Appendix G – Forest plots. Intervention studies on metabolic diseases

Figure G.1: Randomised controlled trials: effect of high vs. low sugar intake on measures of body fatness.

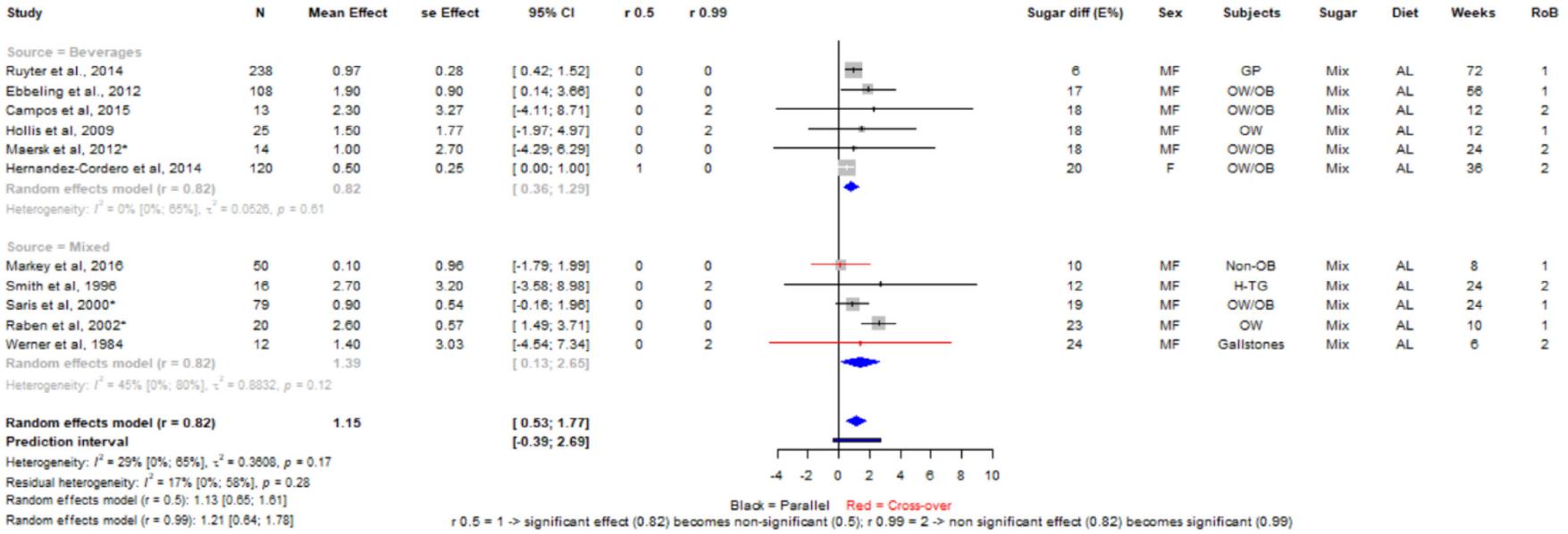


Figure G.1a: Effect of high vs low sugar intake on body weight (kg)

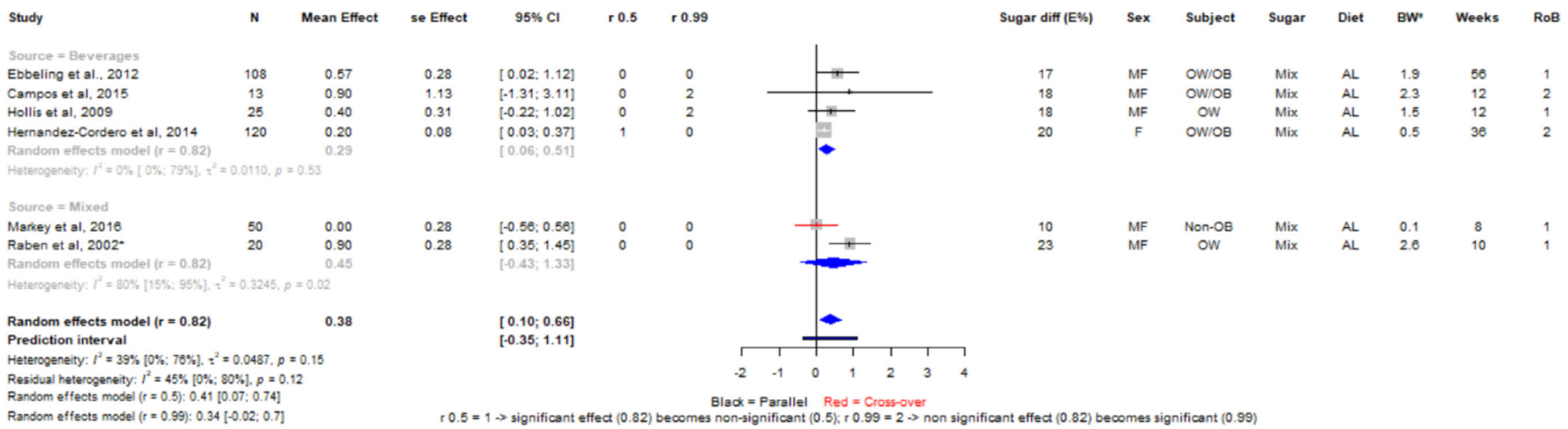


Figure G.1b: Effect of high vs low sugar intake on BMI (kg/m2)

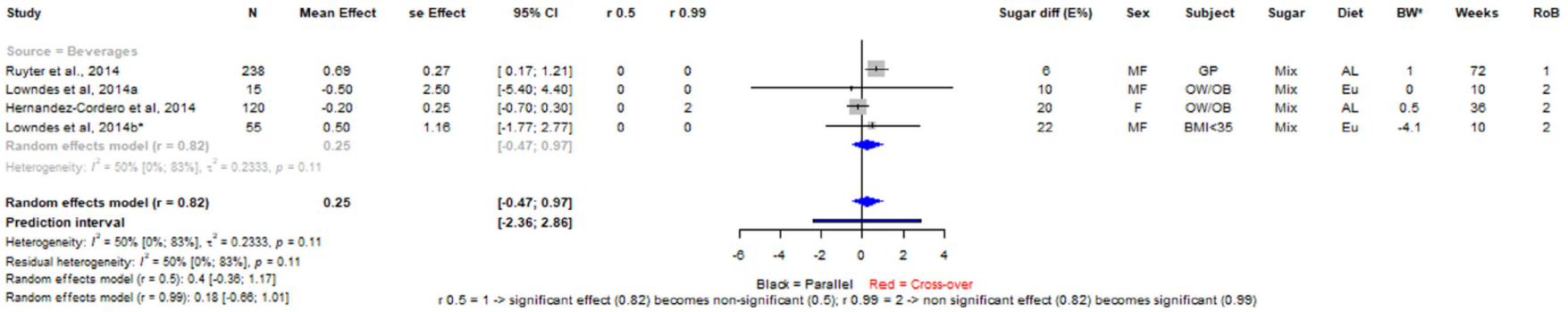
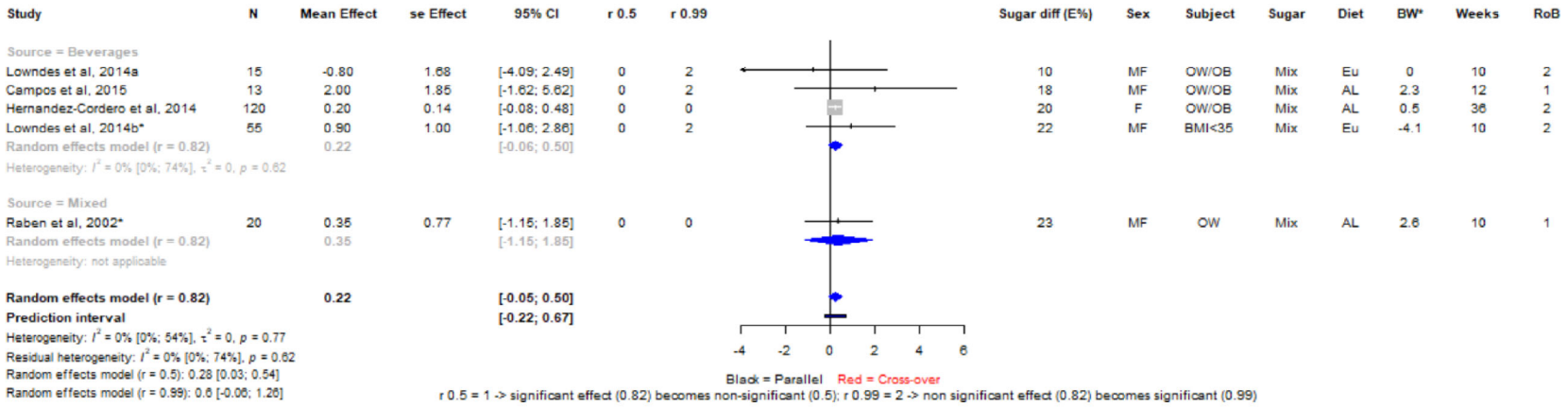


Figure G.1c: Effect of high vs low sugar intake on waist circumference (cm)



Footnote to Figure G1. * differences in BW change between high and low sugar intake, AL = add libitum; BMI = body mass index; BW = body weight; CI = confidence interval; E% = energy percentage; Eu = eucaloric; F = females; GP = general population; H-TG = hyper-triglyceridemic; MF = males and females; Mix under Sugar = sugar mixtures; Mixed under Source = foods and beverages; N = average sample size per arm; OB = obese; OW = overweight; RoB = risk of bias (tier); r05 and r099 = change in the significance of the effect (0 = no change; 1 = change) when assuming a correlation coefficient of respectively 0.50 and 0.99 (instead of 0.82) when computing the SE of the effect measurement. Study duration is expressed in weeks.

Figure G.1d: Effect of high vs low sugar intake on body fat (%)

Figure G.2: Randomised controlled trials: effect of high vs. low sugar intake on measures of ectopic fat deposition

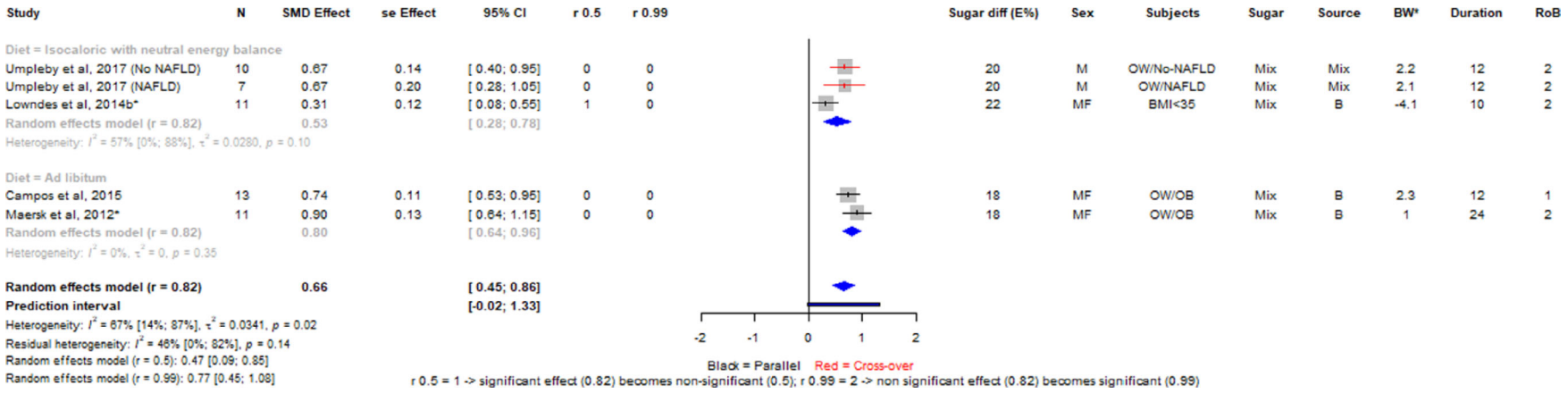
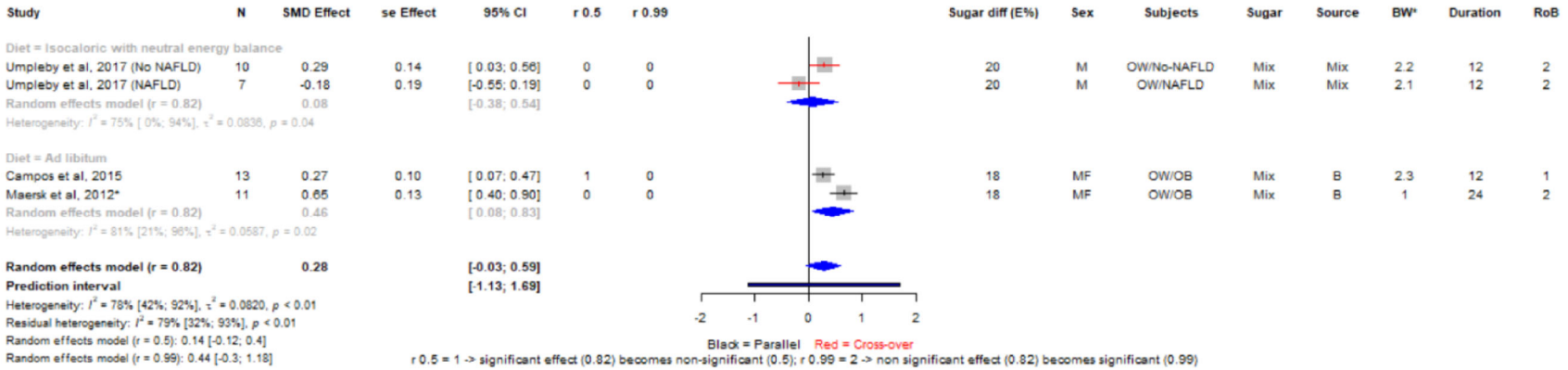


Figure G.2a: Effect of high vs low sugar intake on liver fat (standardized mean difference)



Footnote to Figure G2. * differences in BW change between high and low sugar intake; B = beverages; BMI = body mass index; BW = body weight; CI = confidence interval; E% = energy percentage; M = males; MF = males and females; Mix under Sugar = sugar mixtures; Mix under Source = foods and beverages; N = average sample size per arm; NAFLD = non-alcoholic fatty liver disease; OB = obese; OW = overweight; RoB = risk of bias (tier); r05 and r099 = change in the significance of the effect (0 = no change; 1 = change) when assuming a correlation coefficient of respectively 0.50 and 0.99 (instead of 0.82) when computing the SE of the effect measurement; SMD = standardized mean difference. Study duration is expressed in weeks.

Figure G.2b: Effect of high vs low sugar intake on visceral adipose tissue (standardized mean difference)

Figure G.3: Randomised controlled trials: effect of fructose vs. glucose on measures of ectopic fat deposition

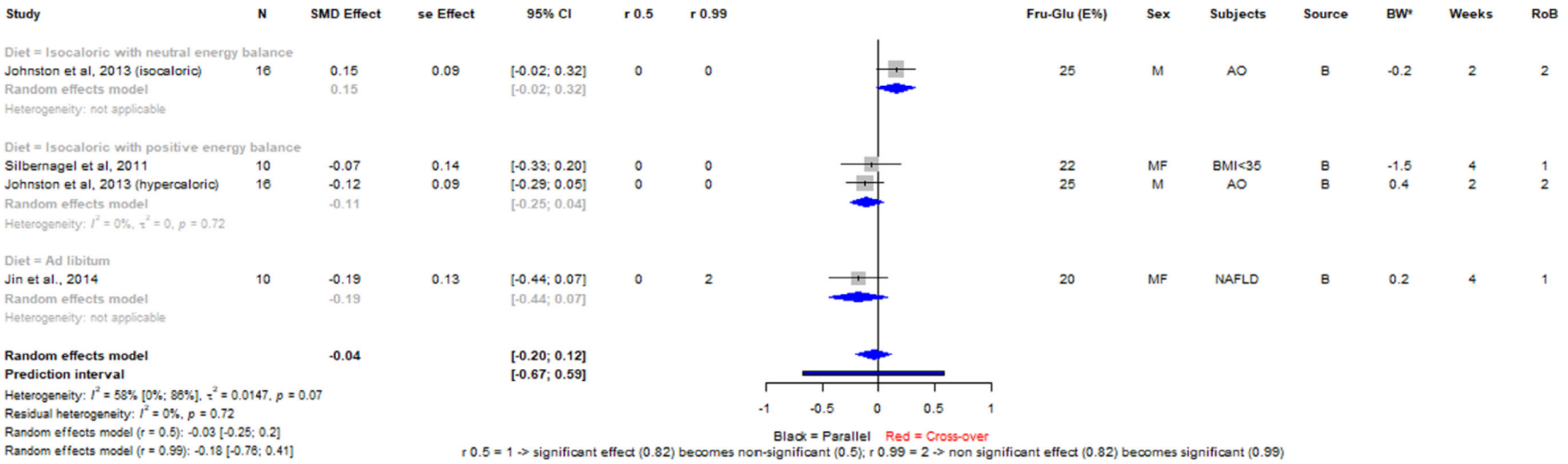
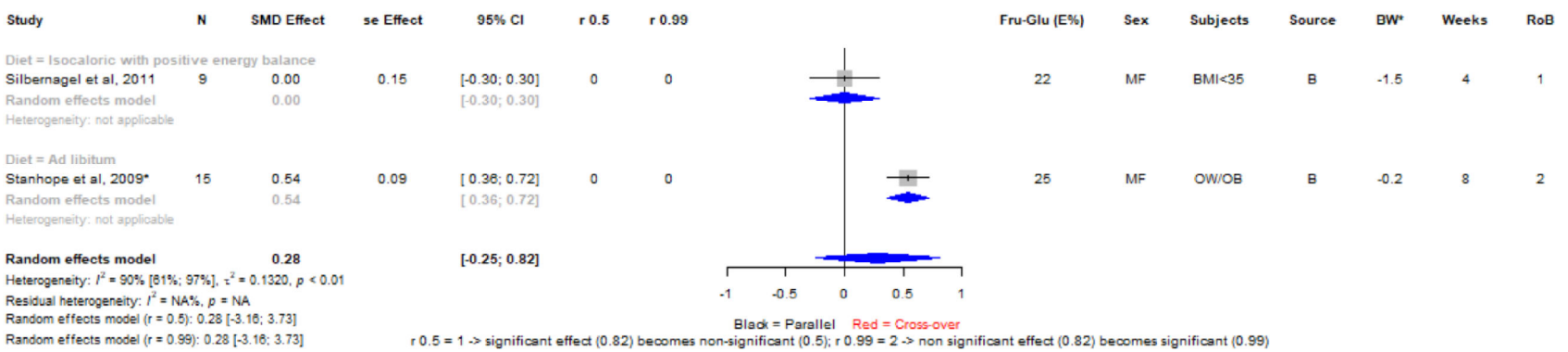


Figure G.3a: Effect of fructose vs glucose on liver fat (standardized mean difference)



Footnote to Figure G3. * differences in BW change between high and low sugar intake; AO = abdominal obesity; B = beverages; BMI = body mass index; BW = body weight; CI = confidence interval; E% = energy percentage; Fru = fructose; Glu = glucose; M = males; MF = males and females; N = average sample size per arm; NAFLD = non-alcoholic fatty liver disease; OB = obese; OW = overweight; r05 and r099 = change in the significance of the effect (0 = no change; 1 = change) when assuming a correlation coefficient of respectively 0.50 and 0.99 (instead of 0.82) when computing the SE of the effect measurement; RoB = risk of bias (tier); SMD = standardized mean difference. Study duration is expressed in weeks.

Figure G.3b: Effect of fructose vs glucose on visceral adipose tissue (standardized mean difference)

Figure G.4: Randomised controlled trials: effect of high vs. low sugar intake on measures of glucose tolerance

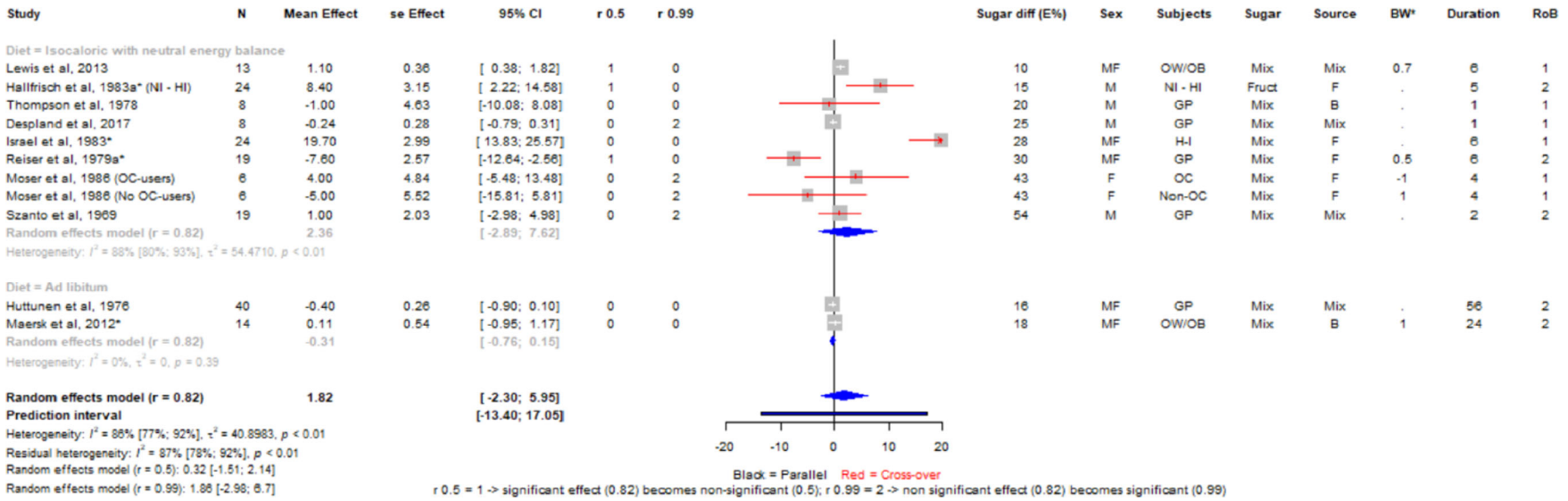


Figure G.4a: Effect of high vs low sugar intake on blood glucose at 120' during an OGTT (mg/dL)

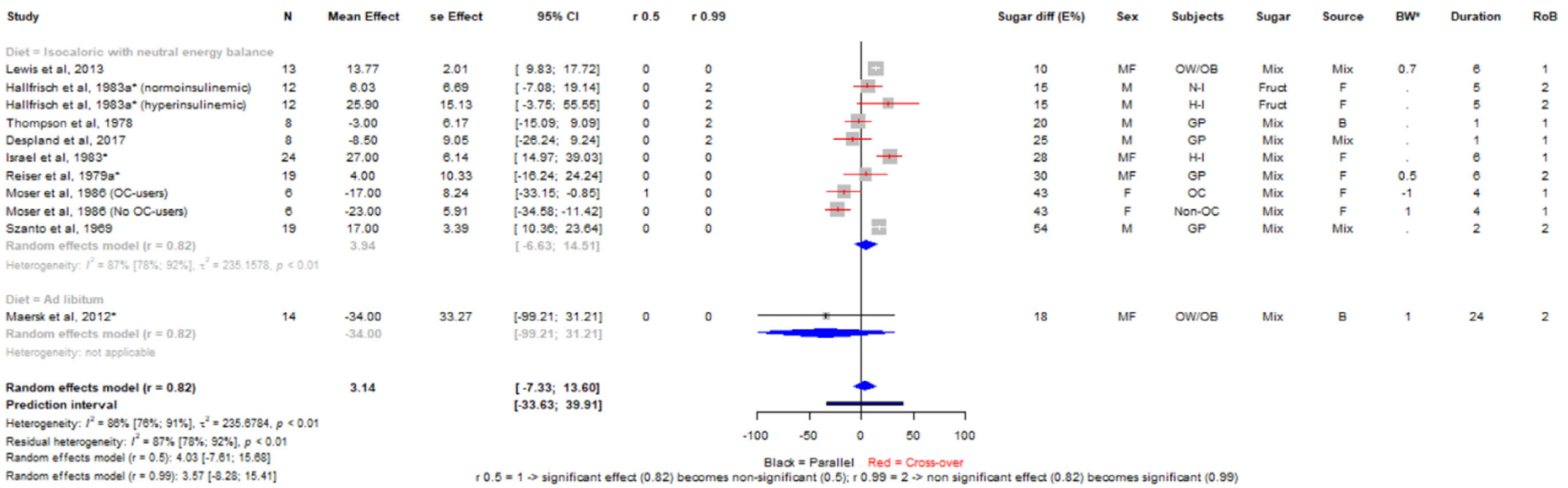


Figure G.4b: Effect of high vs low sugar intake on insulin at 120' during an OGTT (pmol/L)

Figure G.4c: Effect of high vs low sugar intake on fasting glucose (mg/dL)

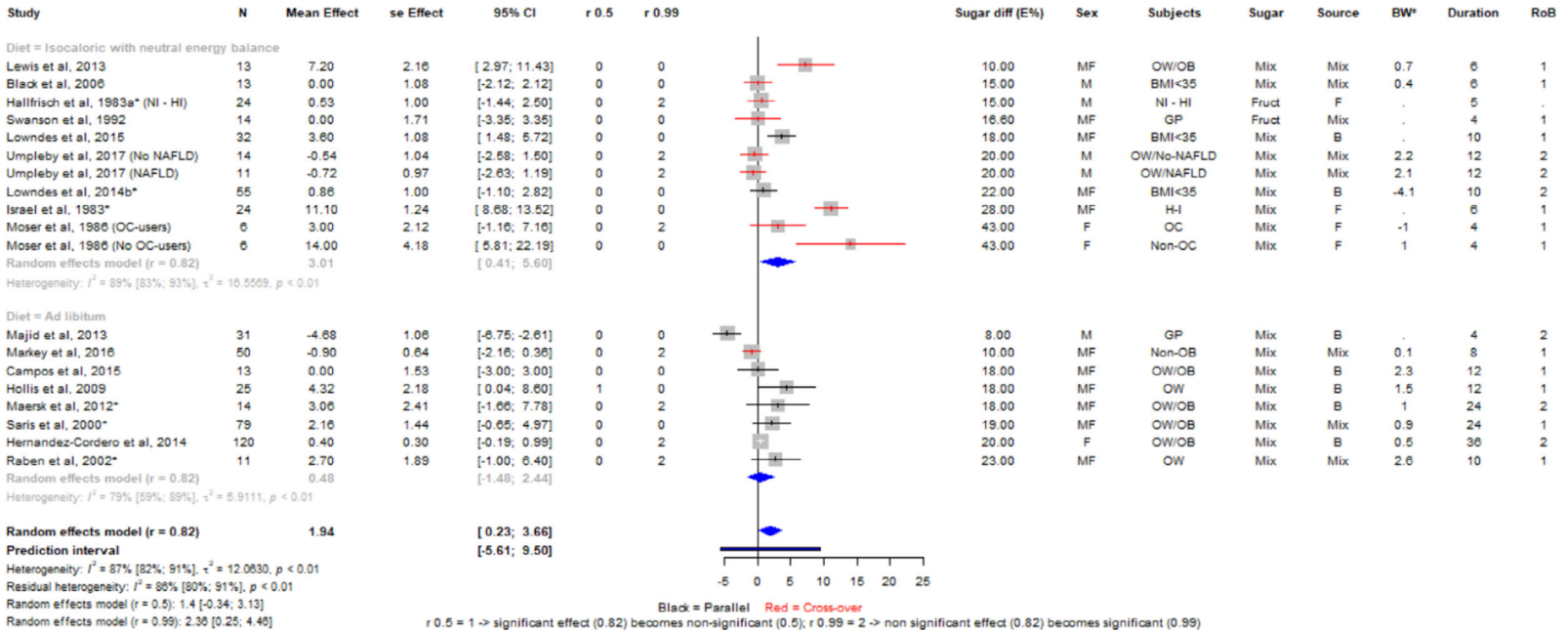


Figure G.4c1: Stratified by type of diet

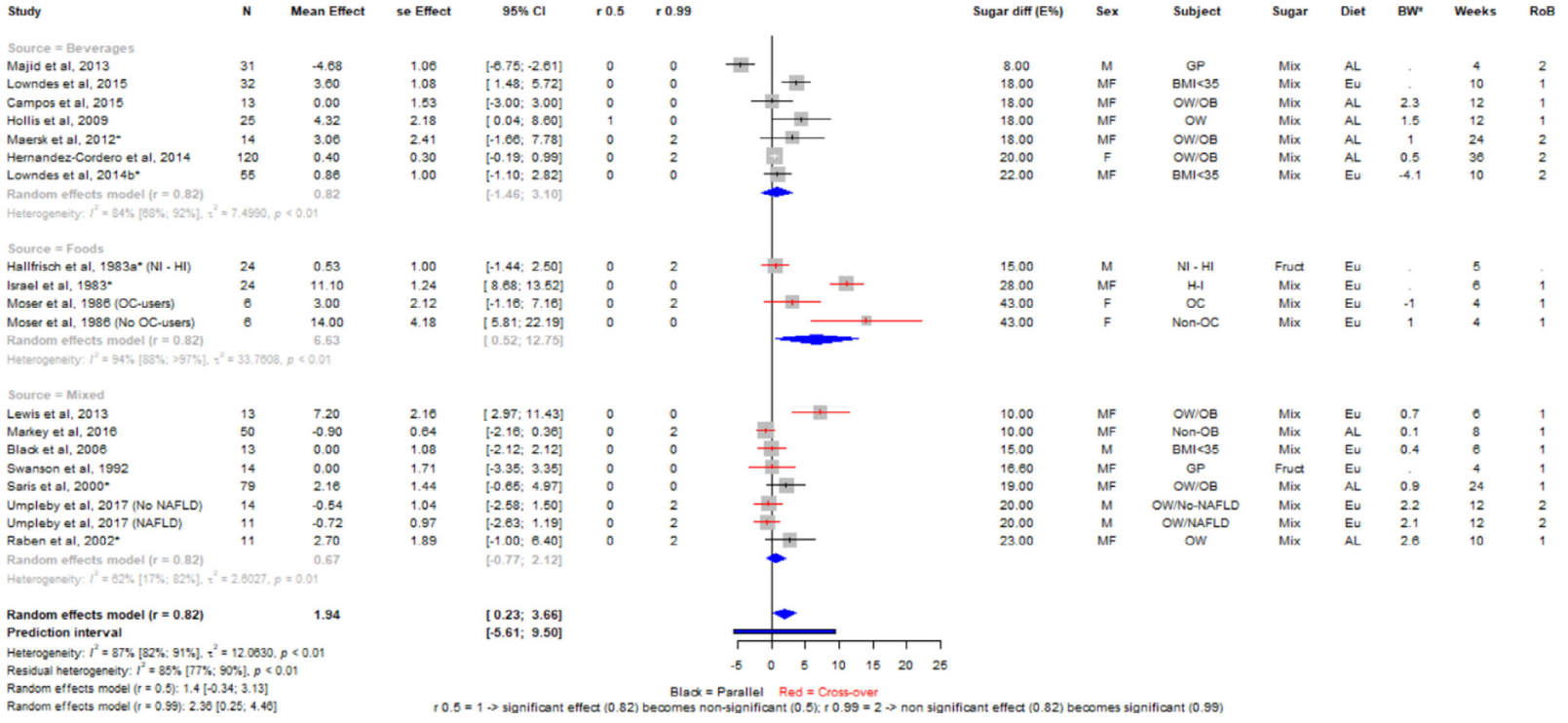
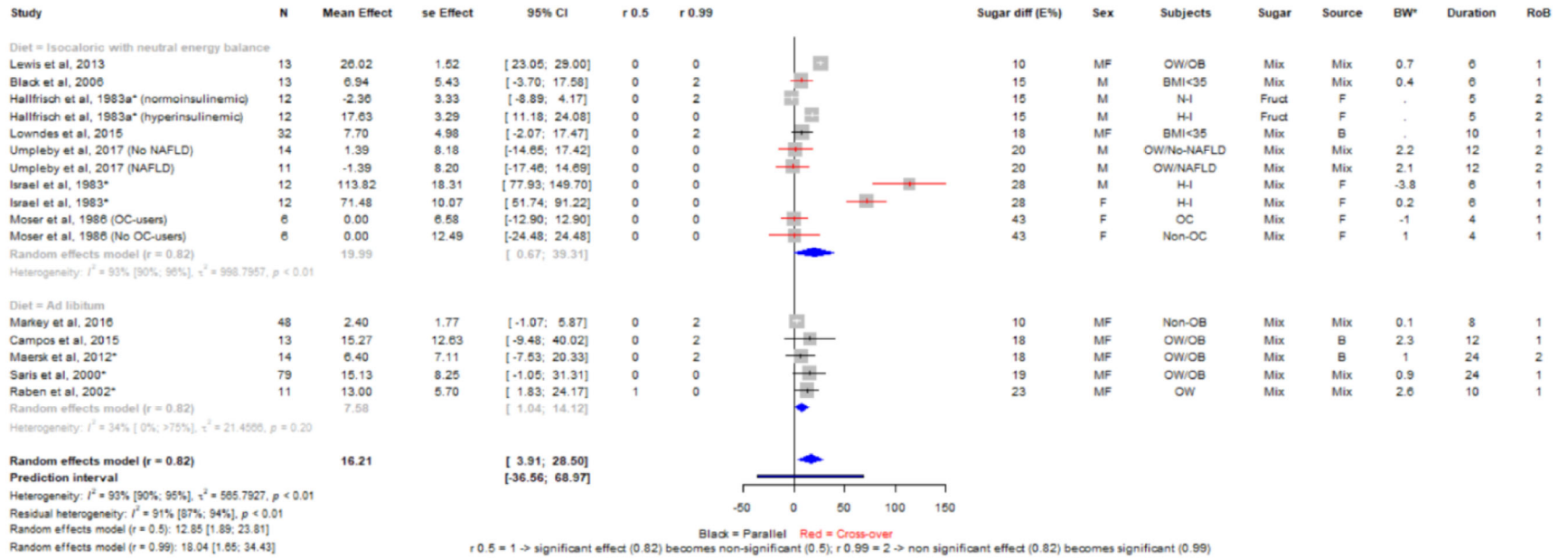


Figure G.4c2: Stratified by sugars source



Footnote to Figure G4. * differences in BW change between high and low sugar intake; B = beverages; BMI = body mass index; BW = body weight; CI = confidence interval; E% = energy percentage; F under Sex = females; F under Source = food; Fruct = fructose; GP = general population; H-I = hyperinsulinemia; M = males; MF = males and females; Mix under Sugar = sugar mixtures; Mix under Source = foods and beverages; N = average sample size per arm; N-I = normo-insulinemia; NAFLD = non-alcoholic fatty liver disease; OB = obese; OC = oral contraceptives; OW = overweight; r05 and r099 = change in the significance of the effect (0 = no change; 1 = change) when assuming a correlation coefficient of respectively 0.50 and 0.99 (instead of 0.82) when computing the SE of the effect measurement; RoB = risk of bias (tier). Study duration is expressed in weeks.

Figure G.4d: Effect of high vs low sugar intake on fasting insulin (pmol/L)

Figure G.5: Randomised controlled trials: effect of fructose vs. glucose on measures of glucose tolerance

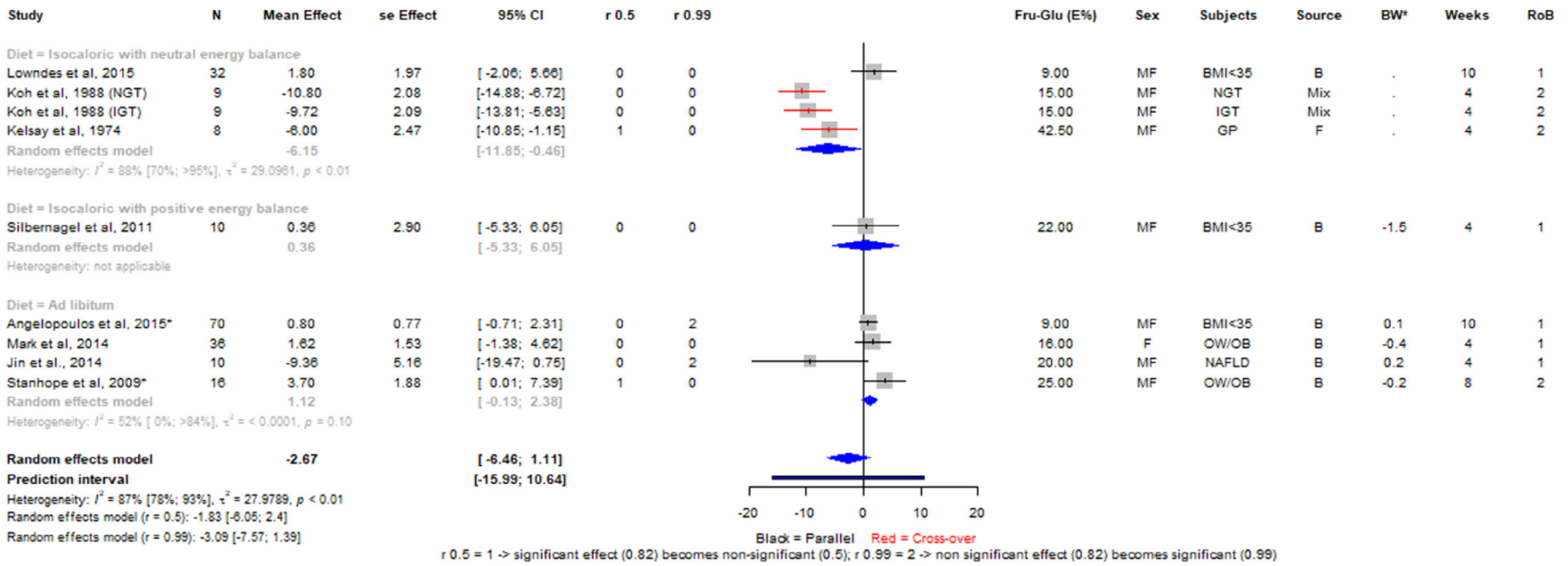
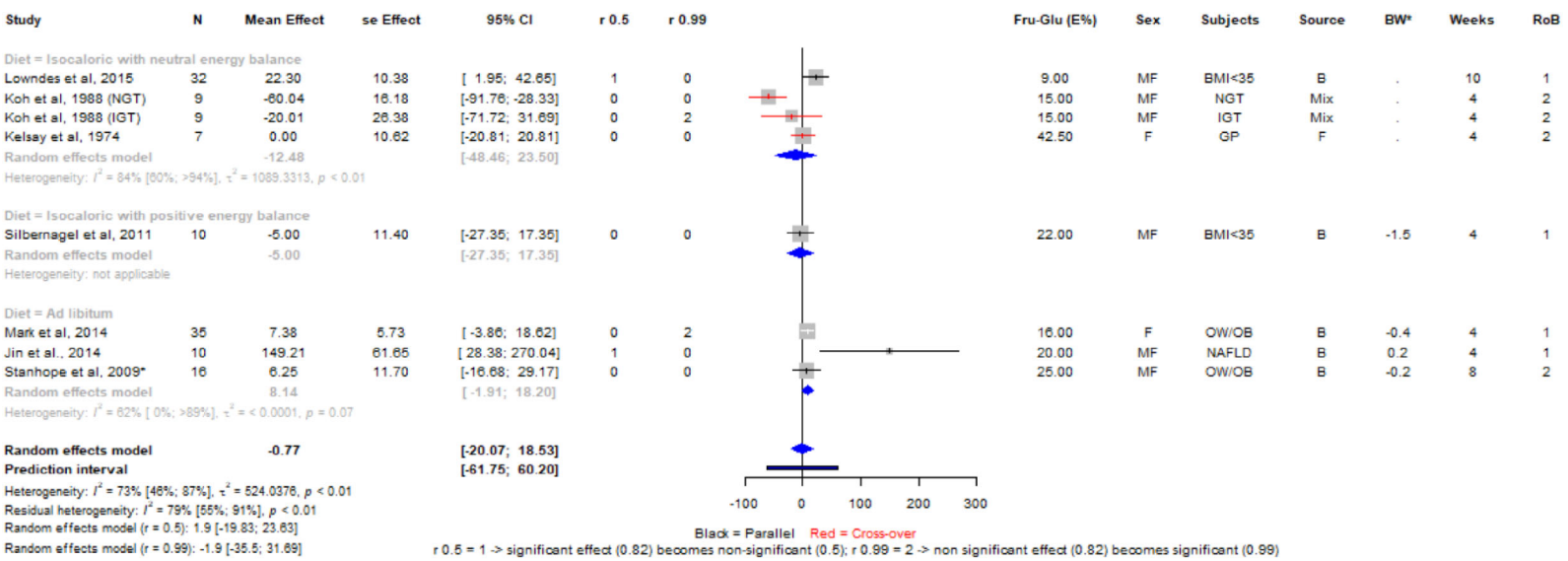


Figure G.5a: Effect of fructose vs glucose on fasting glucose (mg/dL)



Footnote to Figure G5. * differences in BW change between high and low sugar intake; B = beverages; BMI = body mass index; BW = body weight; CI = confidence interval; E% = energy percentage; F under Sex = females; F under Source = food; Fru = fructose; Glu = glucose; GP = general practitioner; IGT = impaired glucose tolerance; MF = males and females; Mix = foods and beverages; N = average sample size per arm; NAFLD = non-alcoholic fatty liver disease; NGT = normal glucose concentration; OB = obese; OW = overweight; r05 and r099 = change in the significance of the effect (0 = no change; 1 = change) when assuming a correlation coefficient of respectively 0.50 and 0.99 (instead of 0.82) when computing the SE of the effect measurement; RoB = risk of bias (tier). Study duration is expressed in weeks.

Figure G.5b: Effect of fructose vs glucose on fasting insulin (pmol/L)

Figure G.6: Randomised controlled trials: effect of high vs. low sugar intake on blood lipids

Figure G.6a: Effect of high vs low sugar intake on total cholesterol (mg/dL)

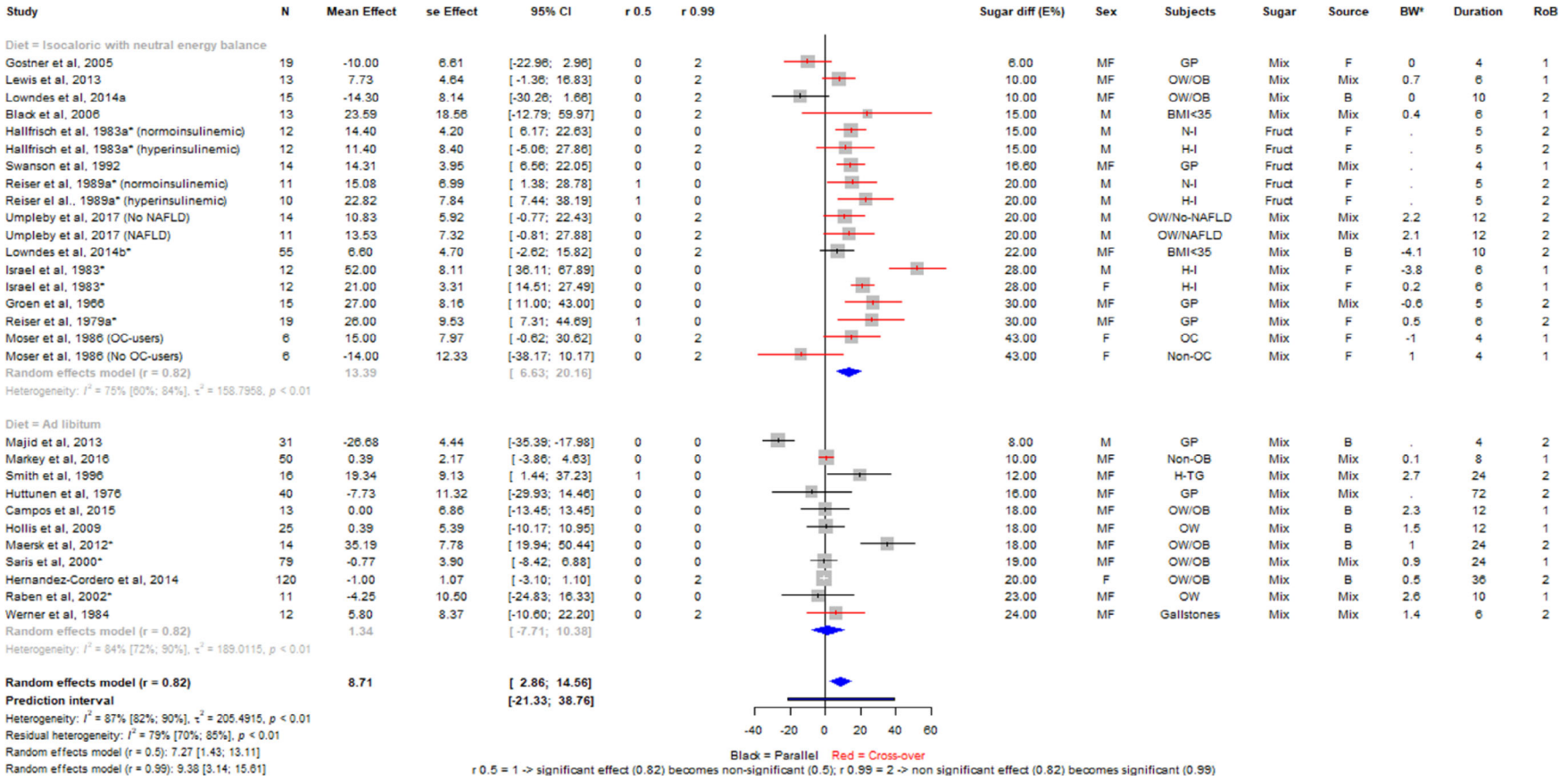


Figure G.6a1: Stratified by type of diet

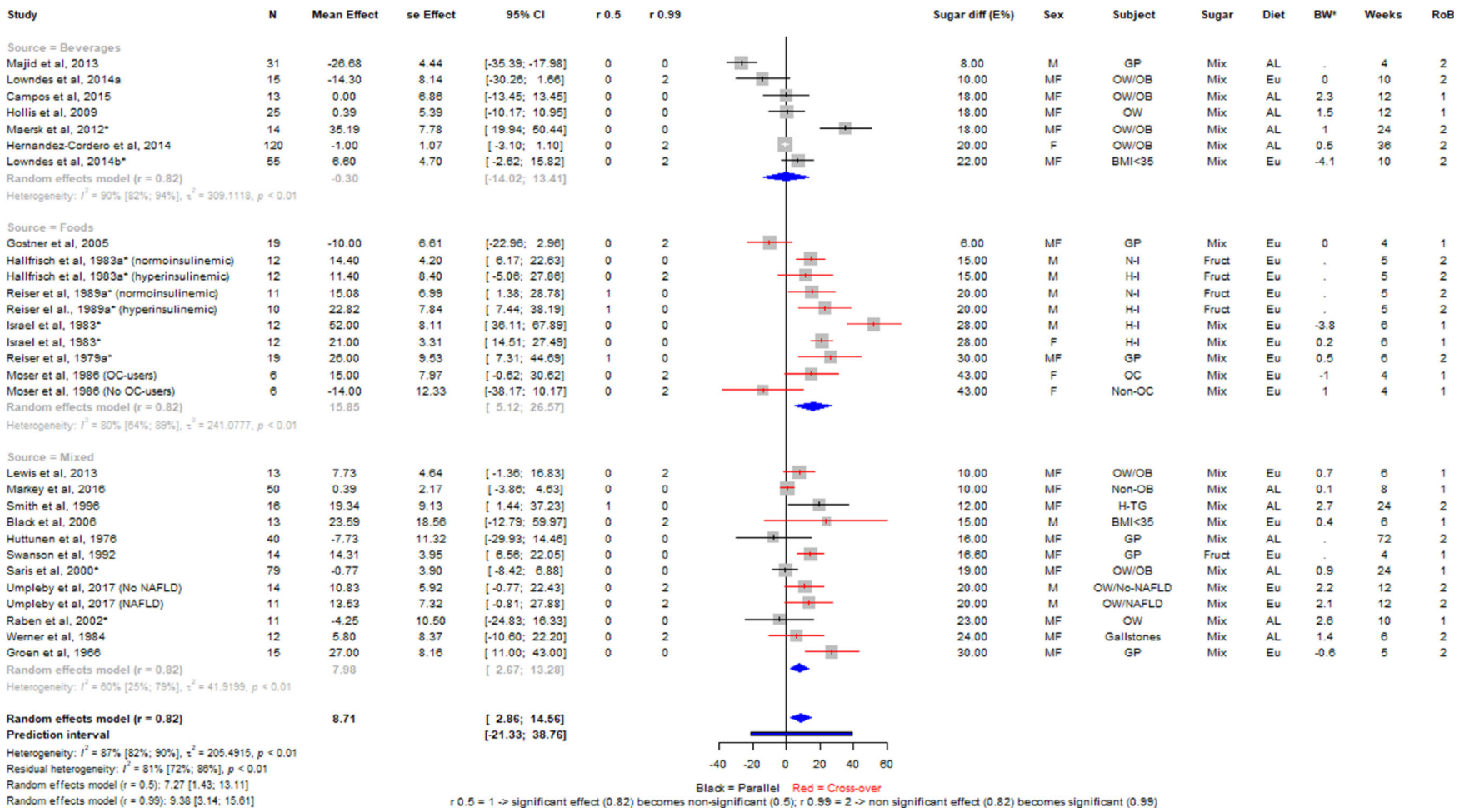


Figure G.6a2: Stratified by sugars source

Figure G.6b: Effect of high vs low sugar intake on LDL-cholesterol (mg/dL)

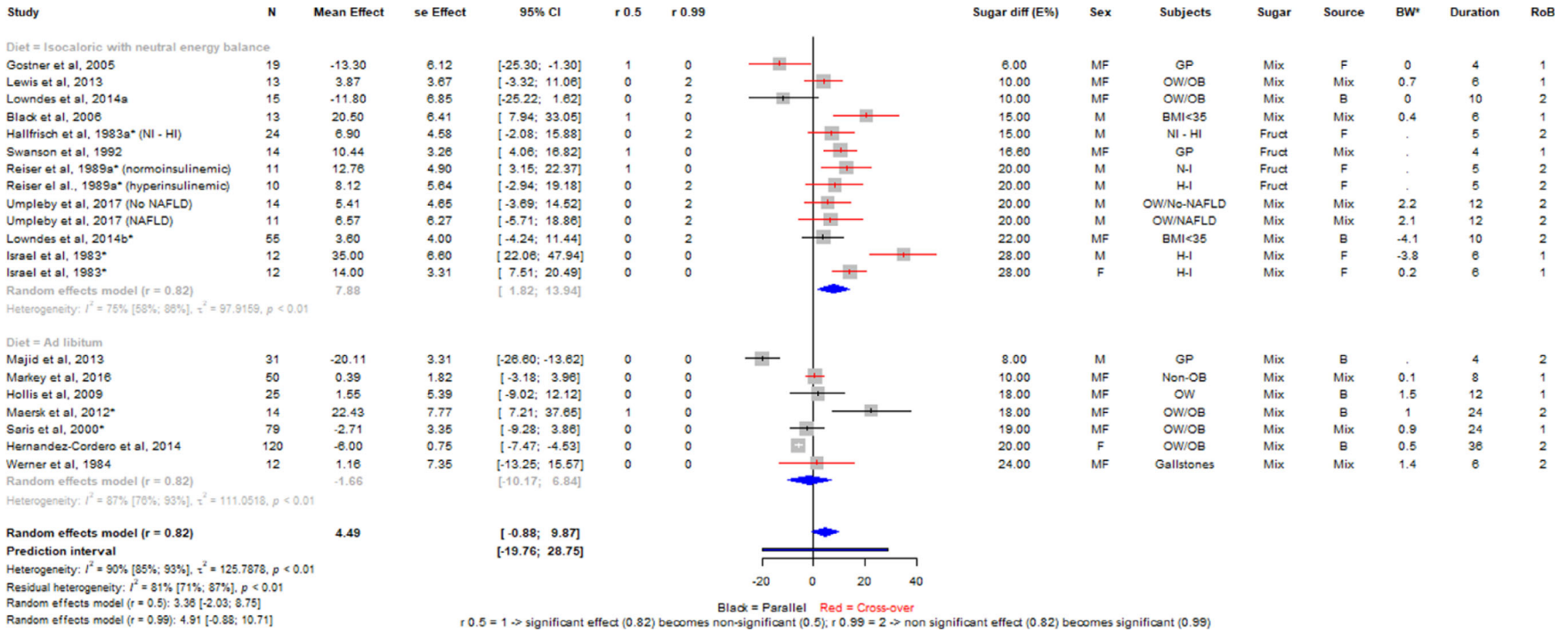


Figure G.6b1: Stratified by type of diet

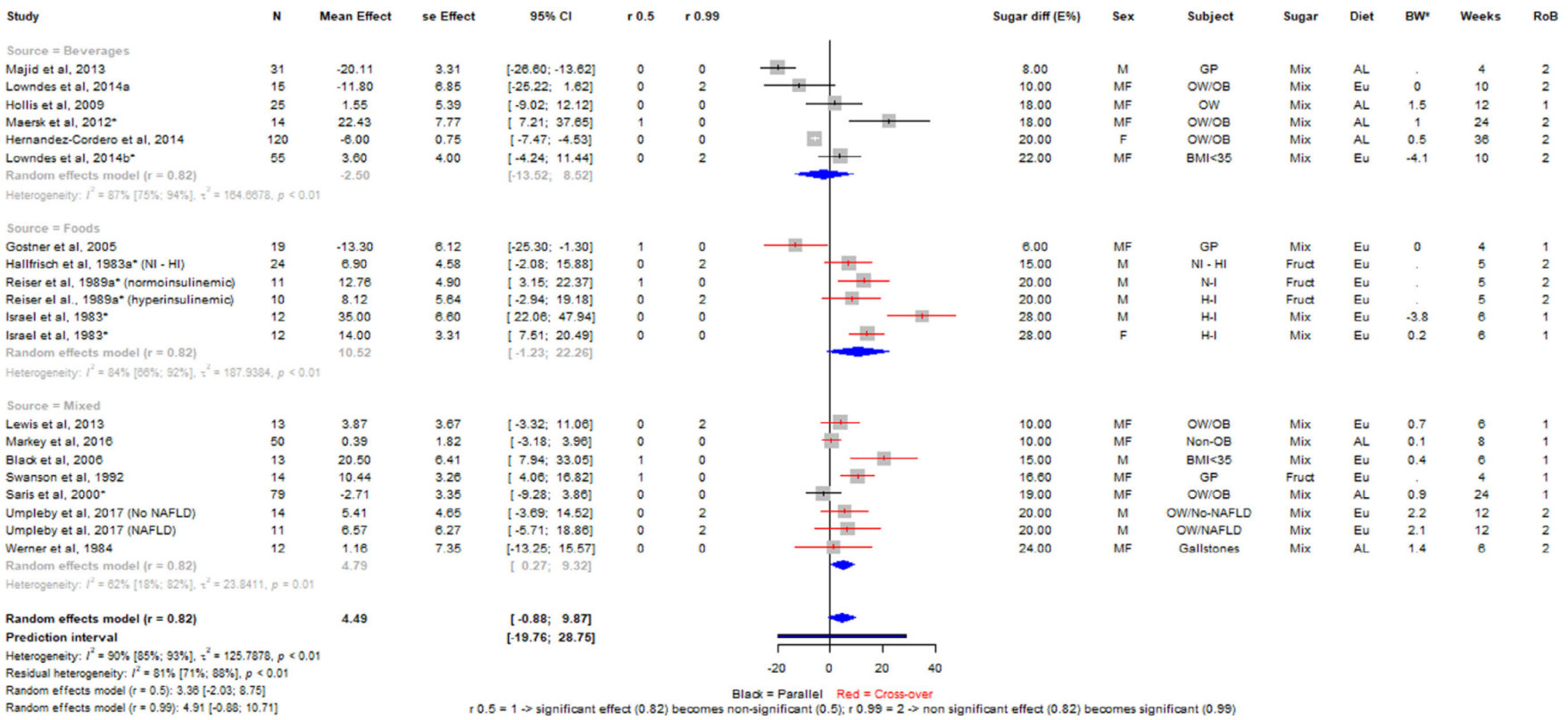


Figure G.6b2: Stratified by sugars source

Figure G.6c: Effect of high vs low sugar intake on HDL-cholesterol (mg/dL)

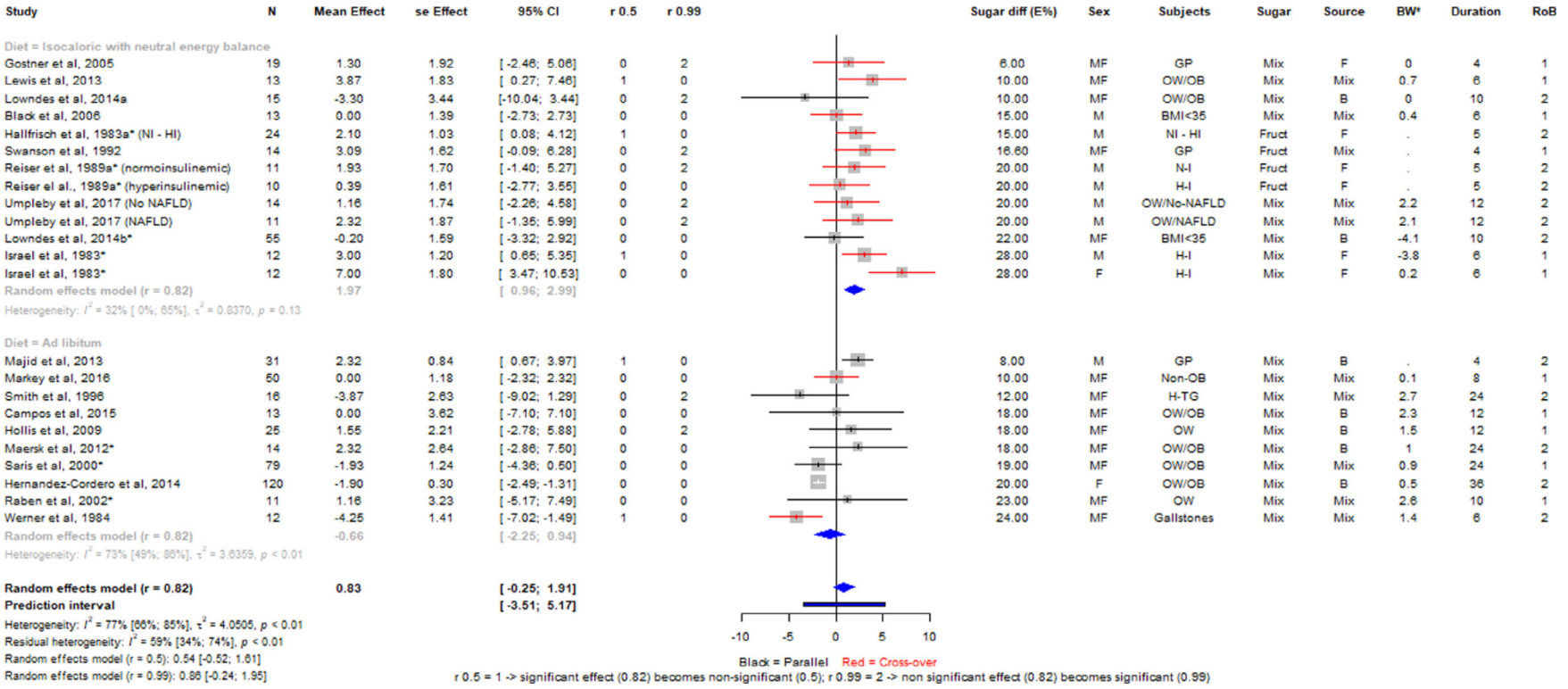


Figure G.6c1: Stratified by type of diet