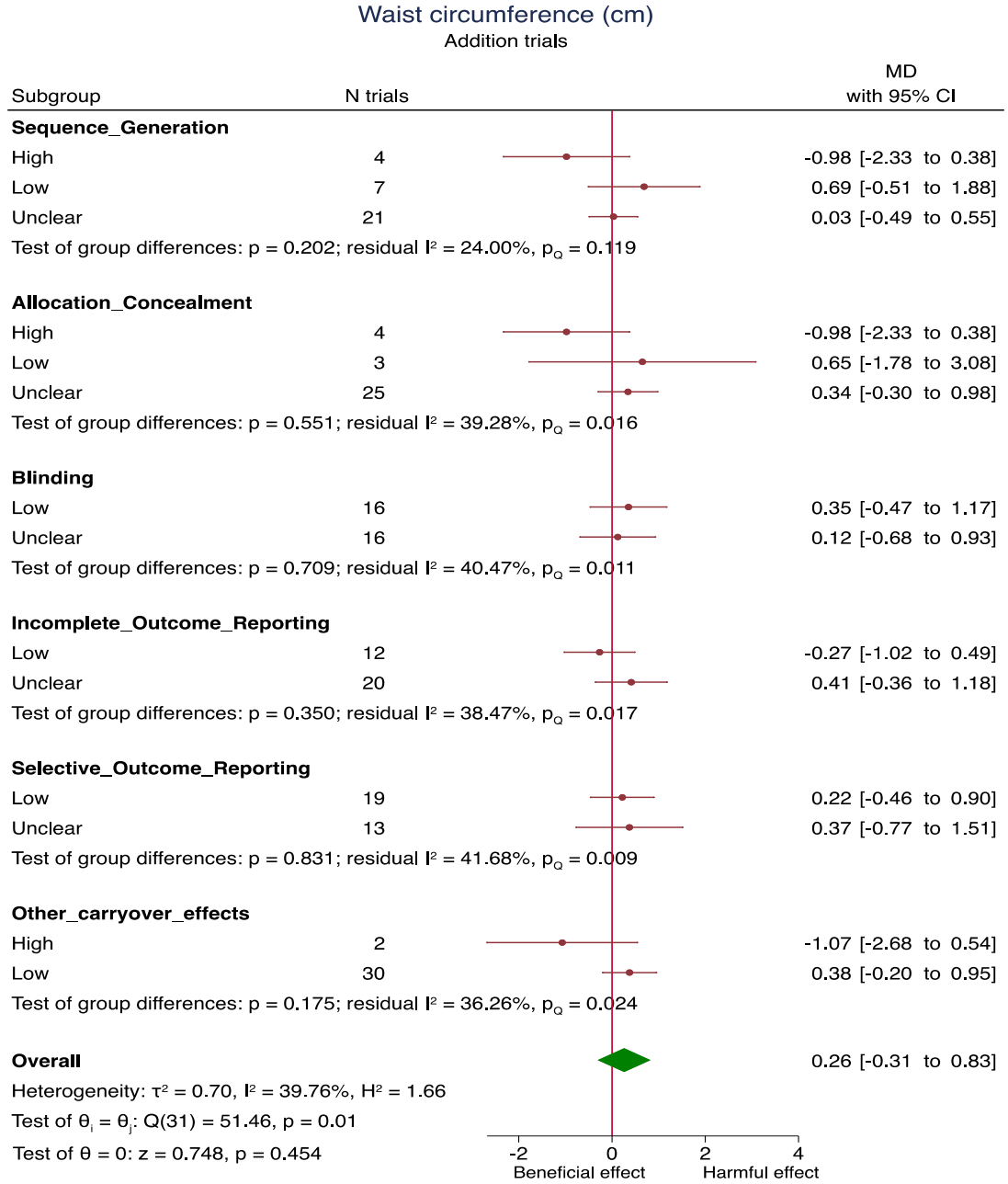
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for comparator were as follows: (2 vs 1) -1.81 cm (-3.65, 0.0324 cm); **(3 vs 1)** -2.43 cm (-3.21, -1.65 cm); (5 vs 1) -1.03 cm (-5.04, 2.98 cm); (6 vs 1) -1.95 cm (-4.06, 0.162 cm); (3 vs 2) -0.625 cm (-2.38, 1.13 cm); (5 vs 2) 0.778 cm (-3.53, 5.09 cm); (6 vs 2) -0.142 cm (-2.78, 2.49 cm); (5 vs 3) 1.4 cm (-2.57, 5.38 cm); (6 vs 3) 0.483 cm (-1.56, 2.52 cm); (6 vs 5) -0.92 cm (-5.35, 3.51 cm).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for feeding control were as follows: **(2 vs 1)** 0.996 cm (0.104, 1.89 cm).
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for comparator were as follows: **(3 vs 1)** 3.36 cm (1.18, 5.55 cm); (4 vs 1) 1.76 cm (-3.67, 7.2 cm); (4 vs 3) -1.6 cm (-7.42, 4.22 cm).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 174 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in addition trials



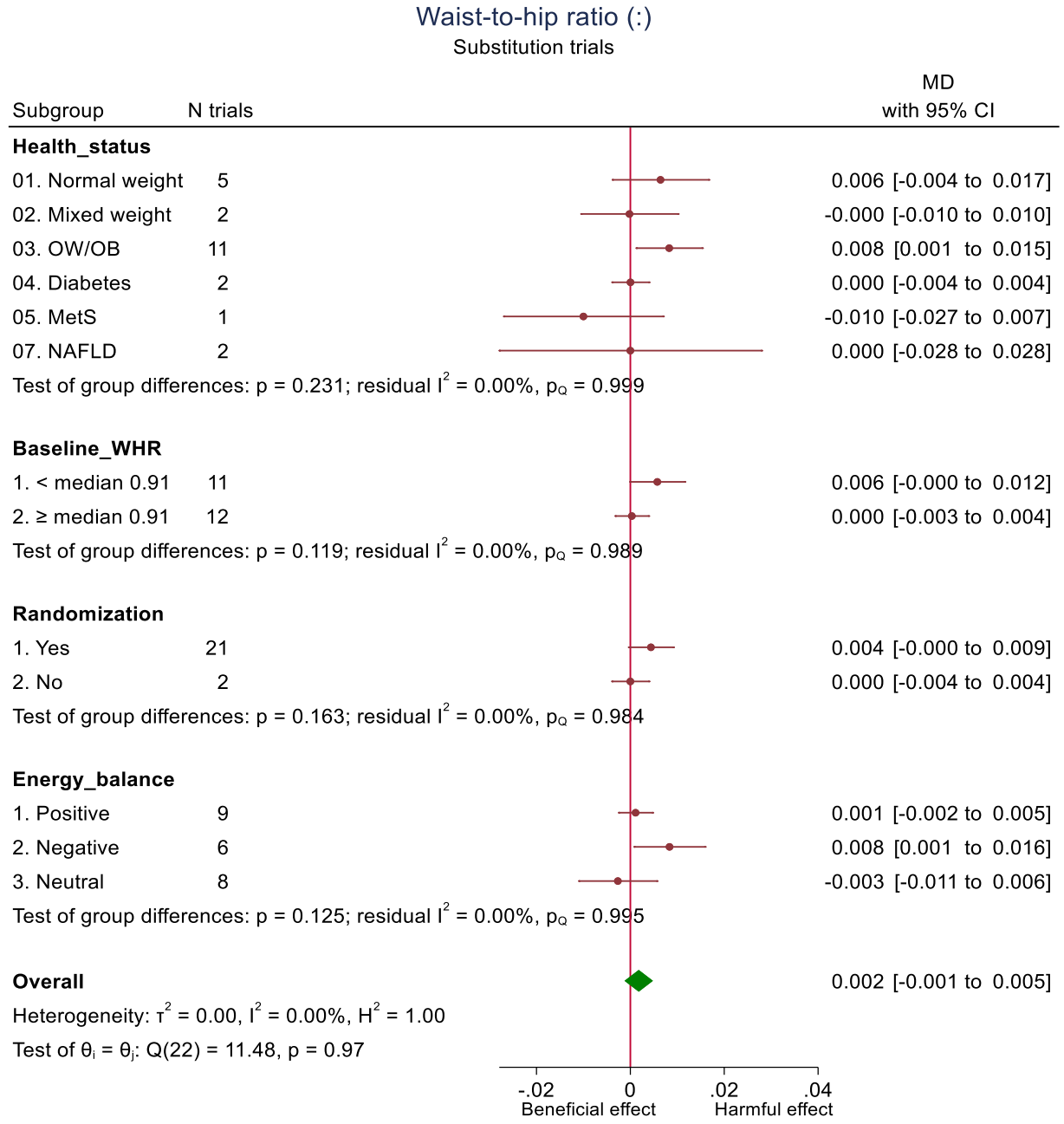
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose matrix were as follows: **(2 vs 1)** 1.24 cm (0.455, 2.03 cm).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for sugar form matrix were as follows: **(2 vs 1)** 1.22 cm (0.554, 1.89 cm); **(3 vs 1)** 3.81 cm (1.96, 5.66 cm); **(3 vs 2)** 2.59 cm (0.724, 4.45 cm).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 175: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on waist circumference (cm) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

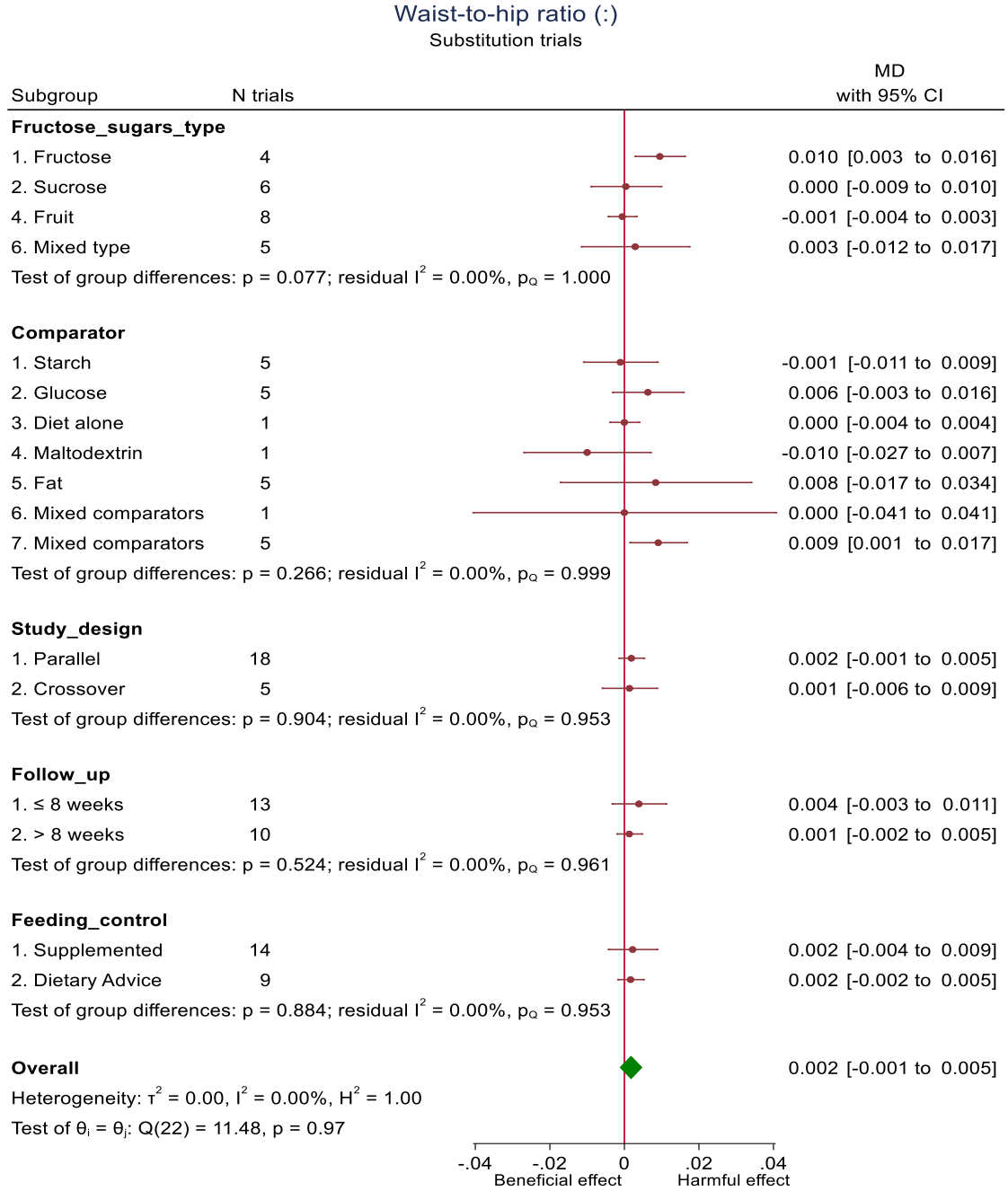
Supplementary Figure 176 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in substitution trials



Test of θ = 0: z = 1.153, p = 0.249

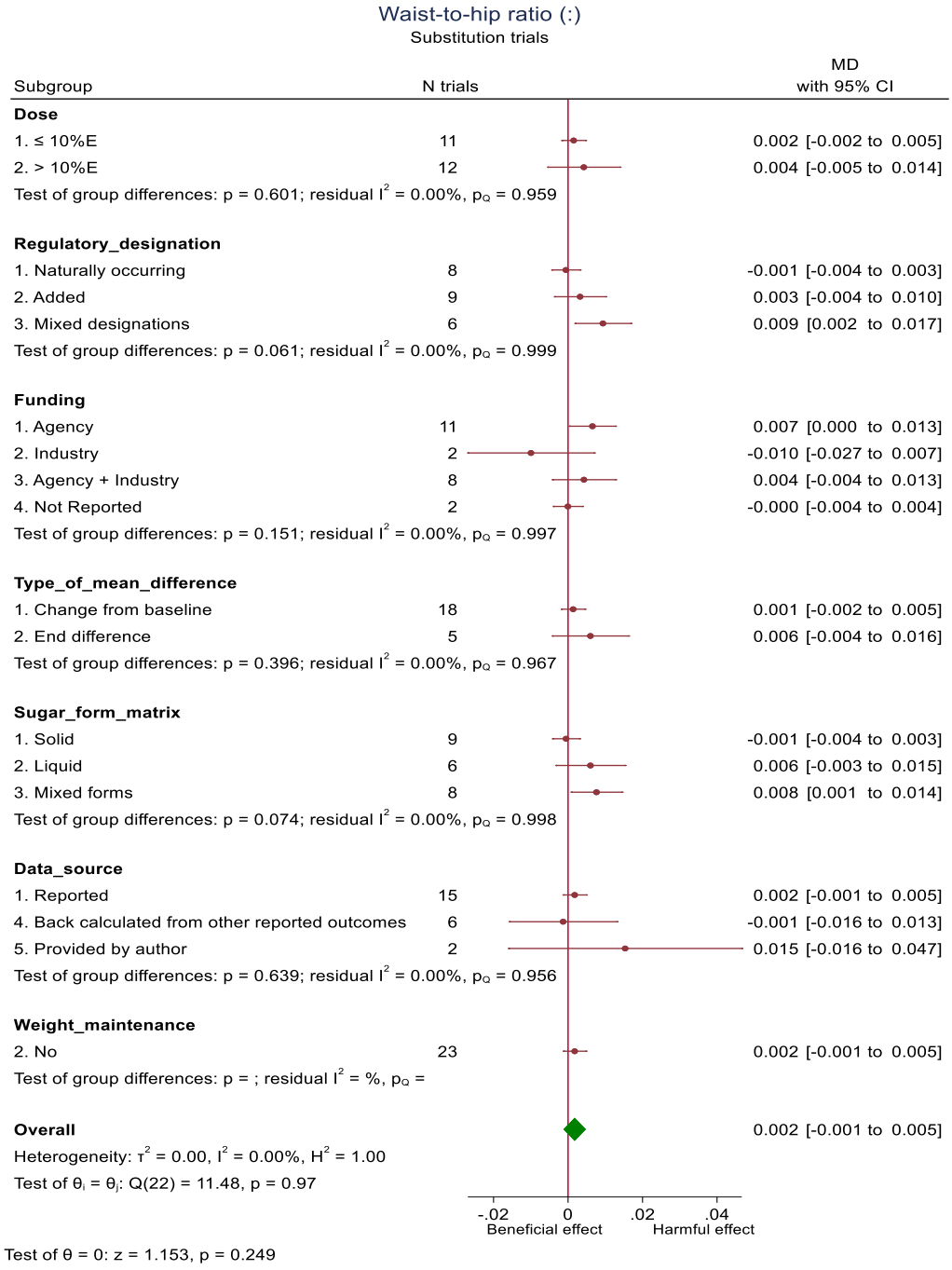
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; WHR=waist-to-hip ratio

Supplementary Figure 176 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in substitution trials



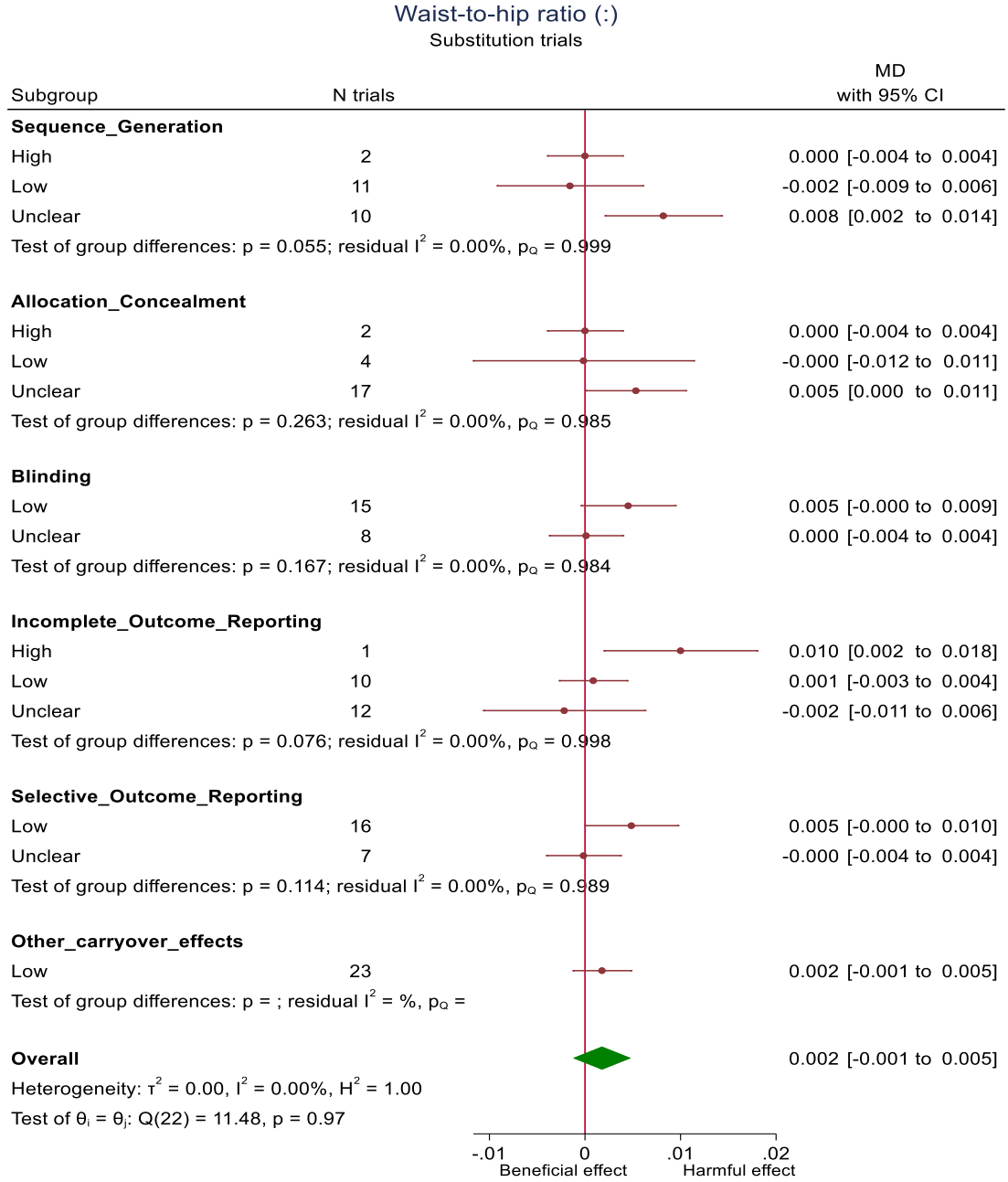
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 176 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in substitution trials



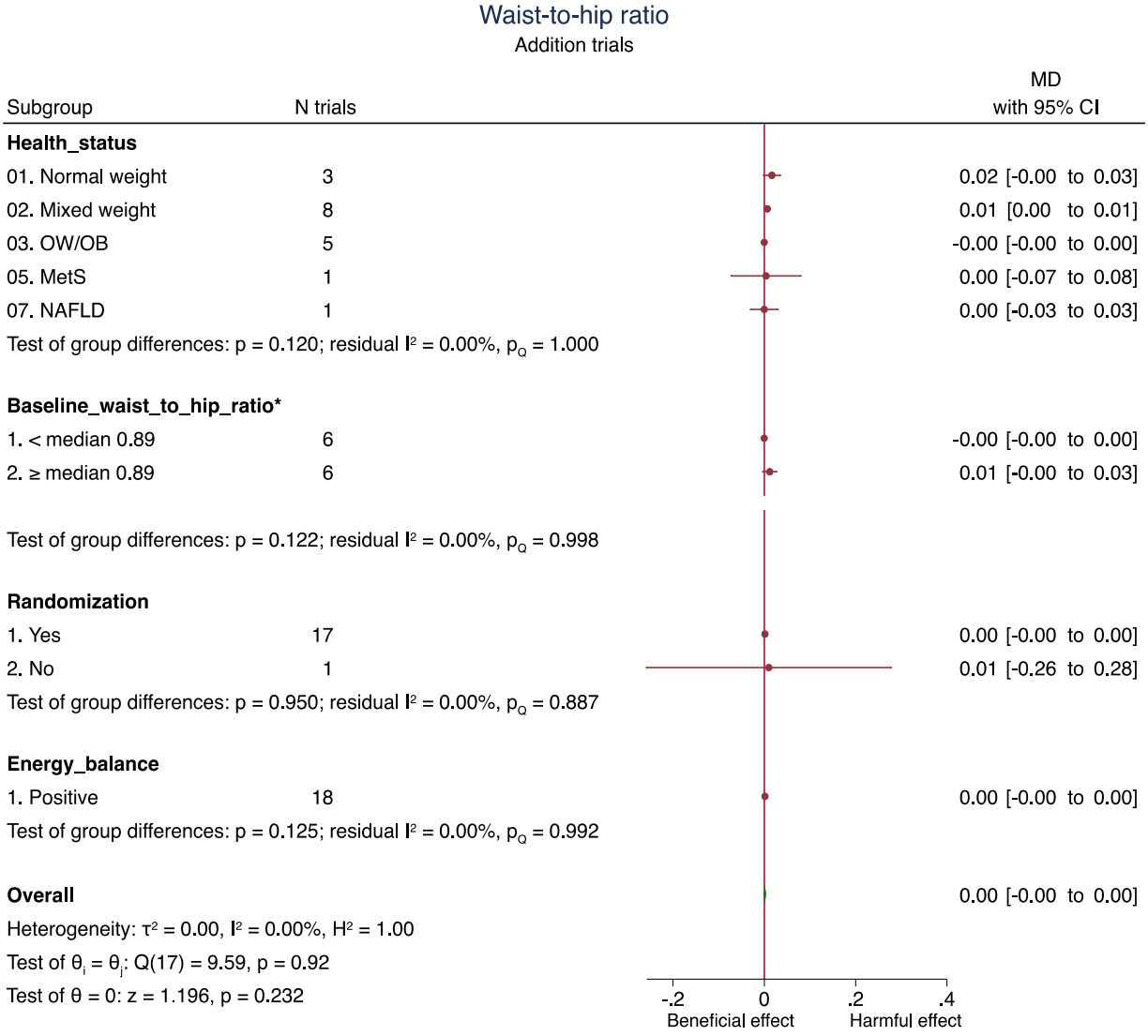
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 177: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in substitution trials



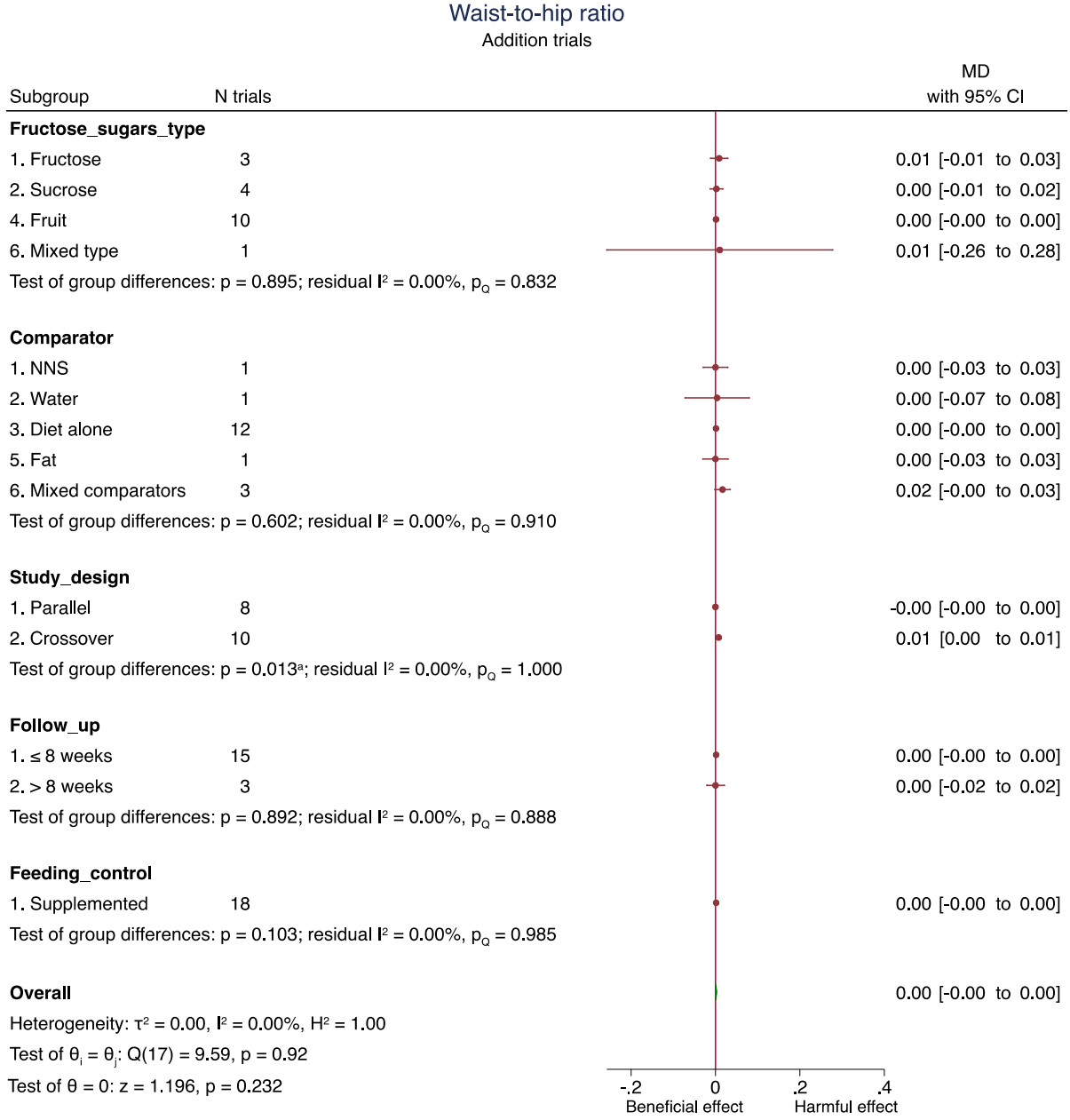
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 178 (1 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in addition trials



*N=6 trial comparisons missing data for baseline waist-to-hip ratio.
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference; MetS=metabolic syndrome; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight.

Supplementary Figure 178 (2 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in addition trials

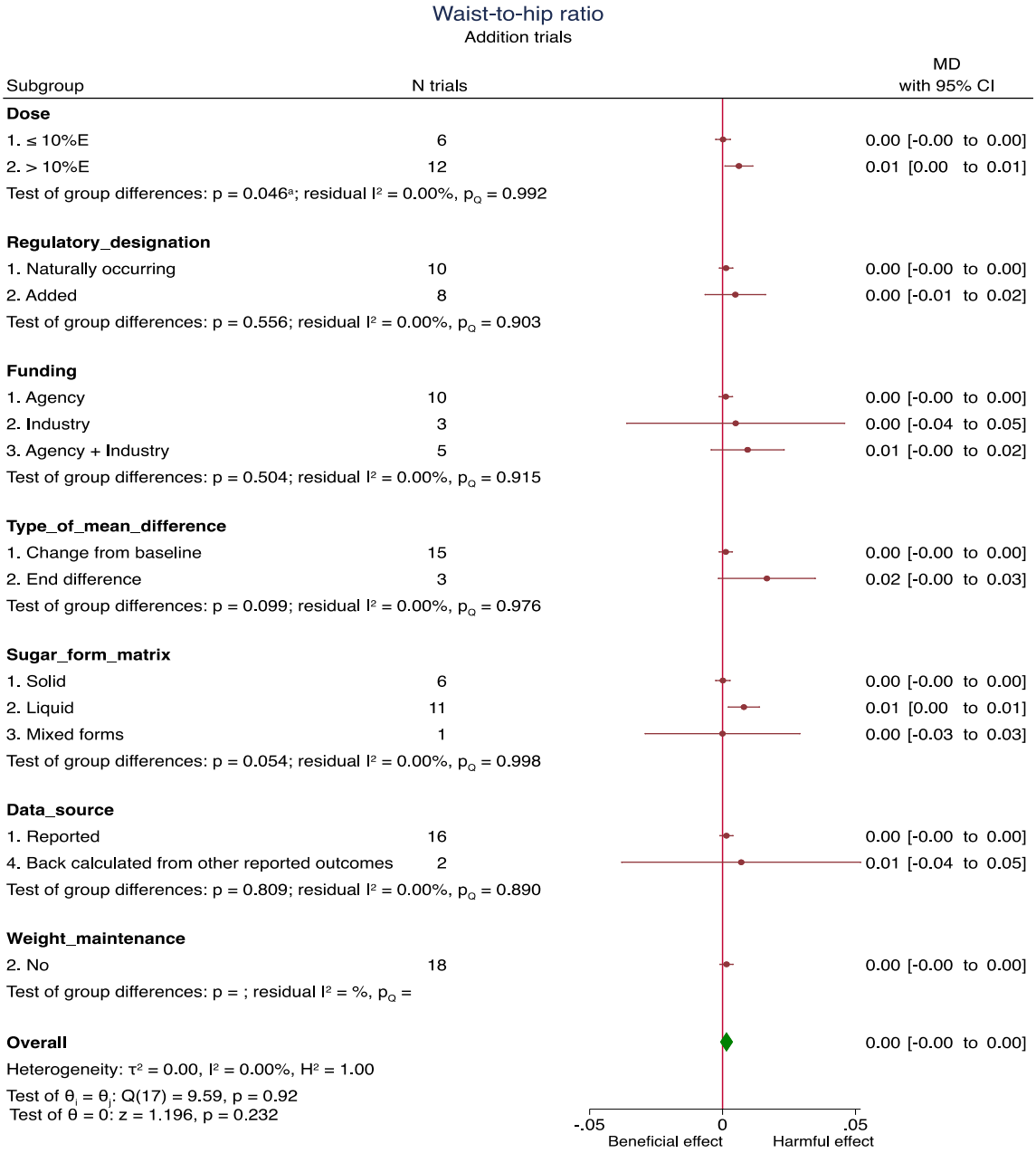


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for study design were as follows: **(2 vs 1)** 0.008 (0.002, 0.014).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 178 (3 of 3): Subgroup analyses for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in addition trials

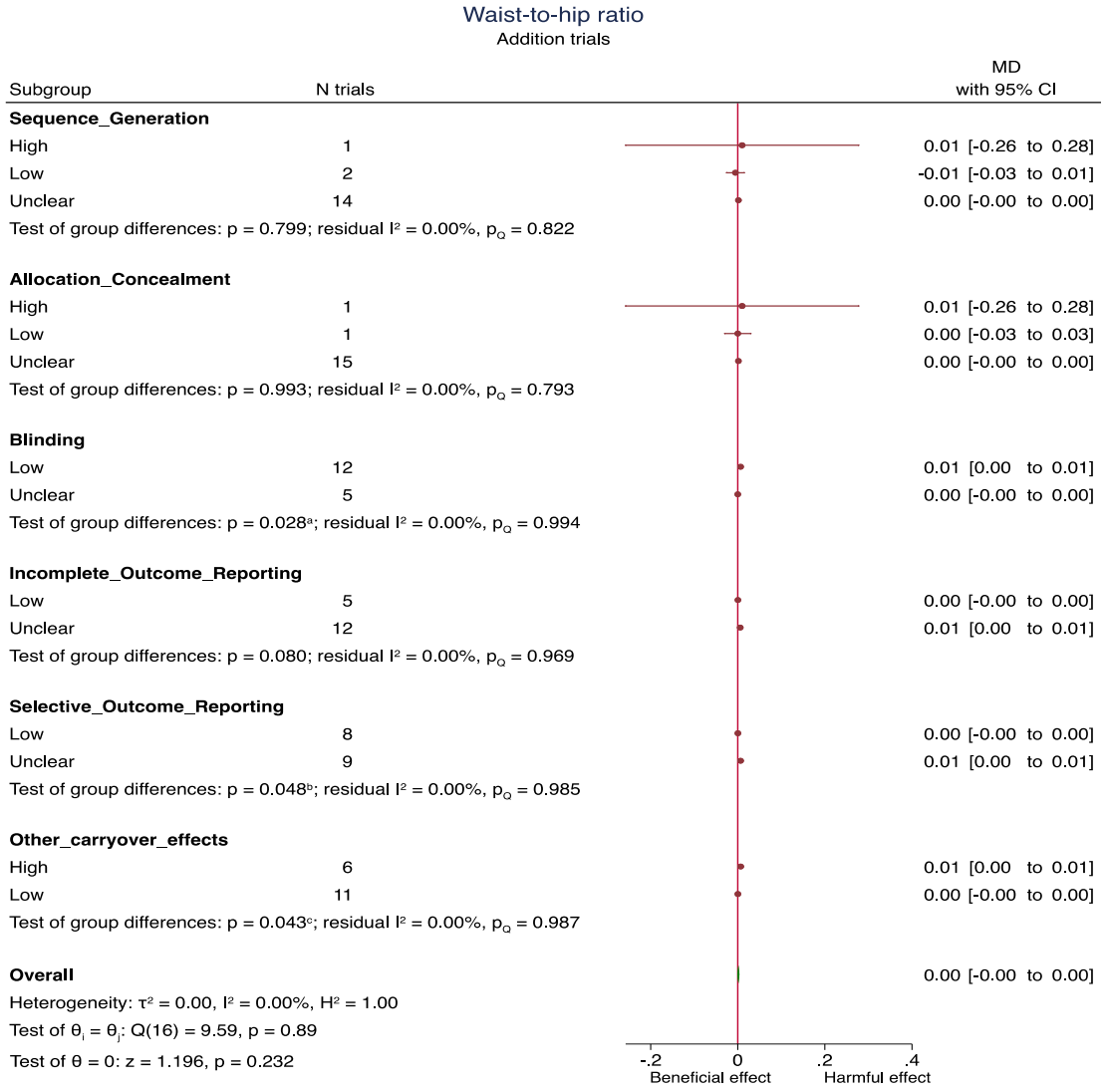


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: **(2 vs 1)** 0.006 (0.0001, 0.0119).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

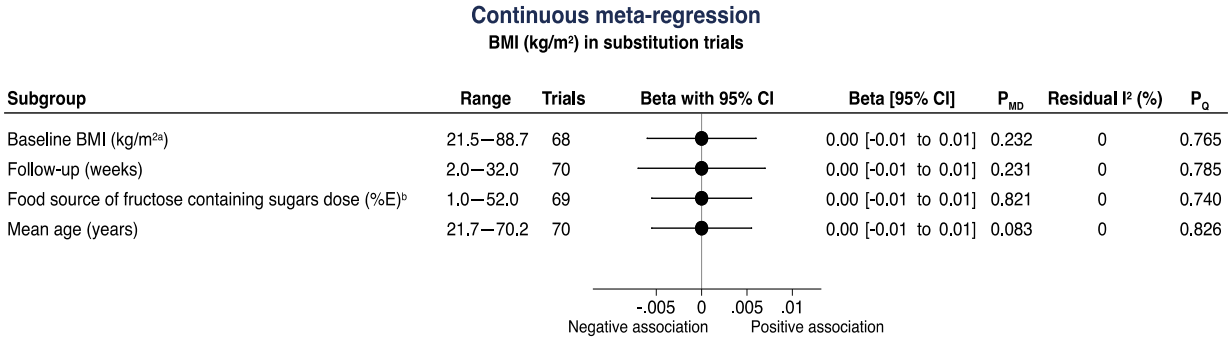
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 179: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of important food sources of fructose-containing sugars on waist-to-hip ratio in addition trials



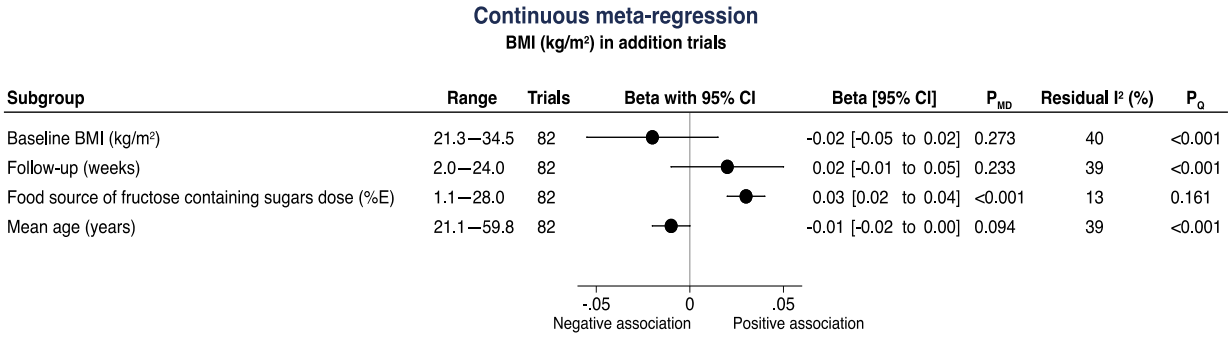
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for blinding were as follows: **(unclear vs low)** -0.006, (-0.-12, -0.007).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows: **(unclear vs low)** 0.006, (0.00004, 0.124).
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for other were as follows: **(low vs high)** -0.006, (-0.013, -0.0002).
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
CI=confidence interval; MD=mean difference.

Supplementary Figure 180: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and BMI (kg/m^2) in substitution trials



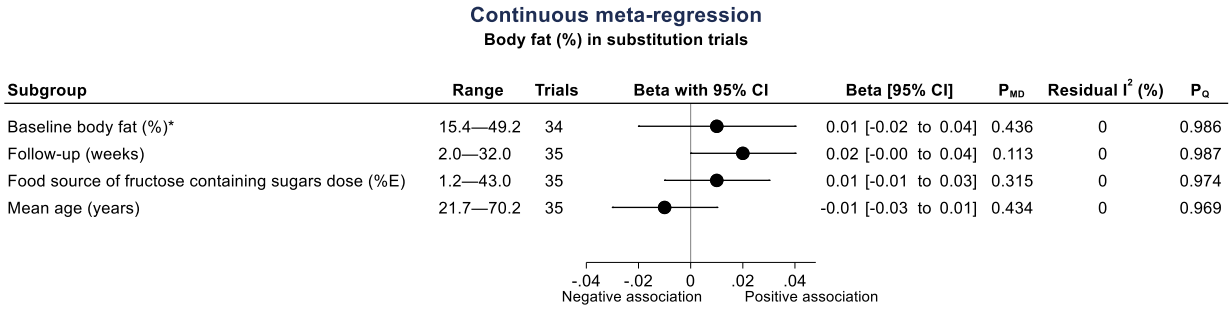
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in BMI (kg/m^2) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in BMI. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
[a]N=2 trials missing data for baseline BMI
[b]N=1 trials missing data for food source of fructose containing sugars dose
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 181: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and BMI (kg/m^2) in addition trials



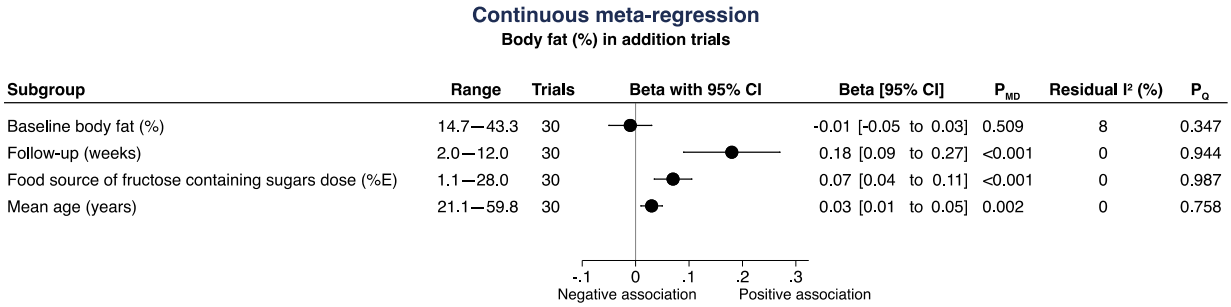
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in BMI (kg/m2) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in uric acid. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 182: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body fat (%) in substitution trials



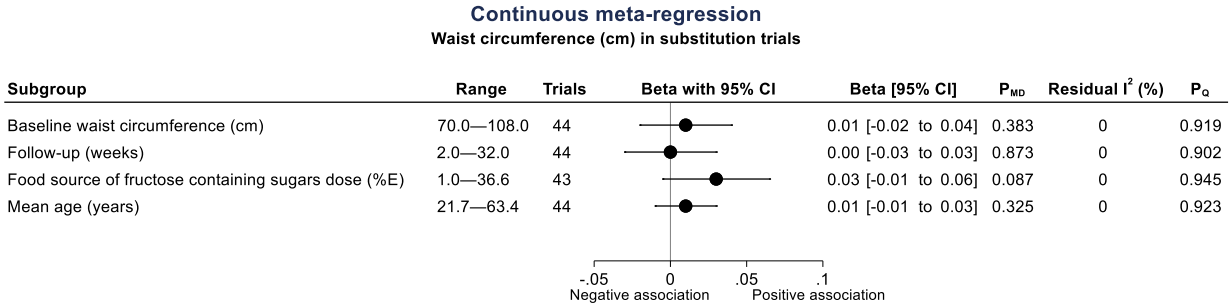
*N=1 trial missing data for baseline body fat.
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body fat (%) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in body fat(%). Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 183: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and body fat (%) in addition trials



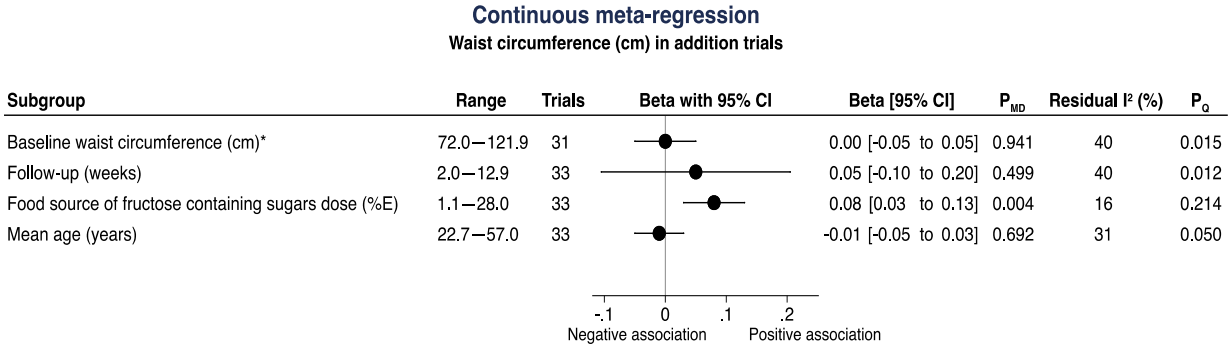
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in body fat (%) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in body fat (%). Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 184: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and waist circumference (cm) in substitution trials



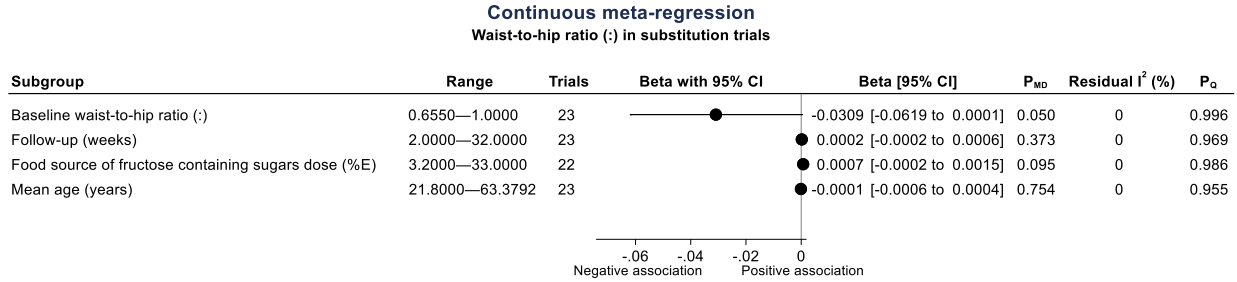
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in waist circumference (cm) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in waist circumference (cm). Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 185: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and waist circumference (cm) in addition trials



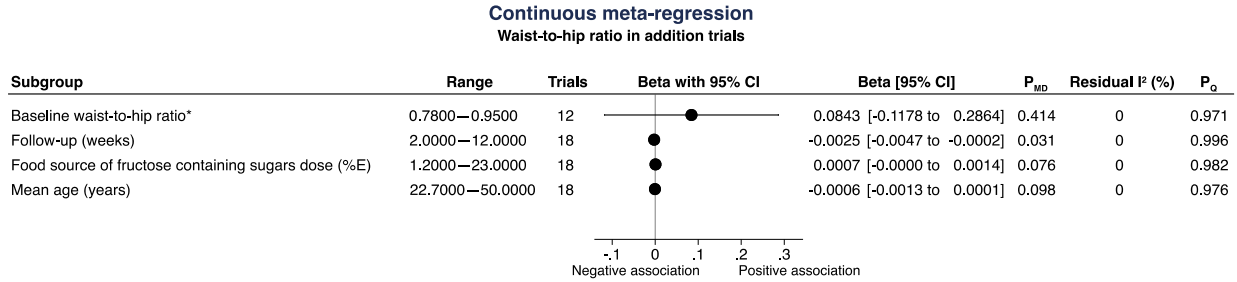
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in waist circumference (cm) with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in waist circumference (cm). Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
*N=2 trials missing data for baseline body weight.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 186: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and waist-to-hip ratio in substitution trials



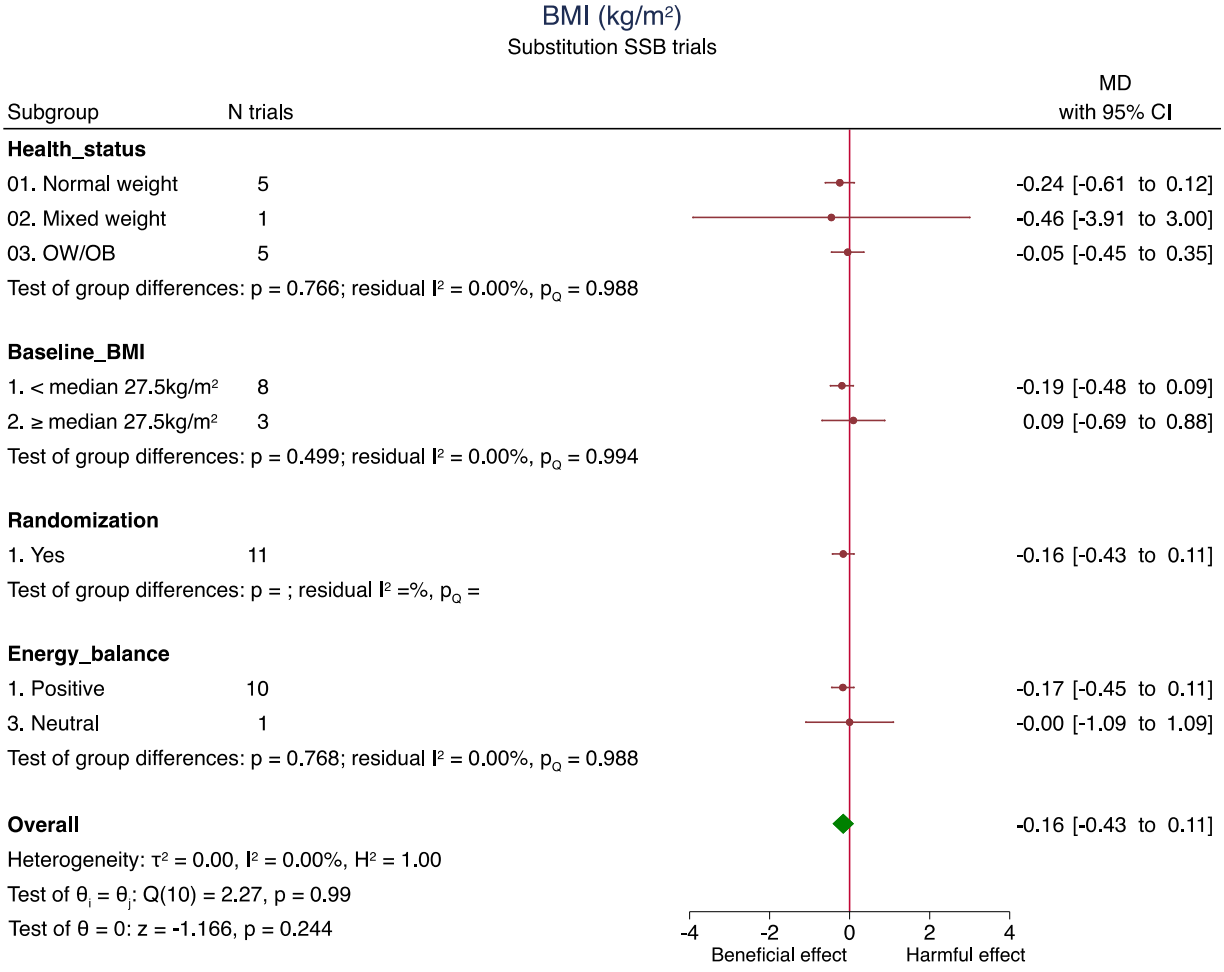
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in waist-to-hip ratio with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in waist-to-hip ratio. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 187: Continuous meta-regression analysis for the effect of important food sources of fructose-containing sugars and waist-to-hip ratio in addition trials



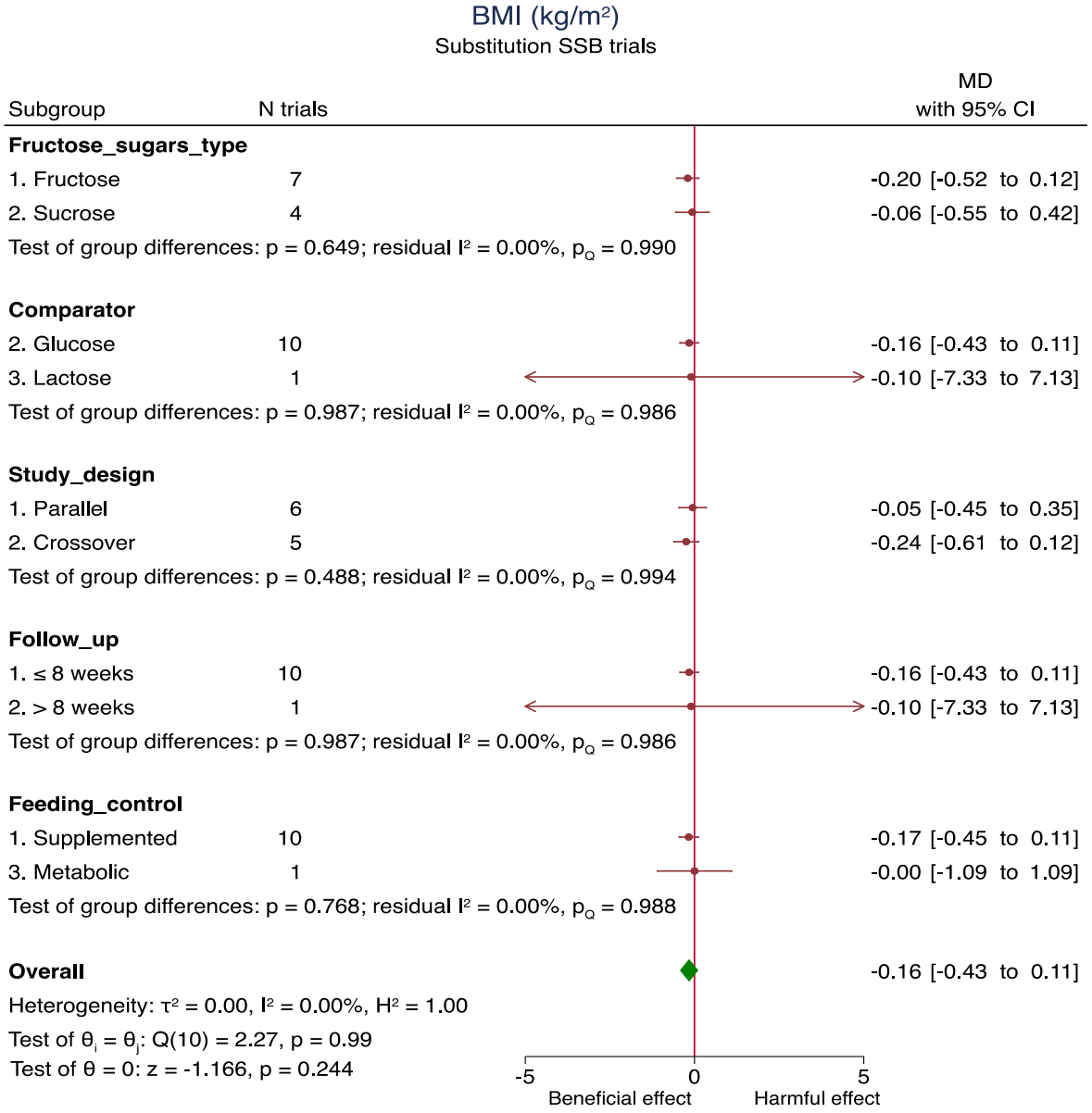
*N=6 trials missing data for baseline waist-to-hip ratio.
Data is presented as between group mean difference (95% confidence intervals) for a 1-unit change in the predictor variable. ß–coefficients were estimated using continuous meta-regression analysis. A positive ß-coefficient implies an increase in waist-to-hip ratio with the food source of fructose-containing sugars intervention as the subgroup variable increases, and a negative ß-coefficient implies a decrease in waist-to-hip ratio. Residual I^2 reports inter-study heterogeneity not explained by the subgroup and was estimated using the Cochrane Q statistic.
CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 188 (1 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in substitution trials



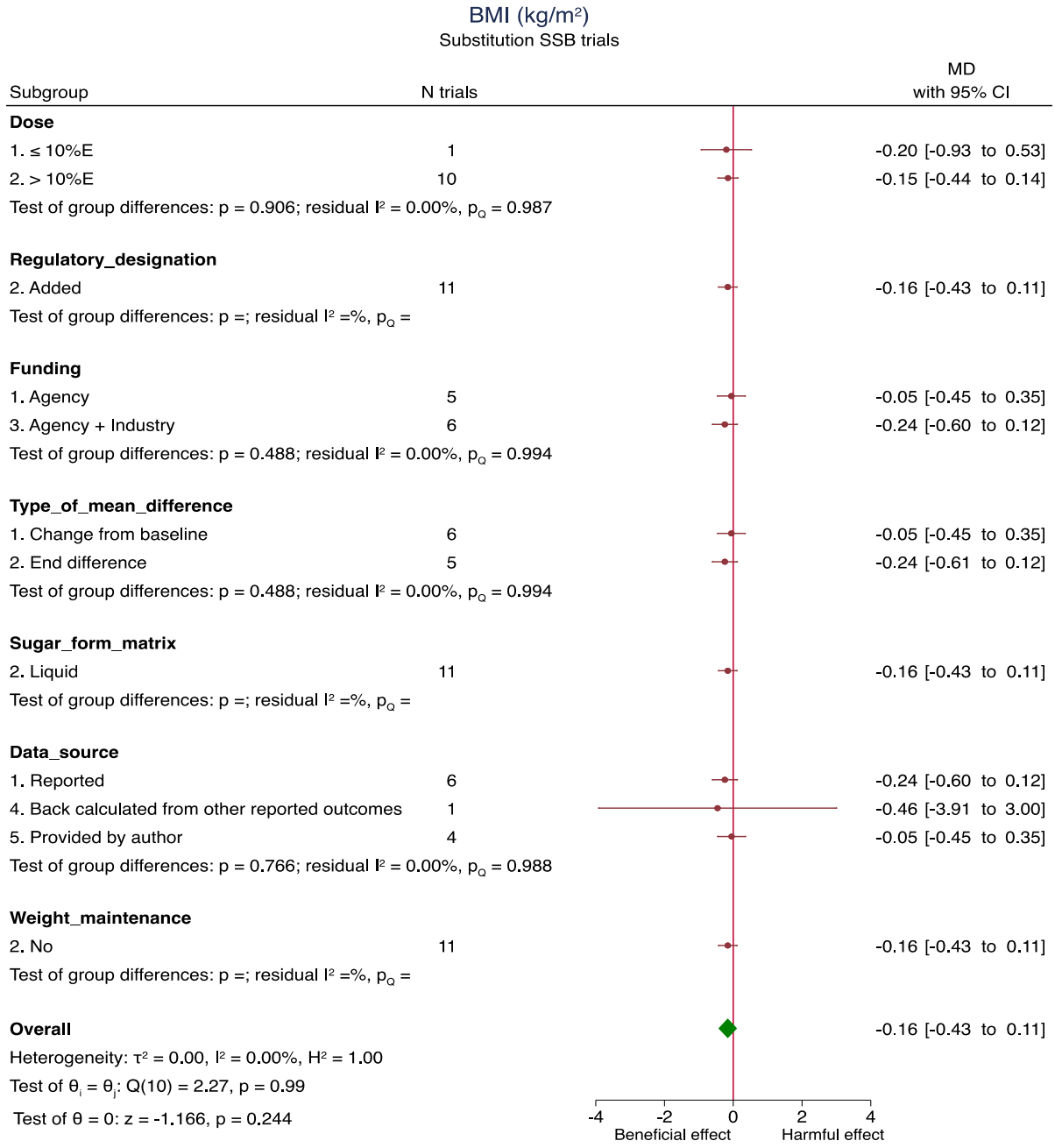
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 188 (2 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in substitution trials



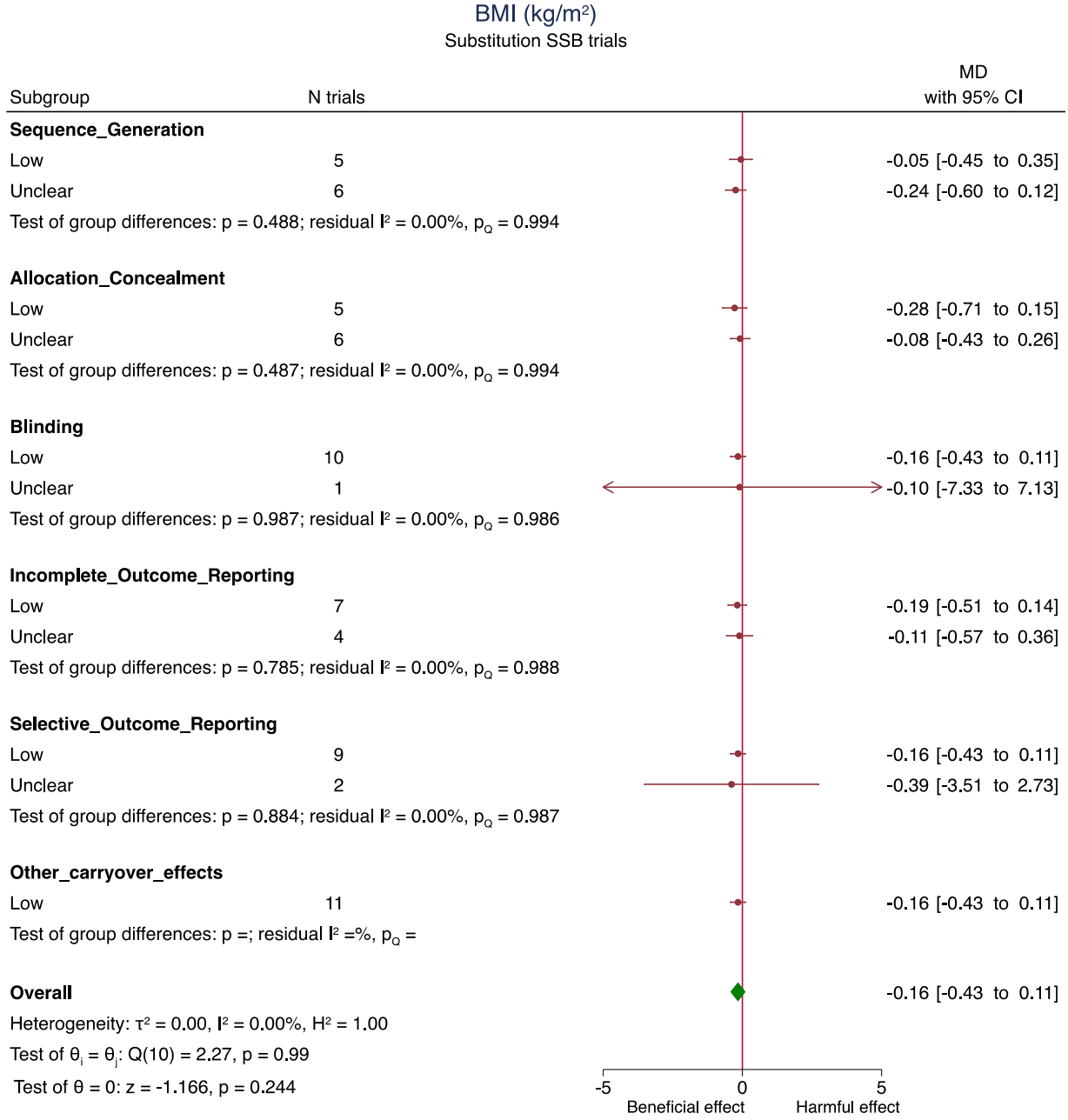
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 188 (3 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in substitution trials



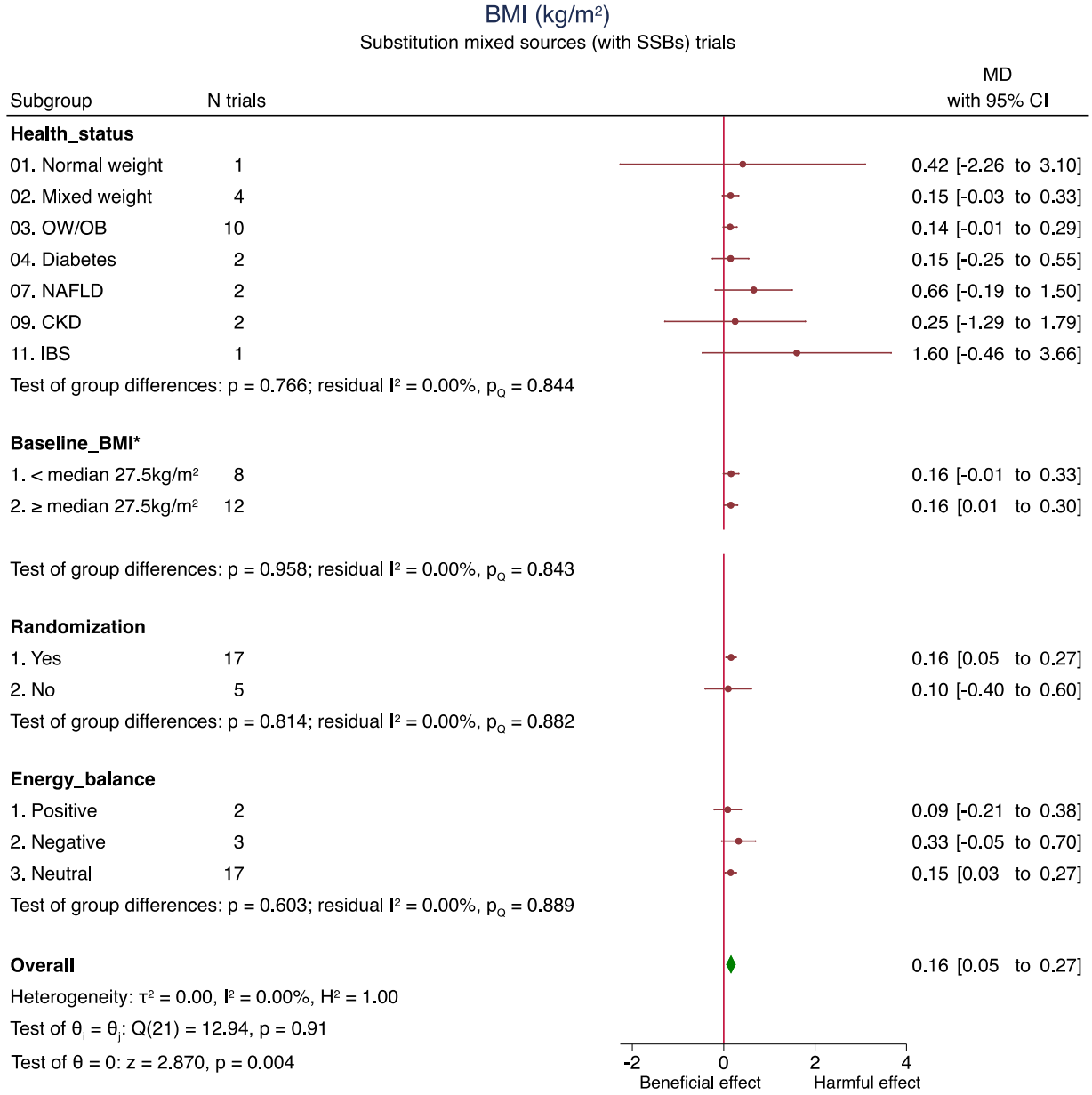
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 189: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of SSBs on BMI (kg/m^2) in substitution trials



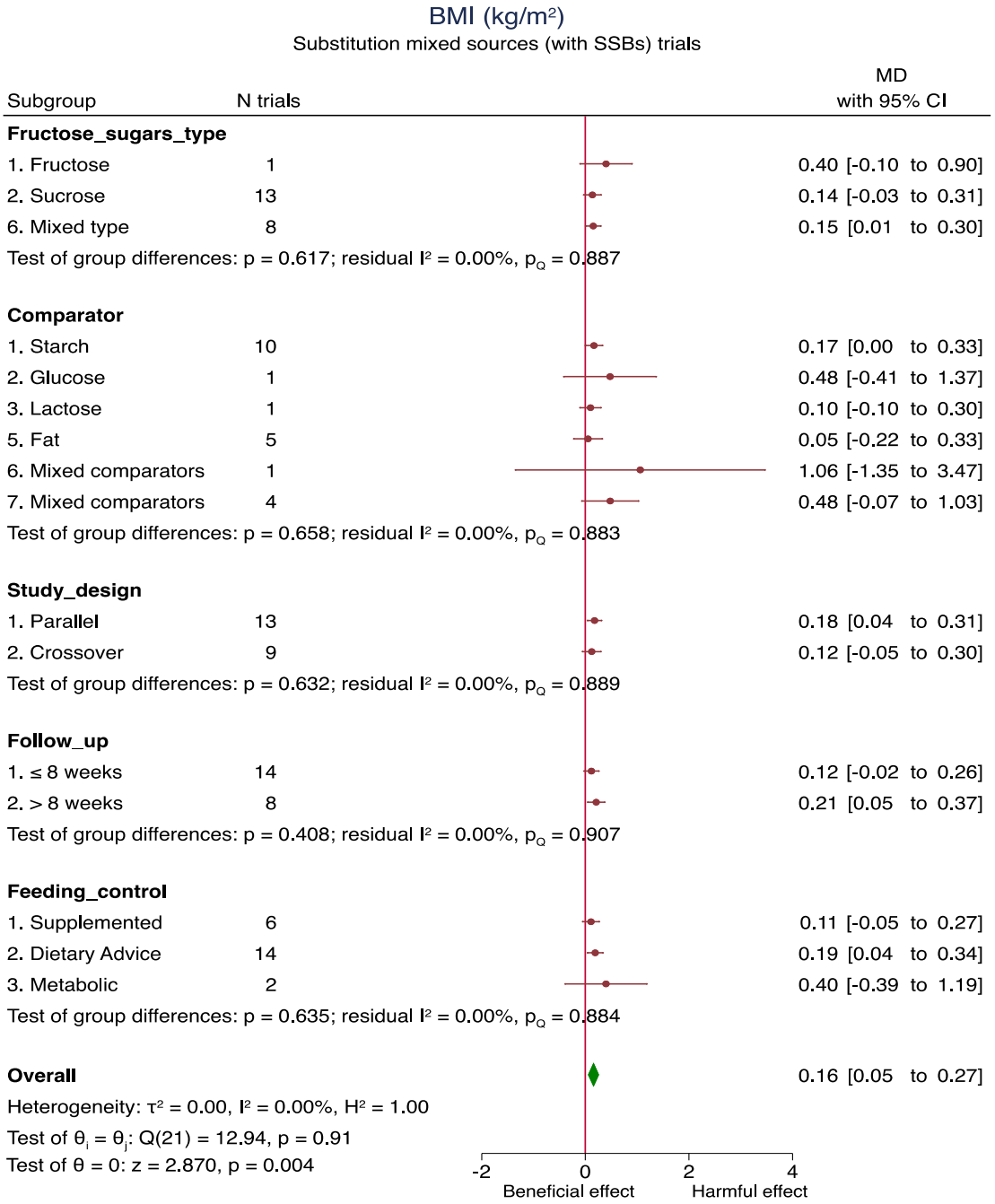
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 190 (1 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on BMI (kg/m^2) in substitution trials



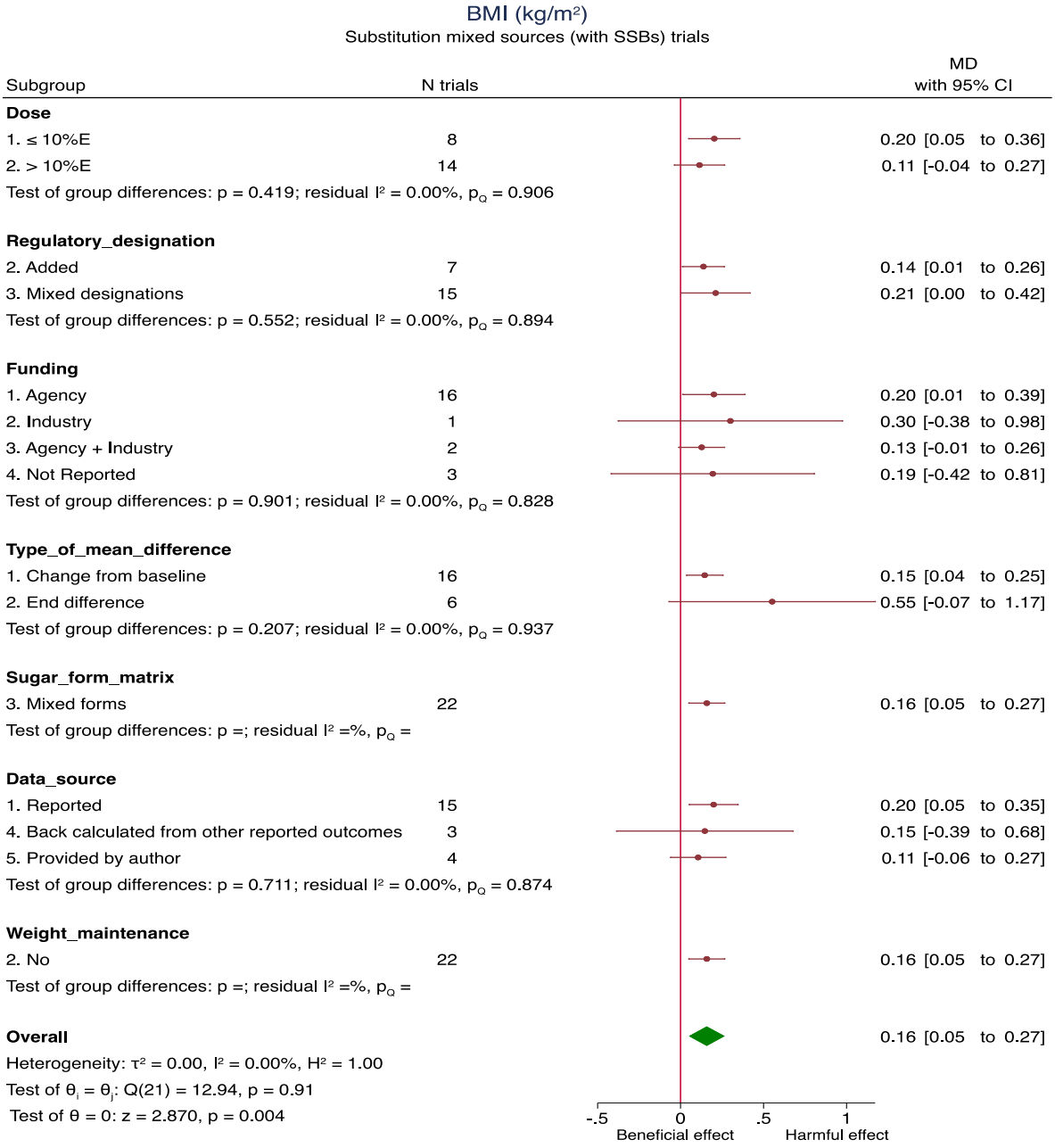
*N=2 trials missing data for baseline body weight.
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; CKD=chronic kidney disease; IBS=irritable bowel syndrome; MD=mean difference; NAFLD=non-alcoholic fatty liver disease; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 190 (2 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on BMI (kg/m^2) in substitution trials



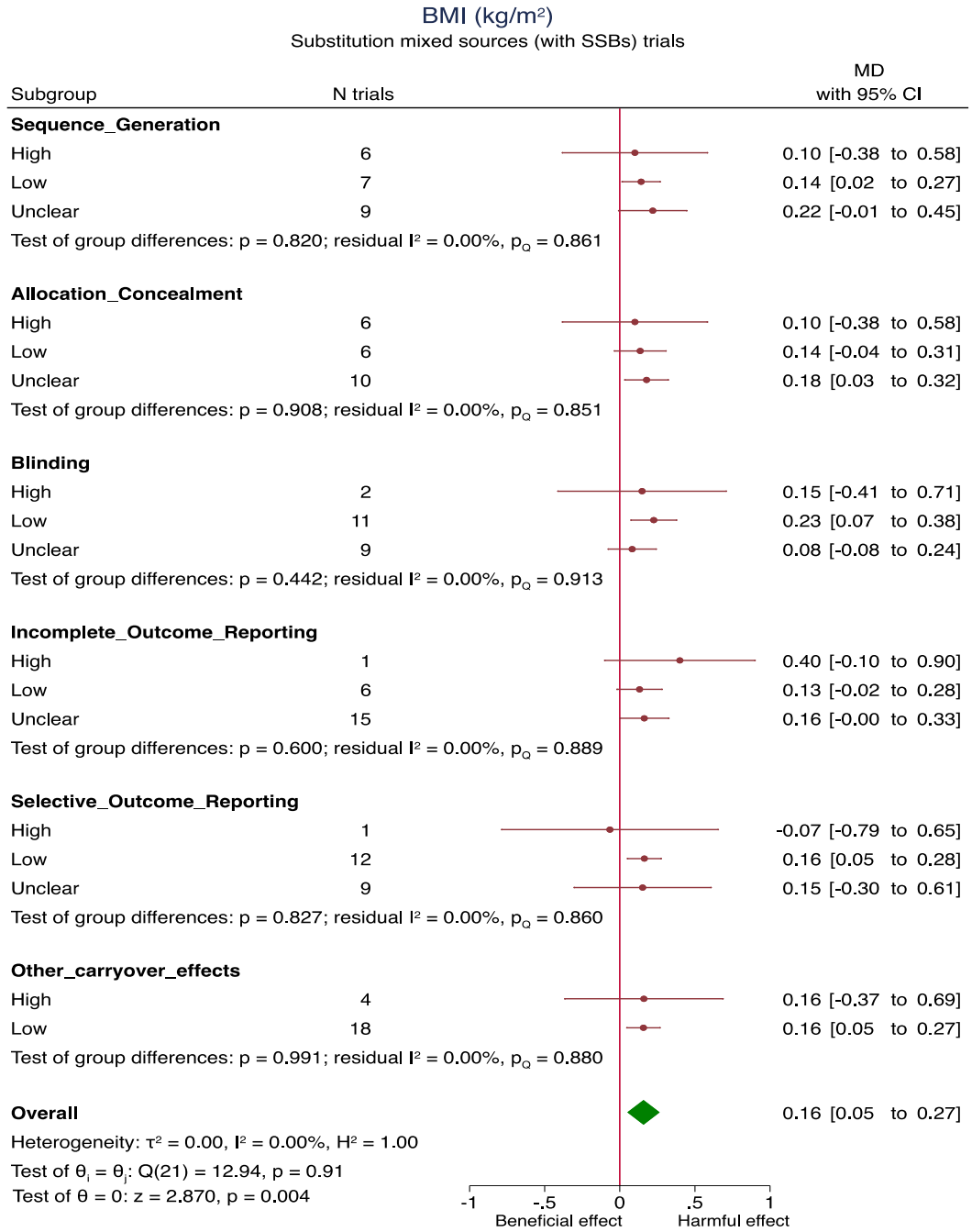
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 190 (3 of 3): Subgroup analyses for the effect of mixed sources (with SSBs) on BMI (kg/m^2) in substitution trials



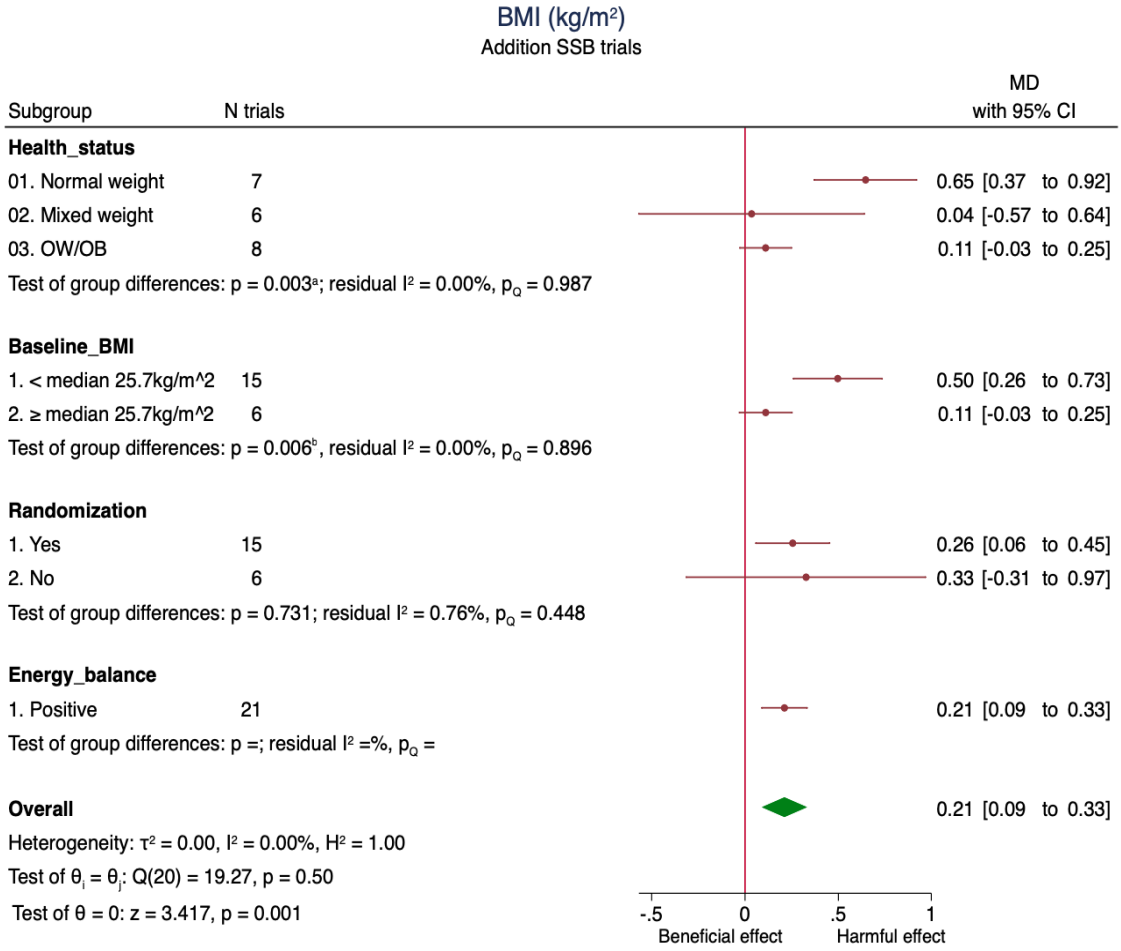
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 191: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of mixed sources (with SSBs) on BMI (kg/m^2) in substitution trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 192 (1 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in addition trials



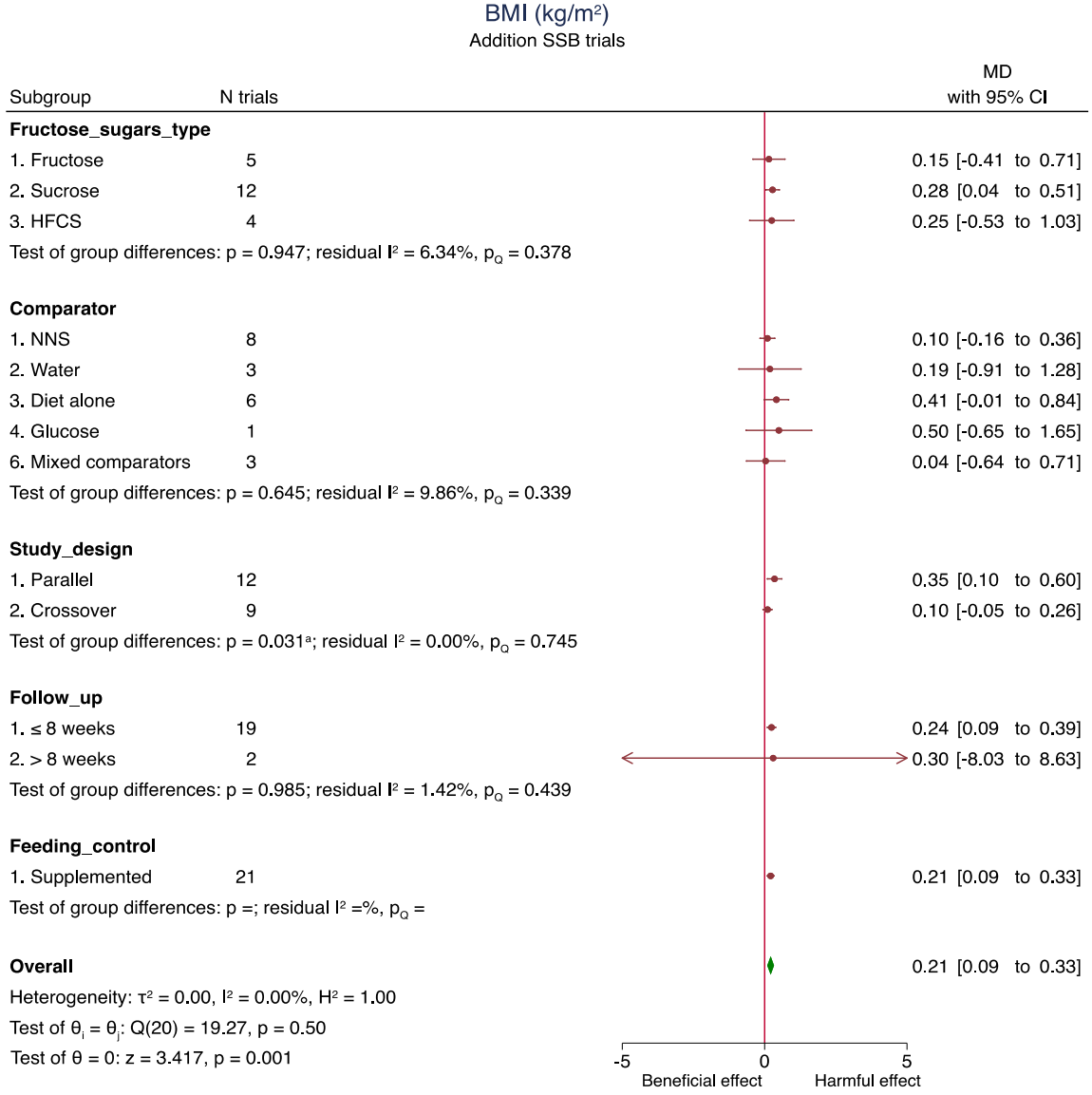
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for health status were as follows: (2 vs 1) -0.611 kg/m^2 (-1.27, 0.053 kg/m^2); (**3 vs 1**) -0.536 kg/m^2 (-0.843, -0.228 kg/m^2); (**3 vs 2**) 0.075 kg/m^2 (-0.545, 0.695 kg/m^2).

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for baseline BMI were as follows: **(2 vs 1)** -0.386 kg/m^2 (-0.662, -0.11 kg/m^2)

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; MD=mean difference; OB=obese; OW=overweight; SSB=sugars-sweetened beverage.

Supplementary Figure 192 (2 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in addition trials

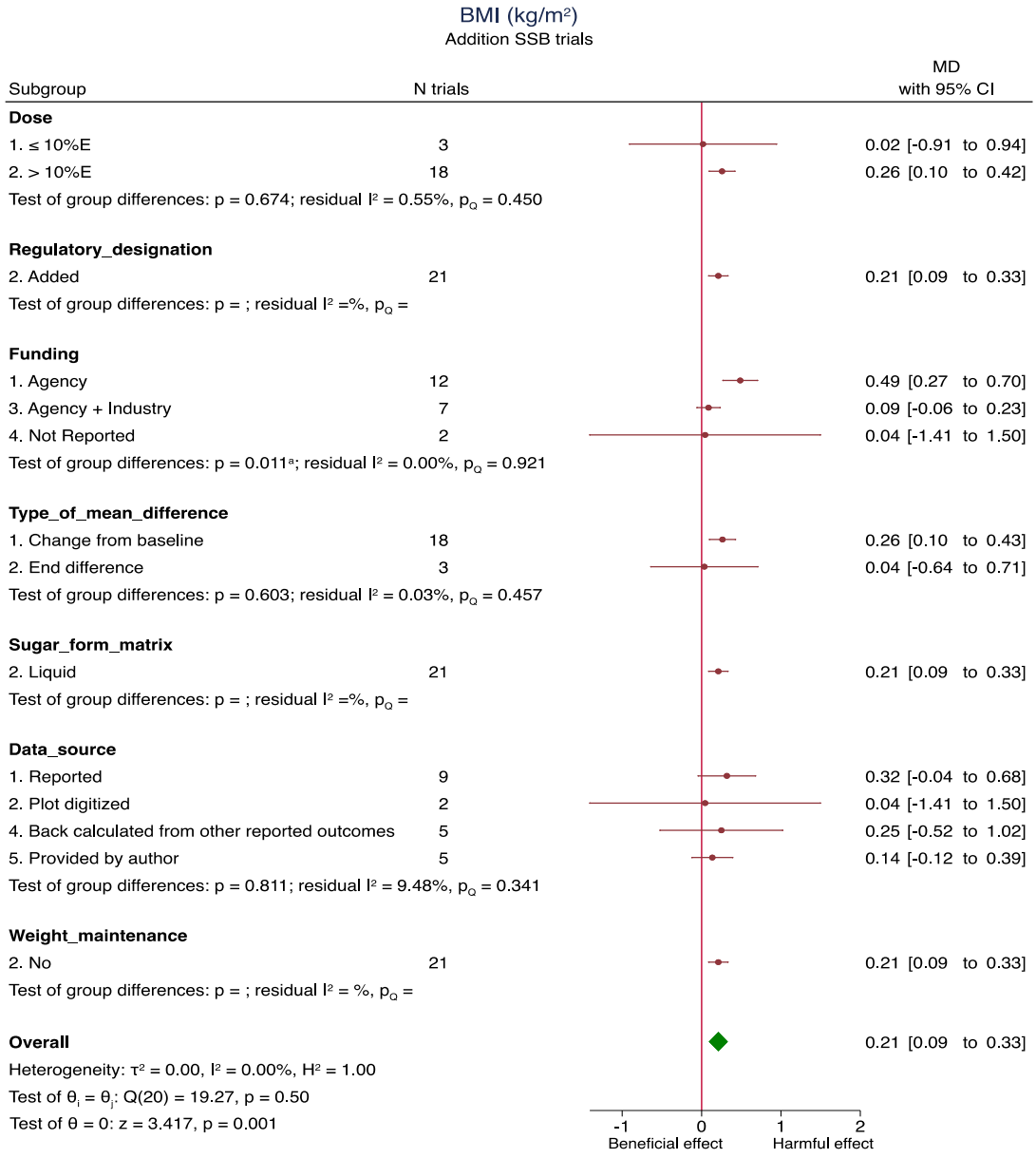


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for study design were as follows: **(2 vs 1)** -0.271 kg/m^2 (-0.518, -0.0243 kg/m^2)

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

BMI=body mass index; CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 192 (3 of 3): Subgroup analyses for the effect of SSBs on BMI (kg/m^2) in addition trials

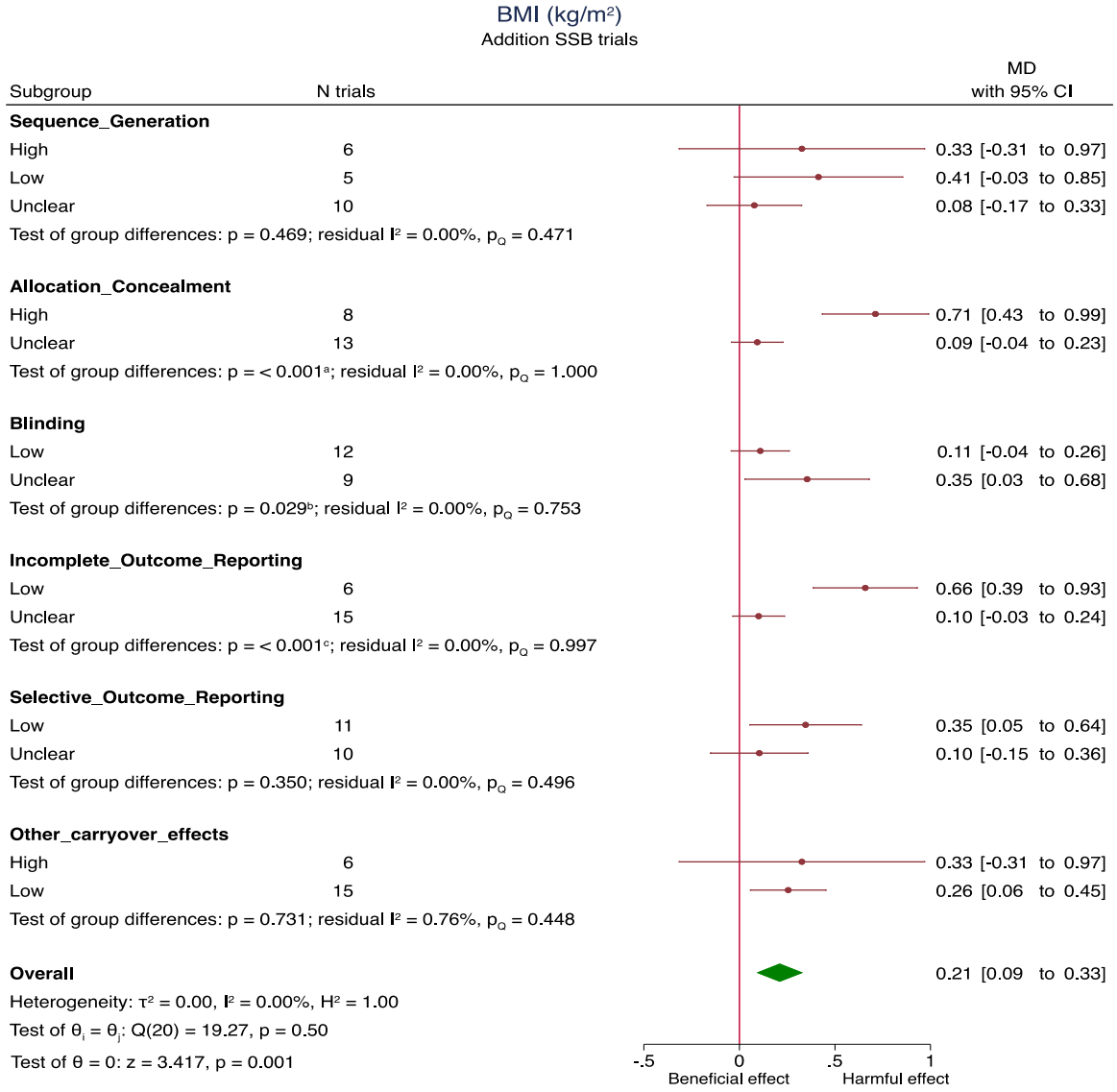


[a]Pairwise between-subgroup mean differences (95% confidence intervals) for funding were as follows: (**3 vs 1**) -0.399 kg/m^2 (-0.661, -0.137 kg/m^2); (4 vs 1) -0.442 kg/m^2 (-1.91, 1.03 kg/m^2); (4 vs 3) -0.0433 kg/m^2 (-1.5, 1.42 kg/m^2).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

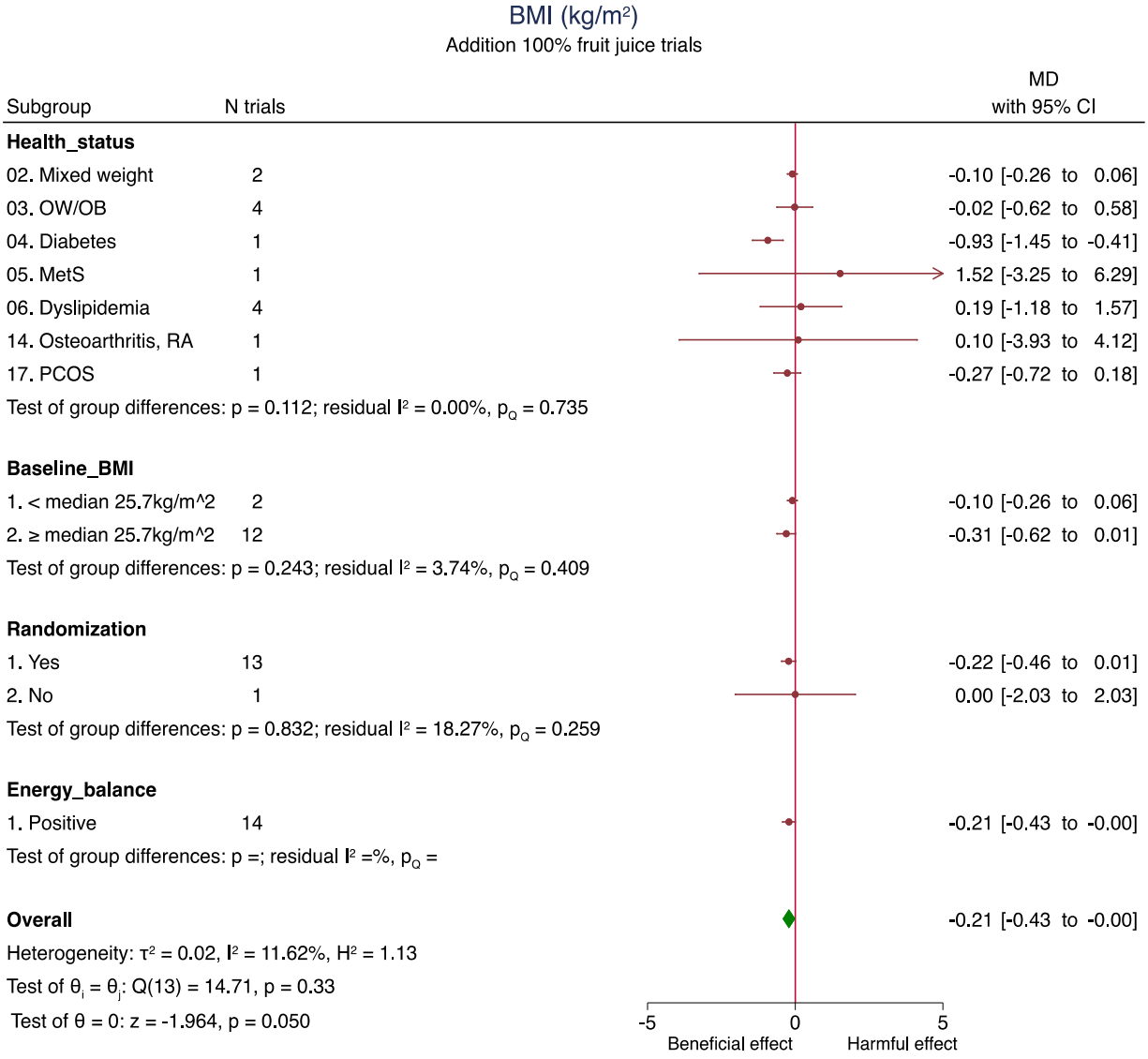
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 193: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of SSBs on BMI (kg/m^2) in addition trials



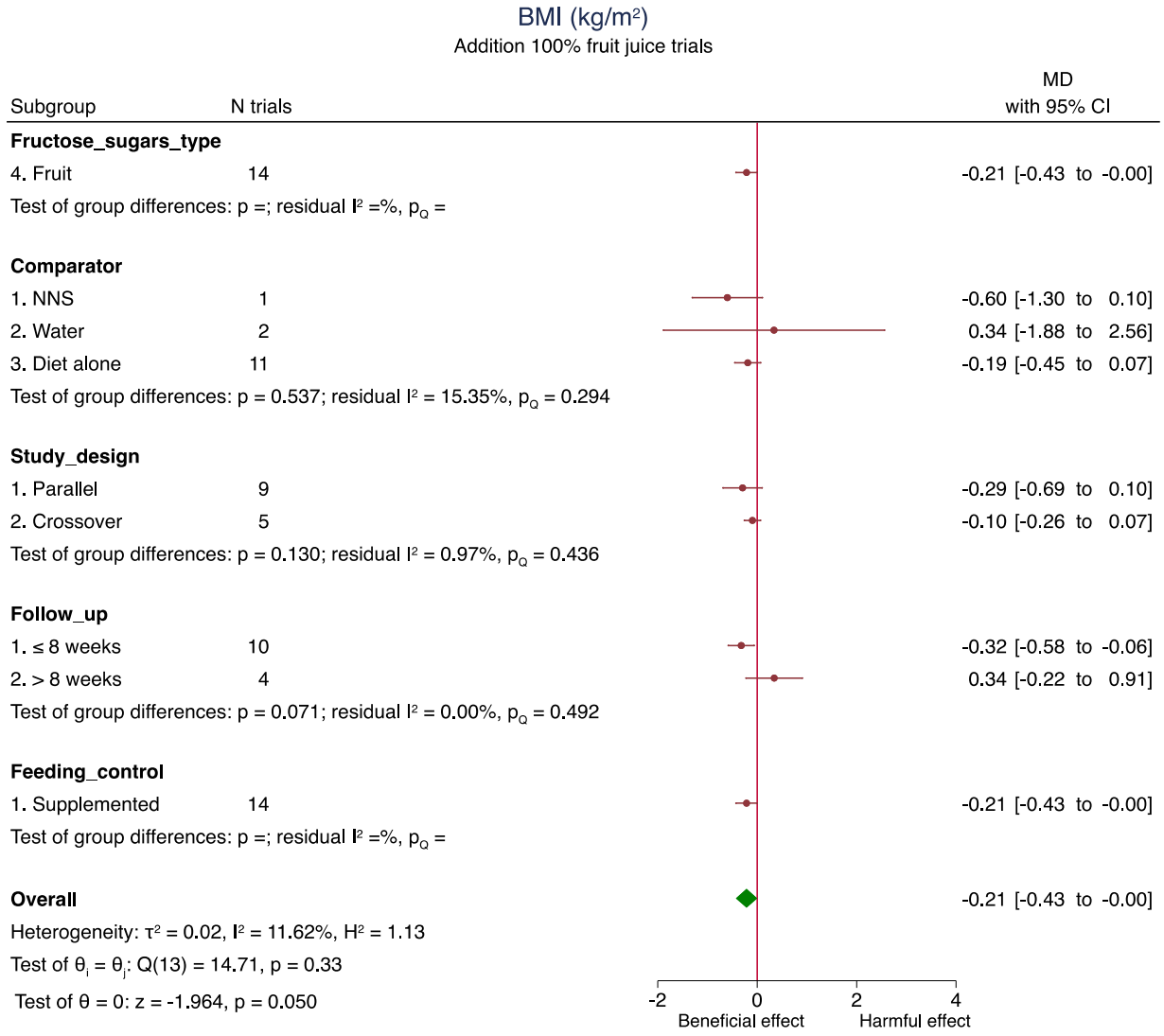
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for allocation concealment were as follows: (**unclear vs high**) -0.618 kg/m^2 (-0.927, -0.31 kg/m^2)
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for incomplete outcome reporting were as follows: (**low vs unclear**) -0.558 kg/m^2 (-0.862, -0.254 kg/m^2)
[c]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows: (unclear vs low) -0.138 kg/m^2 (-0.428, 0.151 kg/m^2)
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; SSB=sugars-sweetened beverage.

Supplementary Figure 194 (1 of 3): Subgroup analyses for the effect of 100% fruit juice on BMI (kg/m^2) in addition trials



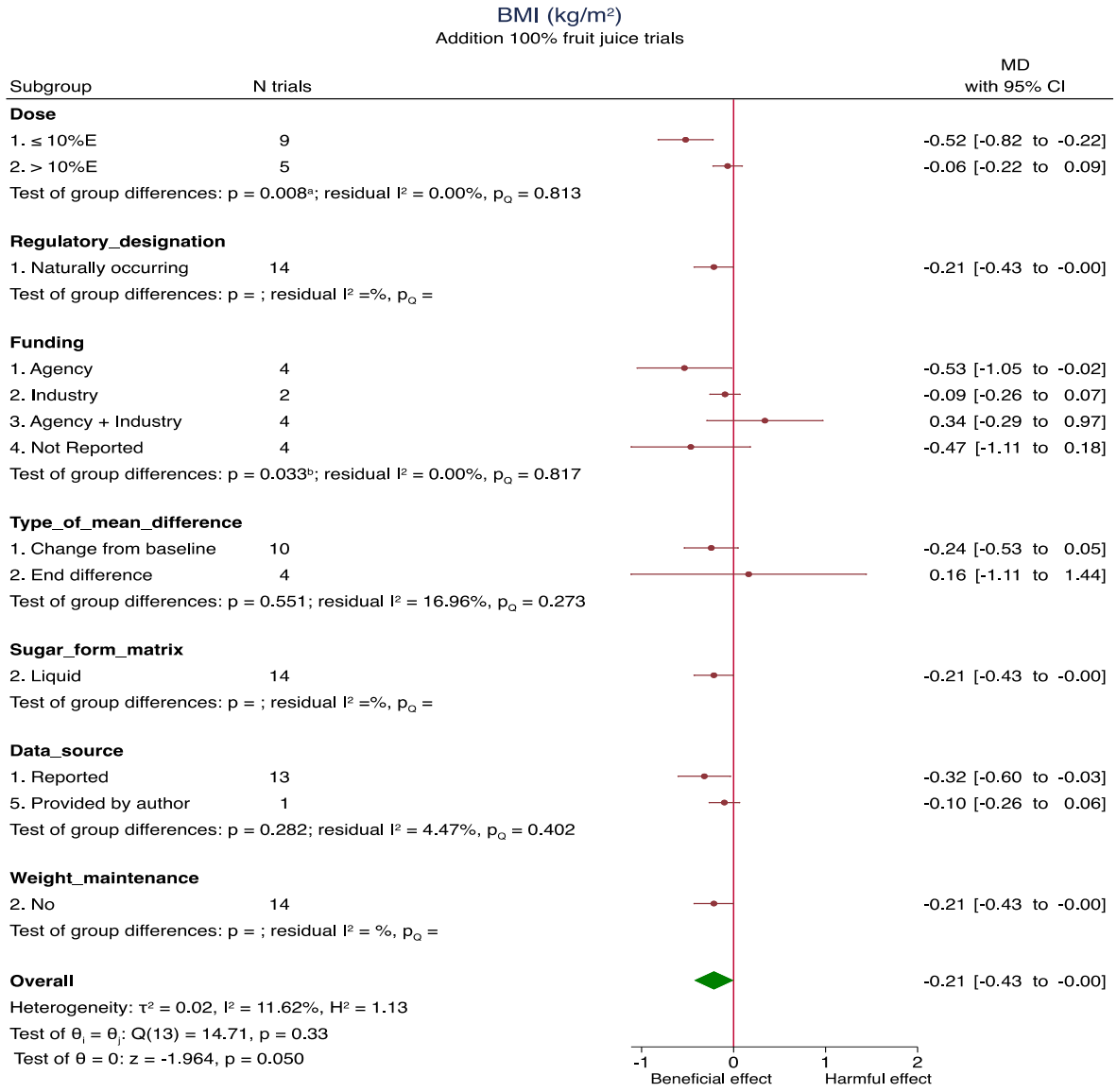
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MetS=metabolic syndrome; MD=mean difference; OB=obese; OW=overweight; PCOS=polycystic ovarian syndrome; RA=rheumatoid arthritis.

Supplementary Figure 194 (2 of 3): Subgroup analyses for the effect of 100% fruit juice on BMI (kg/m^2) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 194 (3 of 3): Subgroup analyses for the effect of 100% fruit juice on BMI (kg/m^2) in addition trials



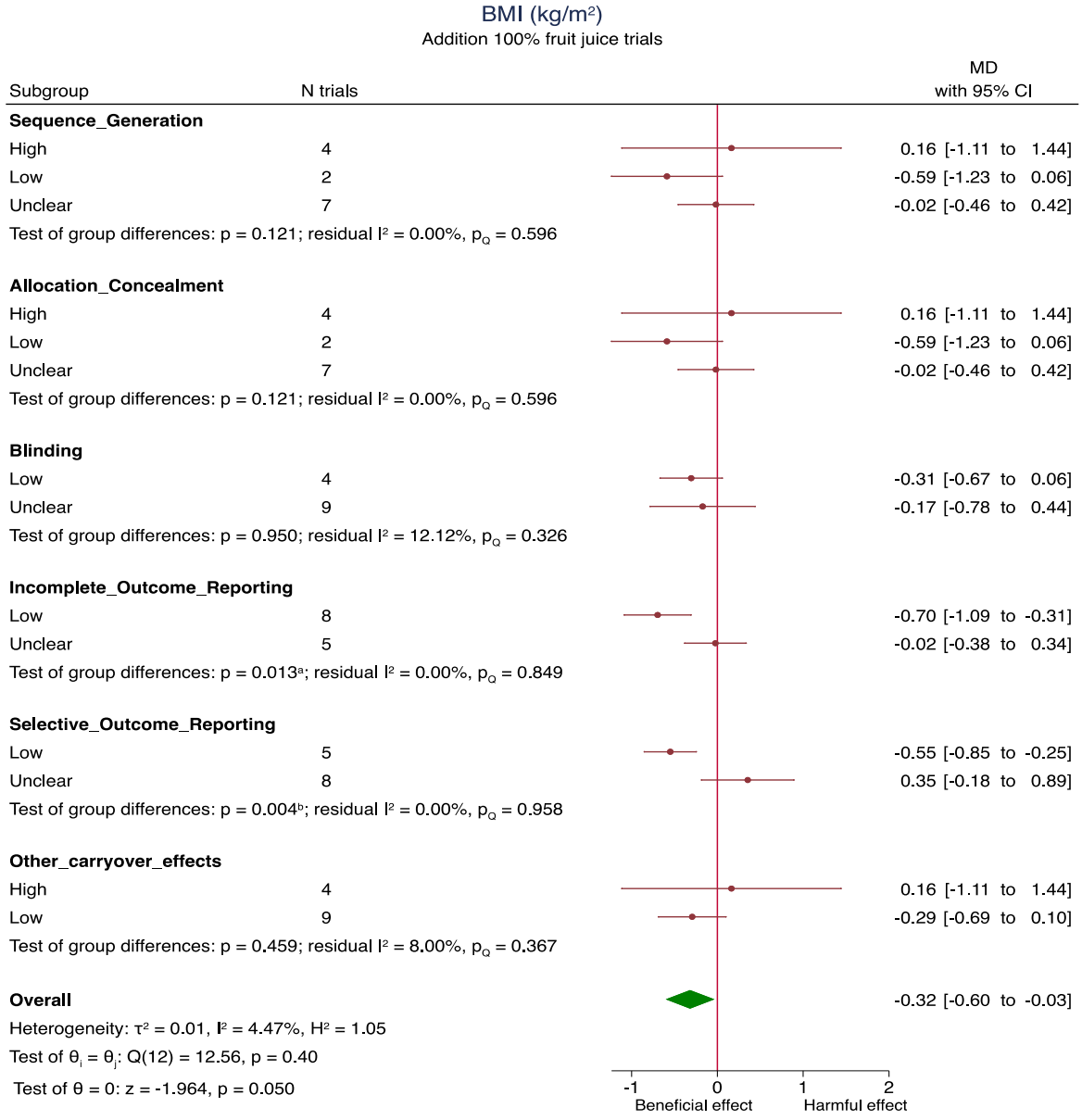
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for dose were as follows: **(2 vs 1)** 0.457 kg/m^2 (0.12, 0.793 kg/m^2)

[b]Pairwise between-subgroup mean differences (95% confidence intervals) for funding were as follows: (**2 vs 1**) 0.443 kg/m^2 (0.0692, 0.817 kg/m^2); **(3 vs 1)** 0.877 kg/m^2 (0.163, 1.59 kg/m^2); (4 vs 1) 0.0713 kg/m^2 (-0.658, 0.801 kg/m^2); (3 vs 2) 0.434 kg/m^2 (-0.216, 1.08 kg/m^2); (4 vs 2) -0.372 kg/m^2 (-1.04, 0.295 kg/m^2); (4 vs 3) -0.806 kg/m^2 (-1.71, 0.968 kg/m^2).

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.

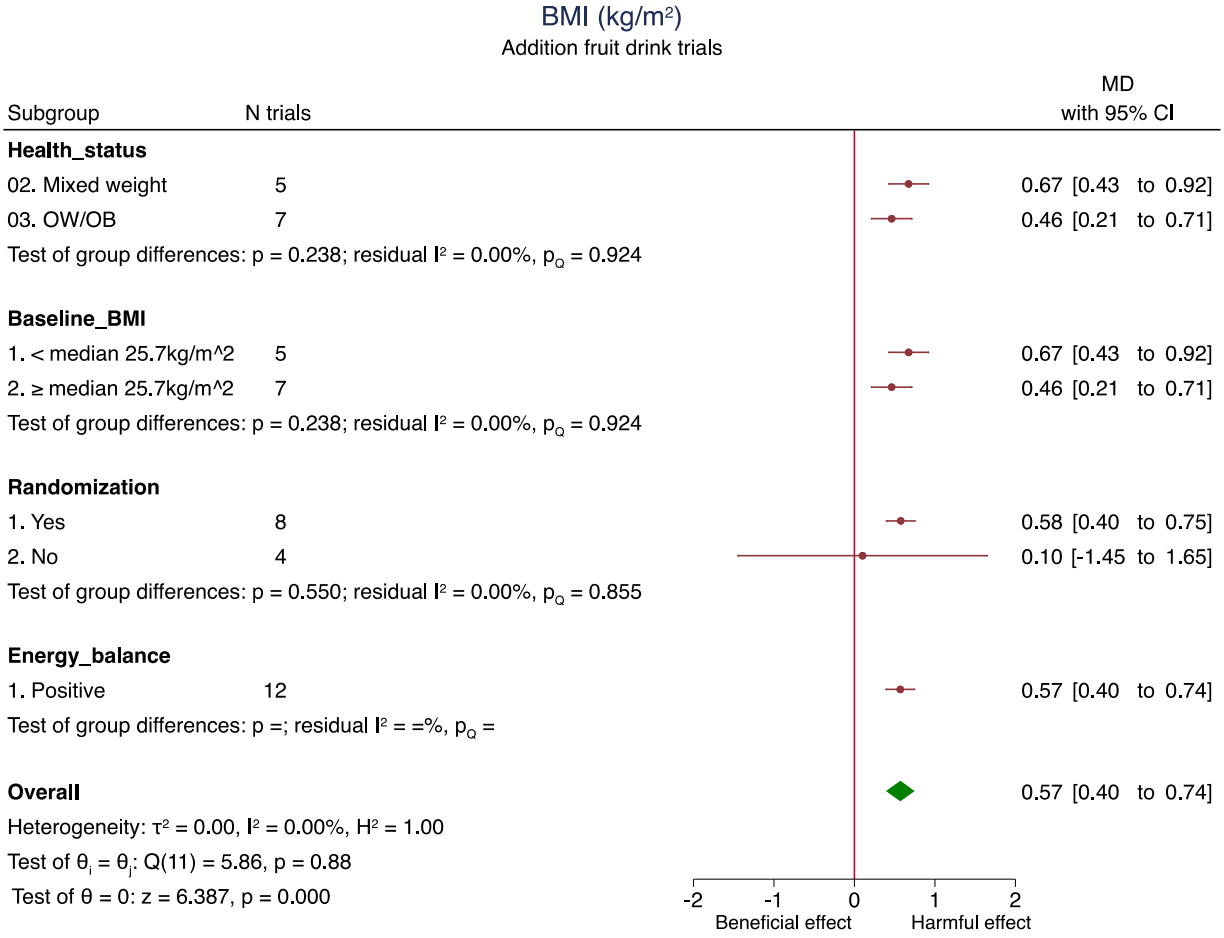
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 195: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of 100% fruit juice on BMI (kg/m^2) in addition trials



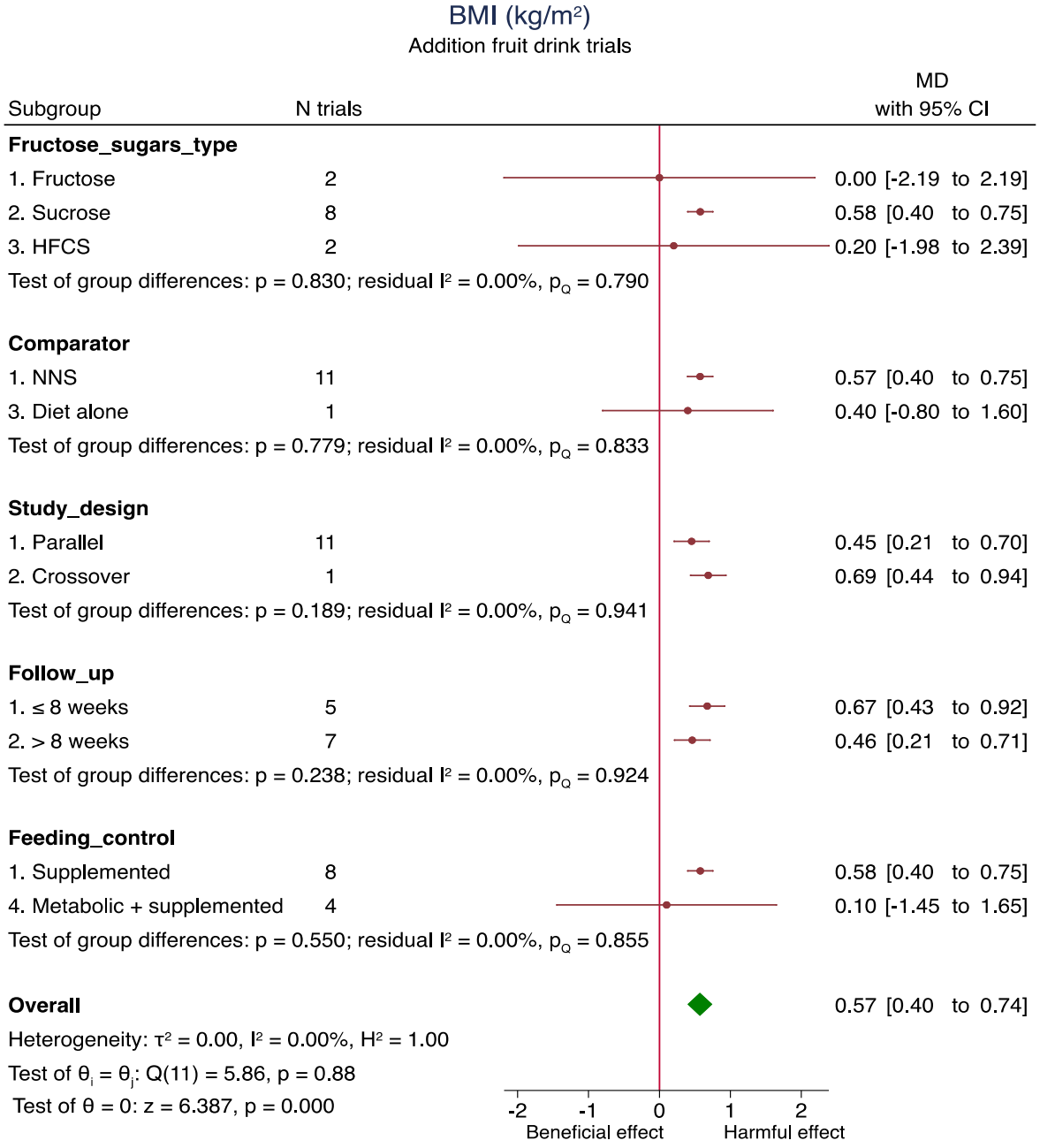
[a]Pairwise between-subgroup mean differences (95% confidence intervals) for incomplete outcome reporting were as follows: (**unclear vs low**) 0.673 kg/m^2 (0.144, 1.2 kg/m^2).
[b]Pairwise between-subgroup mean differences (95% confidence intervals) for selective outcome reporting were as follows: **(unclear vs low)** 0.902 kg/m^2 (0.285, 1.52 kg/m^2)
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference.

Supplementary Figure 196 (1 of 3): Subgroup analyses for the effect of fruit drink on BMI (kg/m^2) in addition trials



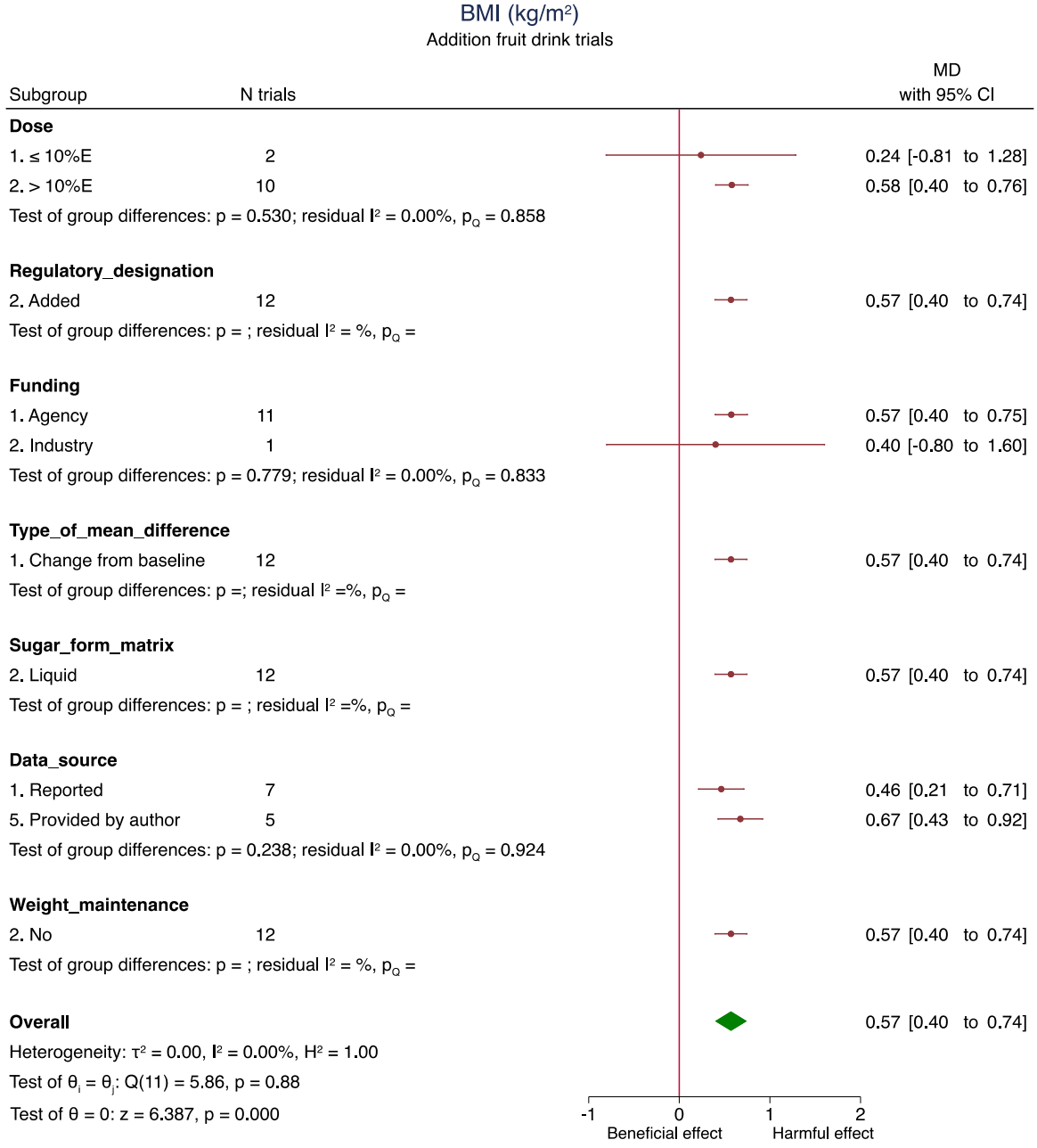
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; OB=obese; OW=overweight.

Supplementary Figure 196 (2 of 3): Subgroup analyses for the effect of fruit drink on BMI (kg/m^2) in addition trials



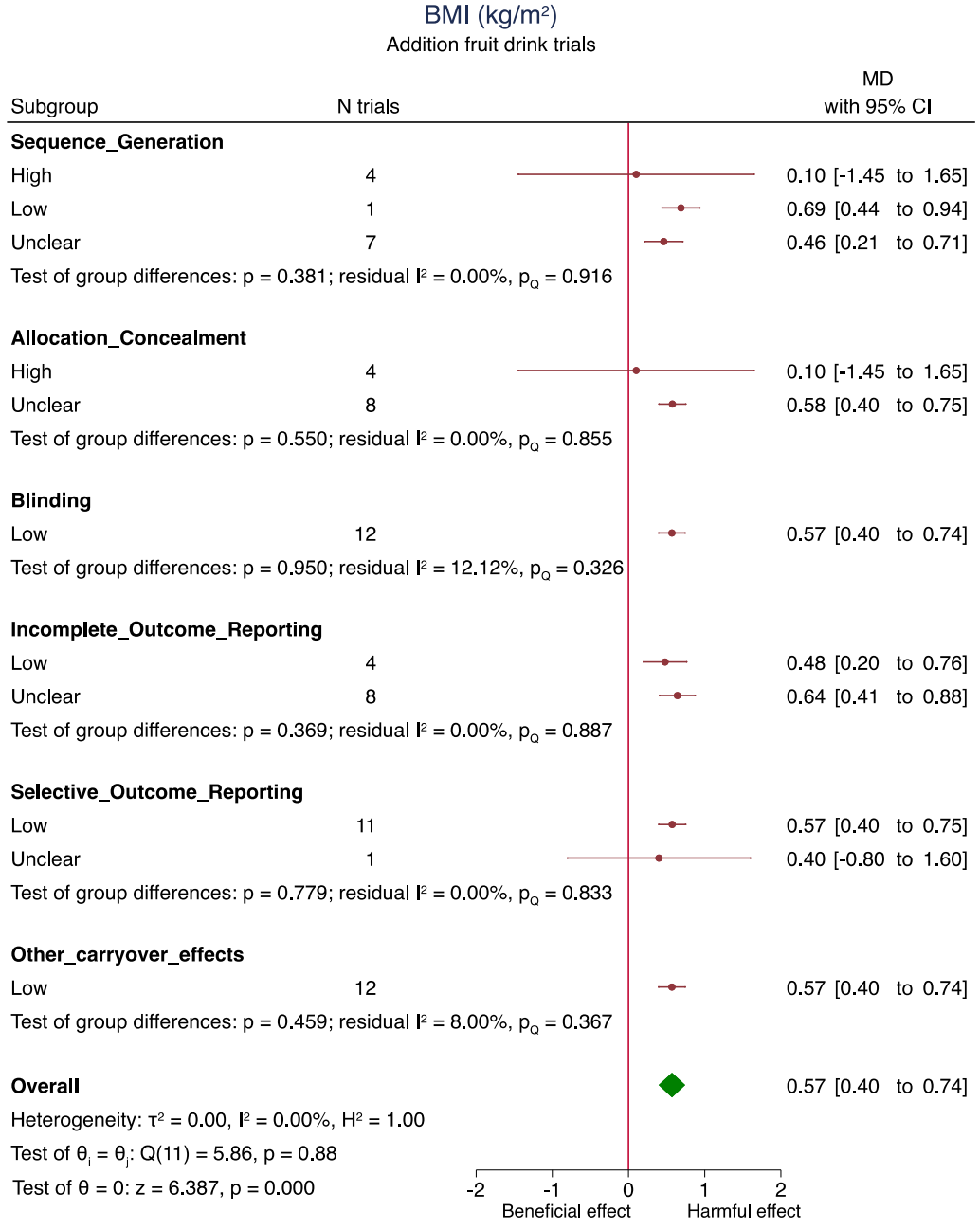
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; HFCS=high fructose corn syrup; MD=mean difference; NNS=non-nutritive sweetener.

Supplementary Figure 196 (3 of 3): Subgroup analyses for the effect of fruit drink on BMI (kg/m^2) in addition trials



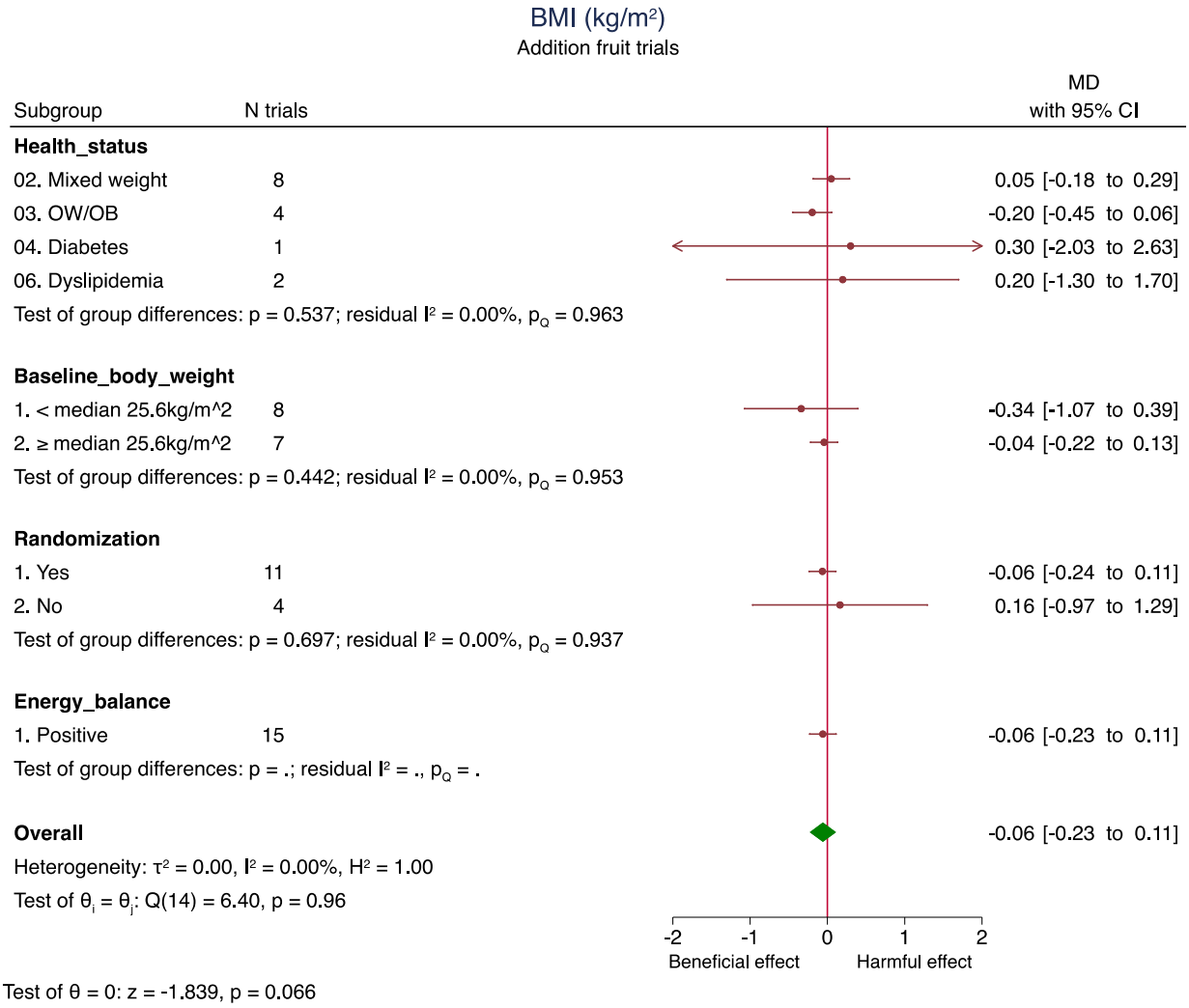
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; %E=percentage of total energy intake; MD=mean difference.

Supplementary Figure 197: Risk of Bias (using The Cochrane Collaboration Tool) subgroup analysis for the effect of fruit drink on BMI (kg/m^2) in addition trials



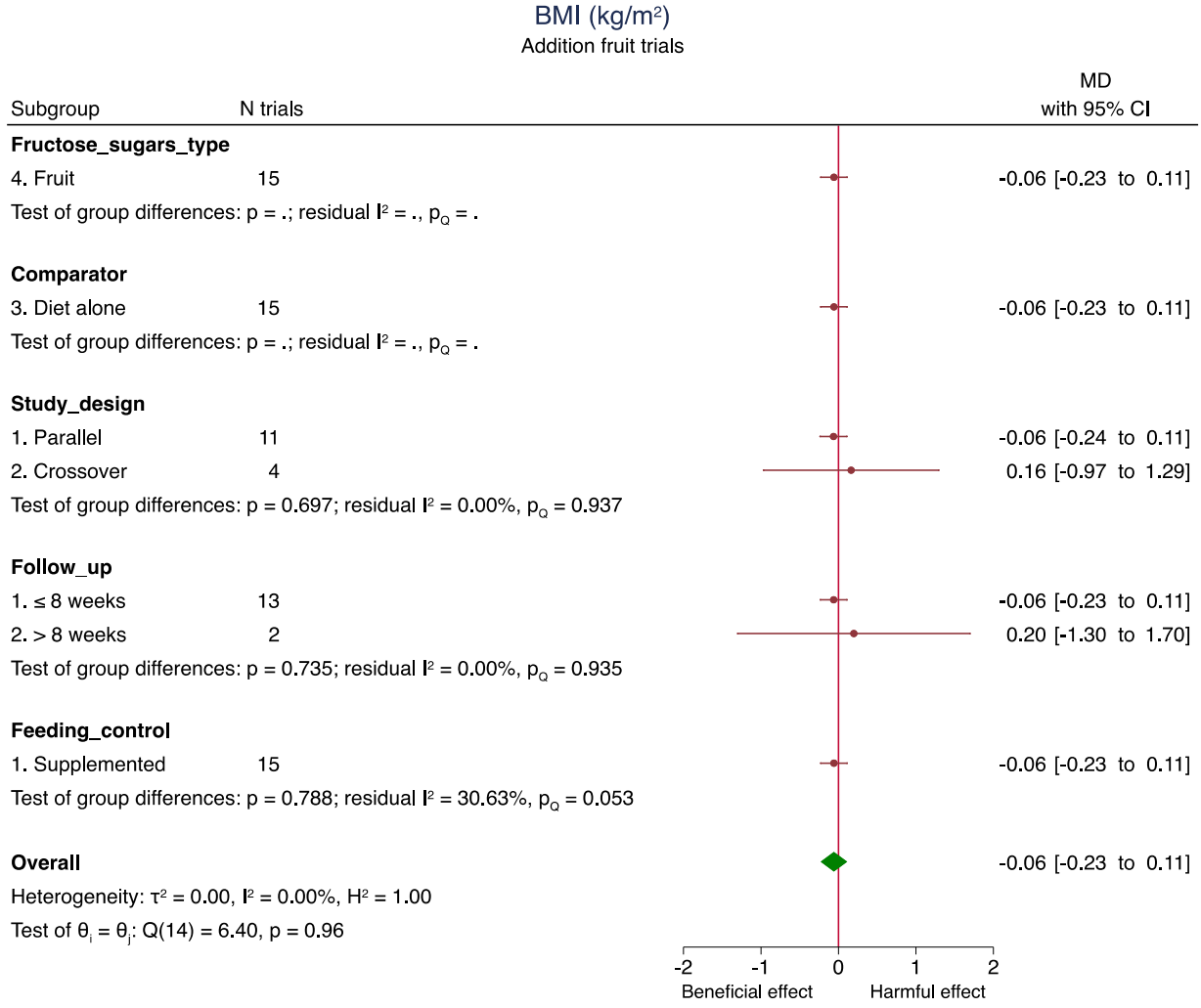
The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference.

Supplementary Figure 198 (1 of 3): Subgroup analyses for the effect of fruit on BMI (kg/m^2) in addition trials



The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference; OB=obese; OW=overweight.

Supplementary Figure 198 (2 of 3): Subgroup analyses for the effect of fruit on BMI (kg/m^2) in addition trials



Test of θ = 0: z = -1.839, p = 0.066

The green diamond represents the pooled estimate for the overall primary analysis of food sources of fructose-containing sugars. Within subgroup mean differences are the pooled effect estimates represented by a red circle. 95% confidence intervals are represented by the line through the circle. Data are expressed as mean differences with 95% confidence intervals using the generic inverse-variance method and random effects DerSimonian-Laird model. Inter-study heterogeneity was assessed using the Cochrane Q statistic and quantified using the I^2 statistic, with significance set at $p<0.100$ and $I^2 \geq 50\%$ considered to be evidence of substantial heterogeneity. $p<0.050$ indicates that the effect size differed between levels of the subgroup.
BMI=body mass index; CI=confidence interval; MD=mean difference.