

## Obesity

Identification, assessment and management of  
overweight and obesity in children, young people and  
adults

*Update of CG43*

*Appendix I*

*November 2014*

*Commissioned by the National Institute for  
Health and Care Excellence*



**Disclaimer**

Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and/or their guardian or carer.

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**Funding**

National Institute for Health and Care Excellence

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# Appendices

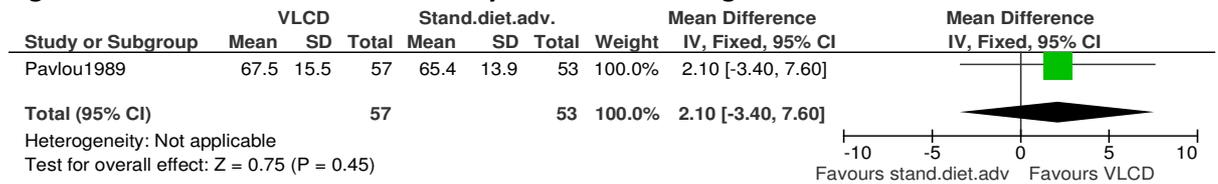
## Appendix I: Forest plots

### I.1 Very-low-calorie diets (VLCD)

#### I.1.1 Effectiveness

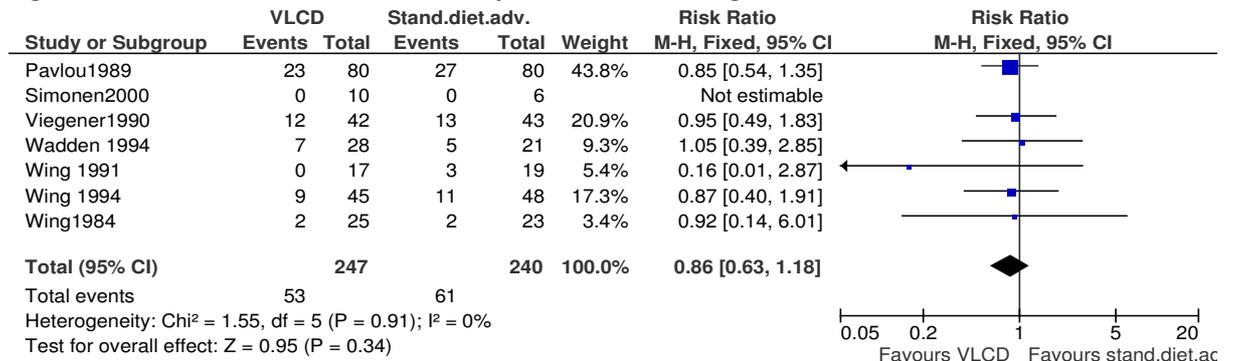
##### I.1.1.1 Percentage 'ideal' weight loss

**Figure 1: VLCD versus standard dietary advice in overweight and obese adults**



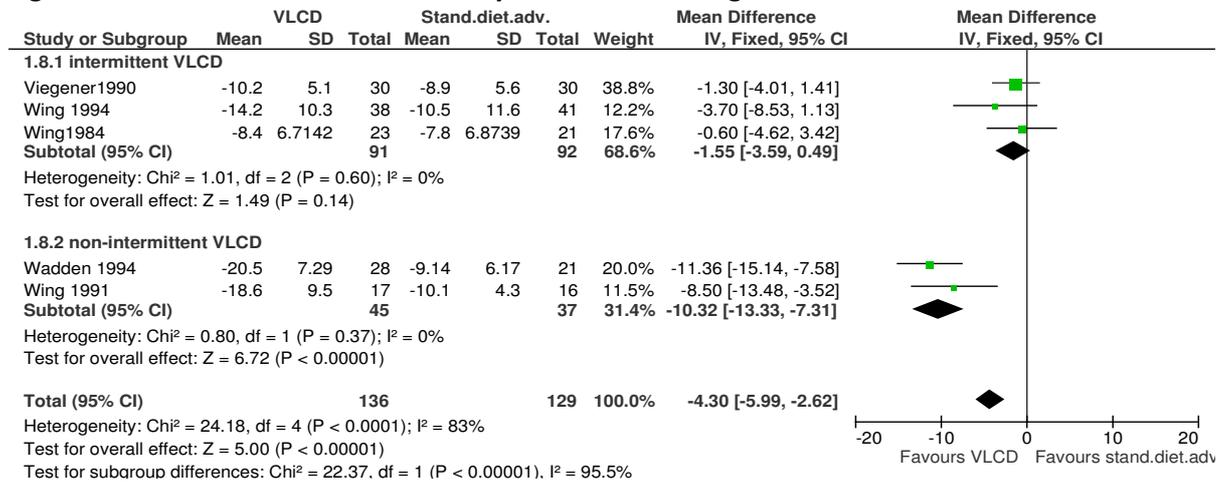
##### I.1.1.2 Withdrawals (start of study to end of weight maintenance period)

**Figure 2: VLCD versus standard dietary advice in overweight and obese adults**



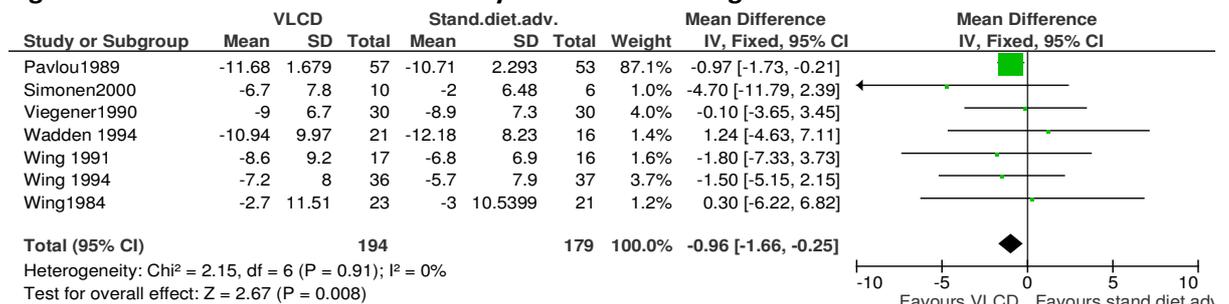
**1.1.1.3 Weight in kg, change (start of study to end of VLCD period) subgroup analysis: intermittent VLCD versus non-intermittent VLCD**

**Figure 3: VLCD versus standard dietary advice in overweight and obese adults**



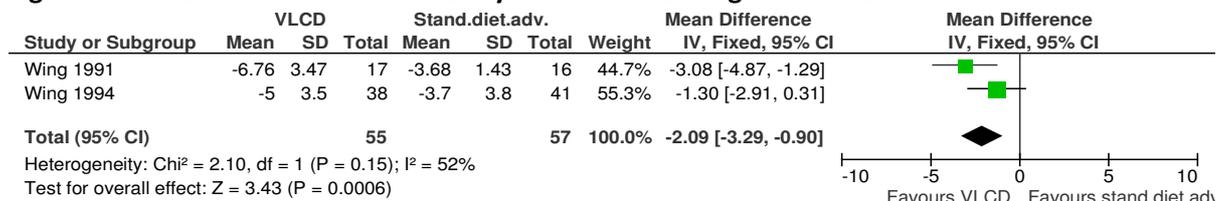
**1.1.1.4 Weight in kg, change (start of study to end of weight maintenance period)**

**Figure 4: VLCD versus standard dietary advice in overweight and obese**



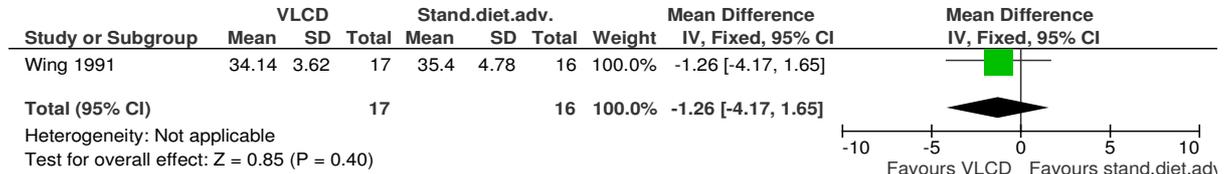
**1.1.1.5 Weight in BMI, change (start of study to end of VLCD period)**

**Figure 5: VLCD versus standard dietary advice in overweight and obese**



I.1.1.6 Weight in BMI, final (start of study to end of weight maintenance period)

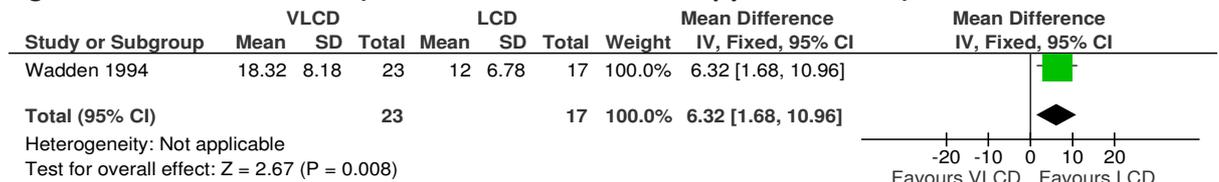
Figure 6: VLCD versus standard dietary advice in overweight and obese



I.1.2 Safety

I.1.2.1 Binge eating scale

Figure 7: VLCD versus LCD (both with behavioural therapy and exercise) in obese adults



I.1.2.2 Depression score (Beck's Depression Inventory) – figures 8 and 9

Figure 8: VLCD versus LCD (both with behavioural therapy, with or without exercise) in obese adults at 4 to 5 months

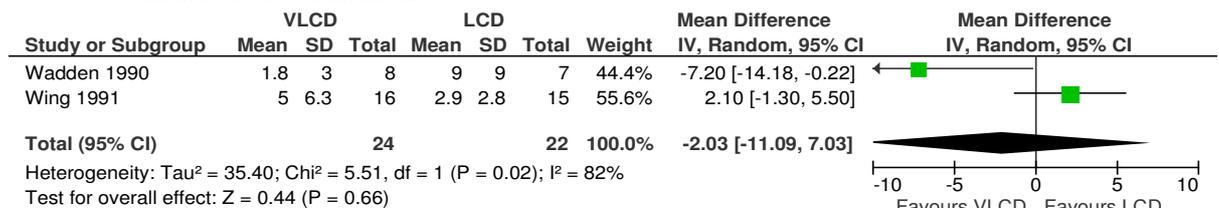
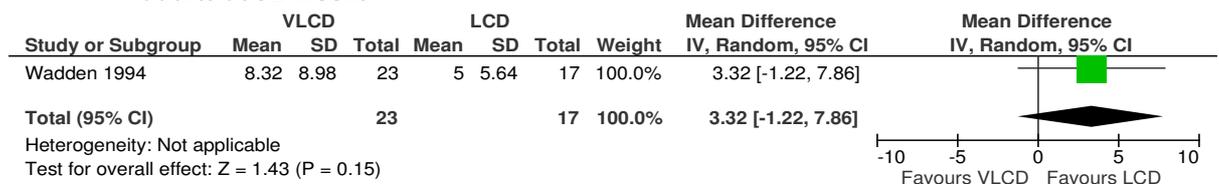
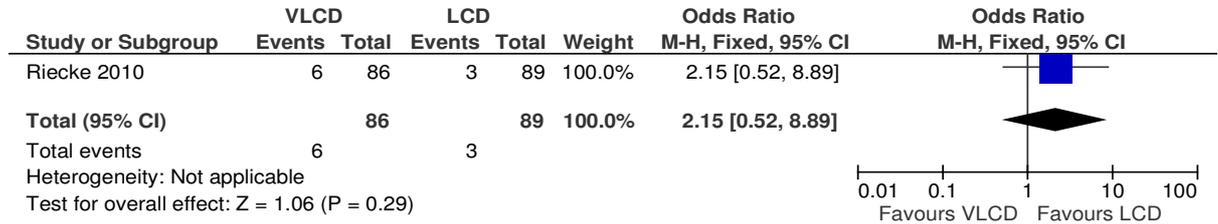


Figure 9: VLCD versus LCD (both with behavioural therapy, with or without exercise) in obese adults at 52 weeks



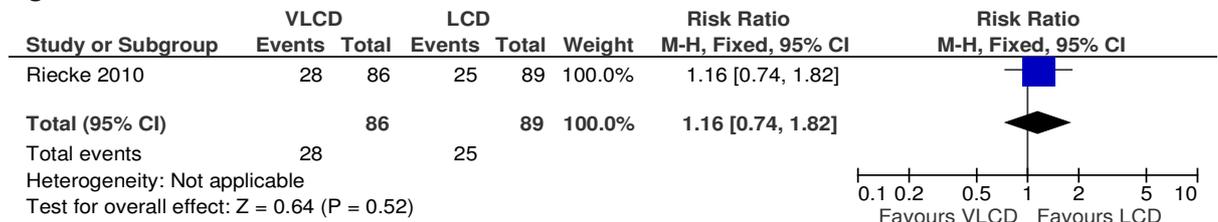
**I.1.2.3 Depressive tendencies (dichotomous)**

**Figure 10: VLCD versus LCD in obese adults with knee osteoarthritis**



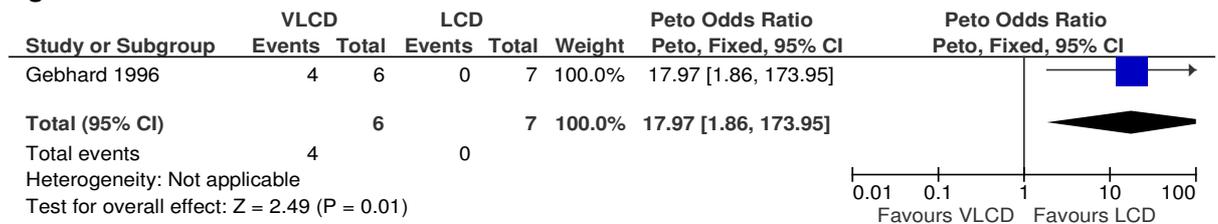
**I.1.2.4 Constipation**

**Figure 11: VLCD versus LCD in obese adults with knee osteoarthritis**



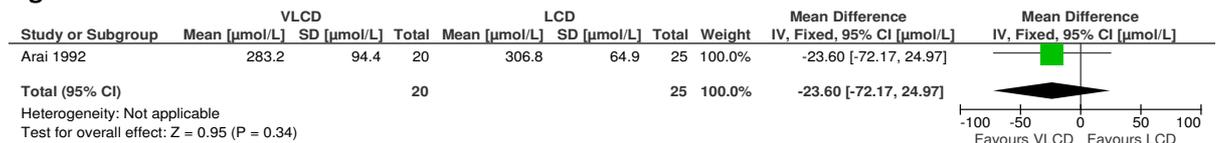
**I.1.2.5 Gall stones**

**Figure 12: VLCD versus LCD in obese adults**



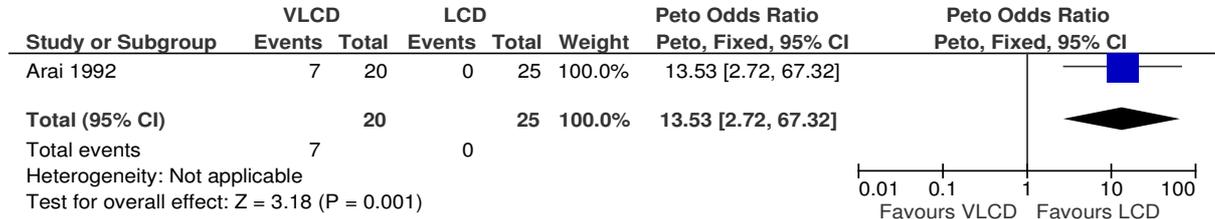
**I.1.2.6 Serum uric acid levels**

**Figure 13: VLCD versus LCD in obese adults**



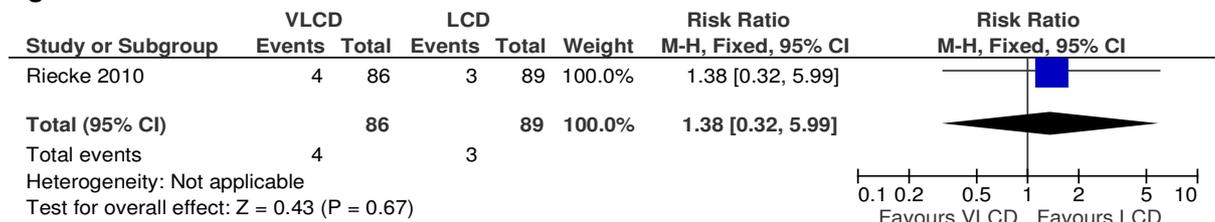
**I.1.2.7 'Marked' serum uric acid levels**

**Figure 14: VLCD versus LCD in obese adults**



**I.1.2.8 Diarrhoea**

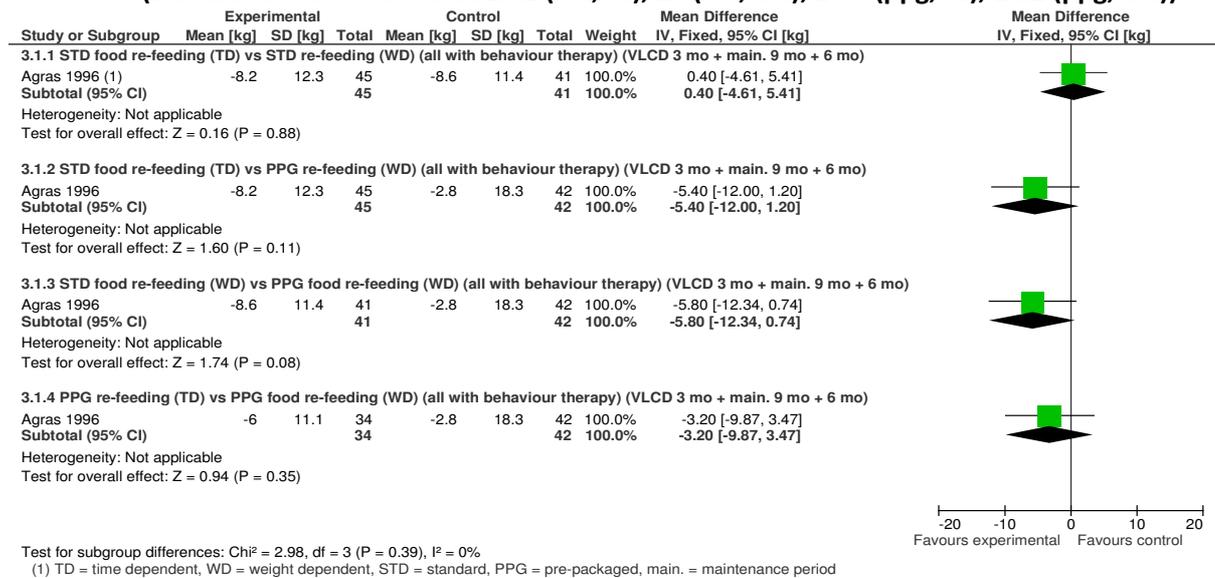
**Figure 15: VLCD versus LCD in obese adults with knee osteoarthritis**



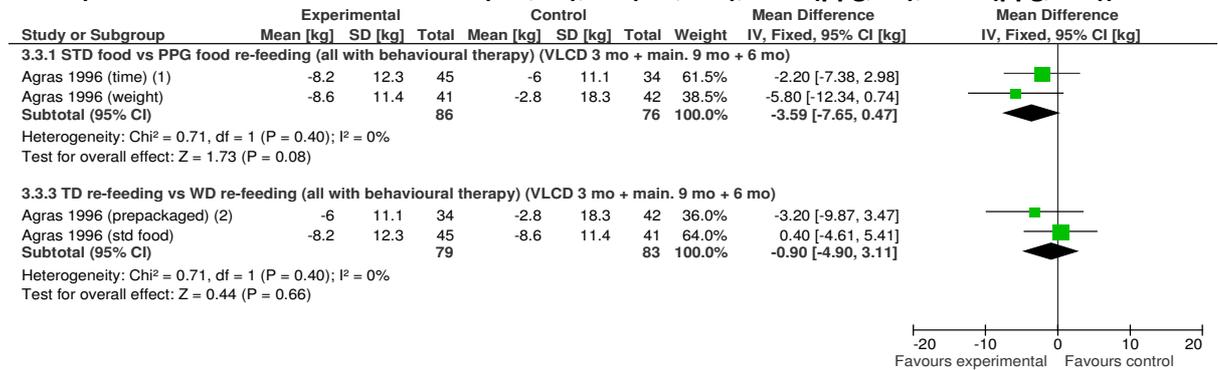
**I.1.3 Maintenance**

**I.1.3.1 Weight in kg (mean change) – behaviour therapy and re-feeding**

**Figure 16: Behaviour therapy and different re-feeding techniques in obese patients after a VLCD (baseline at randomisation: 15.2 (std, td), 15 (std, wd), 14.9 (ppg, td), 14.2 (ppg, wd))**



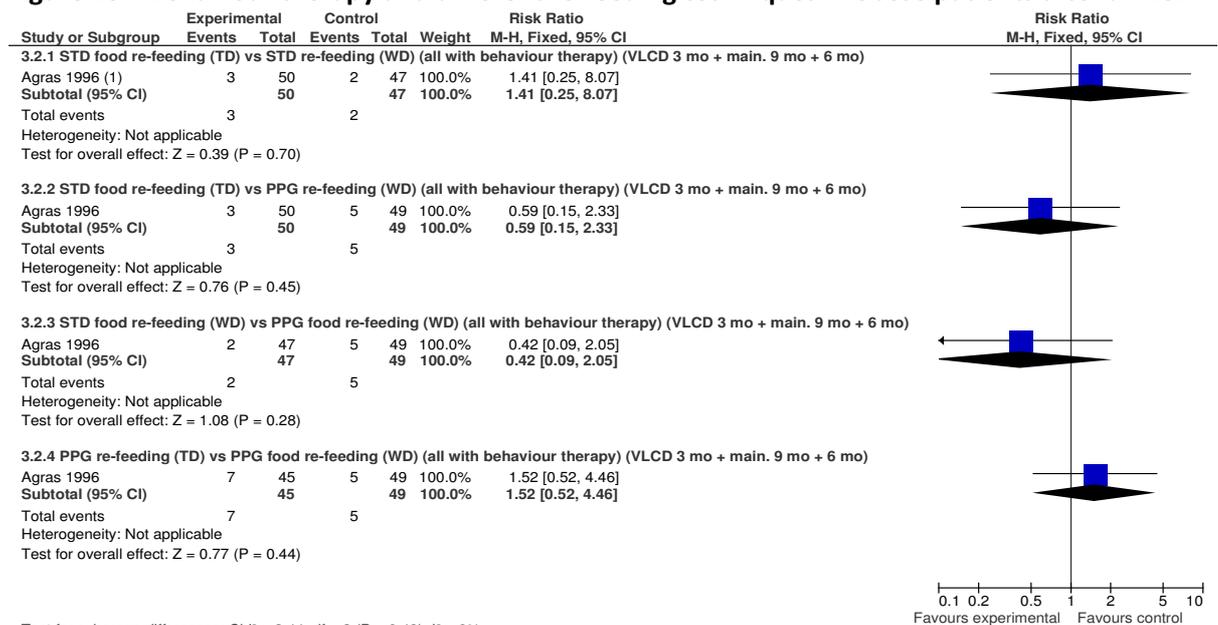
**Figure 17: Behaviour therapy and different re-feeding techniques in obese patients after a VLCD (baseline at randomisation: 15.2 (std, td), 15 (std, wd), 14.9 (ppg, td), 14.2 (ppg, wd))**



(1) STD = standard, PPG = pre-packaged, main. = maintenance period  
(2) TD = time-dependent, WD = weight dependent

### I.1.3.3 Withdrawals – behaviour therapy and re-feeding

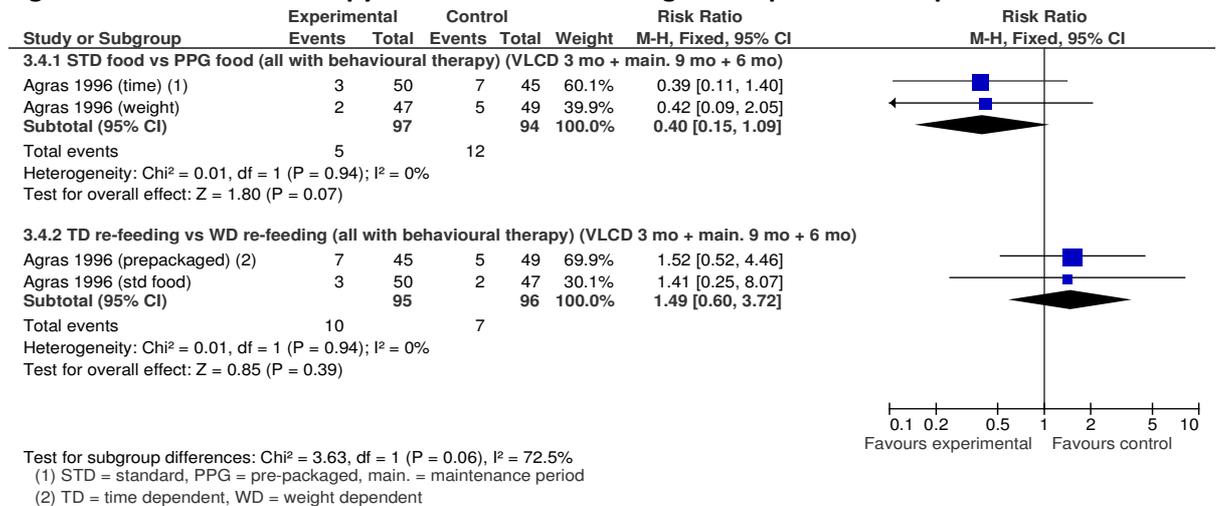
**Figure 18: Behaviour therapy and different re-feeding techniques in obese patients after a VLCD**



Test for subgroup differences: Chi<sup>2</sup> = 2.44, df = 3 (P = 0.49), I<sup>2</sup> = 0%

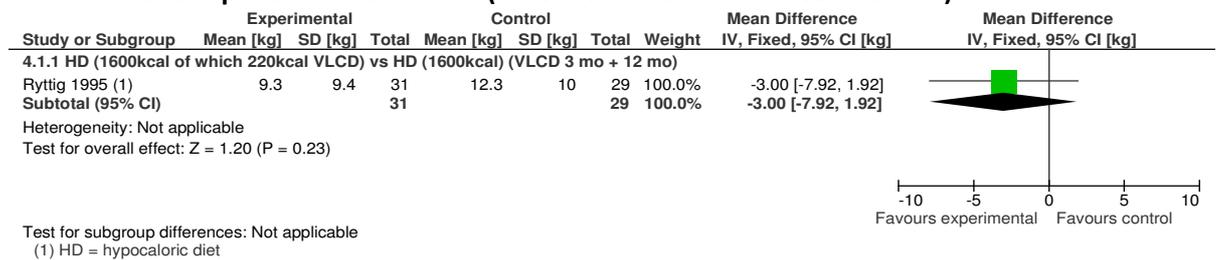
(1) TD = time dependent, WD = weight dependent, STD = standard, PPG = pre-packaged, main. = maintenance period

**Figure 19: Behaviour therapy and different re-feeding techniques in obese patients after a VLCD**



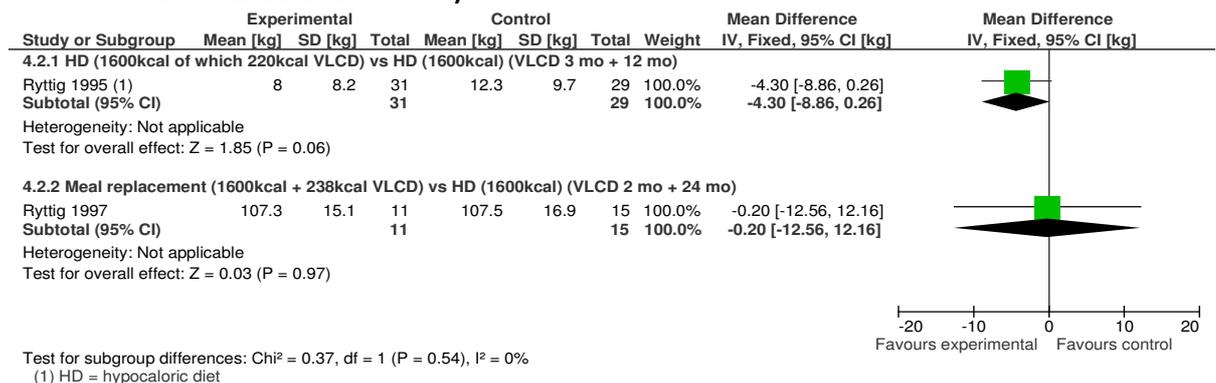
**I.1.3.4 Weight in kg (% weight change) – hypocaloric diet with and without VLCD**

**Figure 20: Hypocaloric diet with VLCD (1600 kcal) versus hypocaloric diet only (1600 kcal) in obese patients after a VLCD (baseline randomisation: 88.7 vs 97.6)**



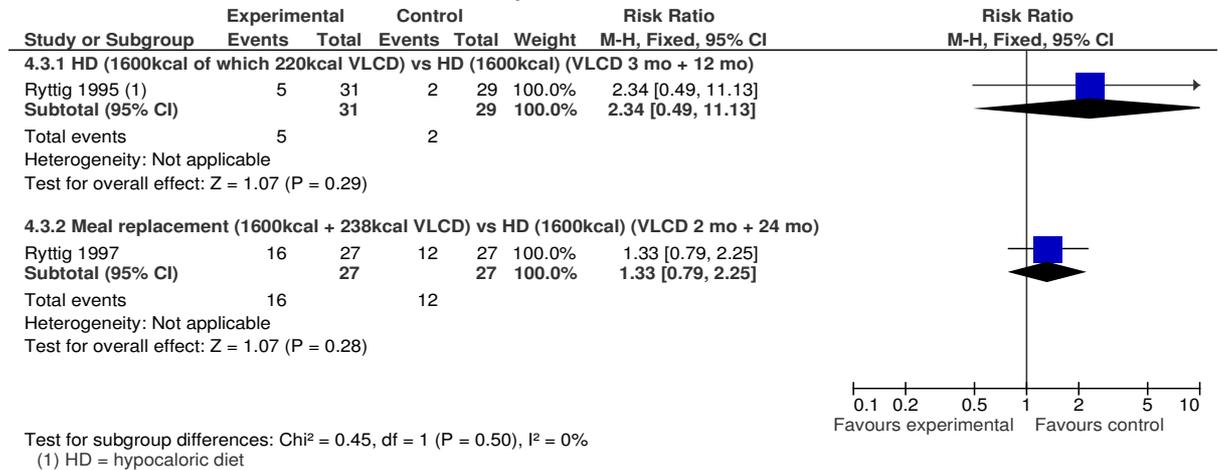
**I.1.3.5 Weight in kg (change or final score) – hypocaloric diet**

**Figure 21: Hypocaloric diet only (1600 kcal) versus meal replacement diet (hypocaloric diet 1600 kcal + VLCD 238 kcal) in obese patients after a VLCD (Ryttig 1995: baseline at randomisation 85.7 vs 97.6; no ANCOVA. Ryttig 1997: no ANCOVA; baseline at randomisation not stated)**



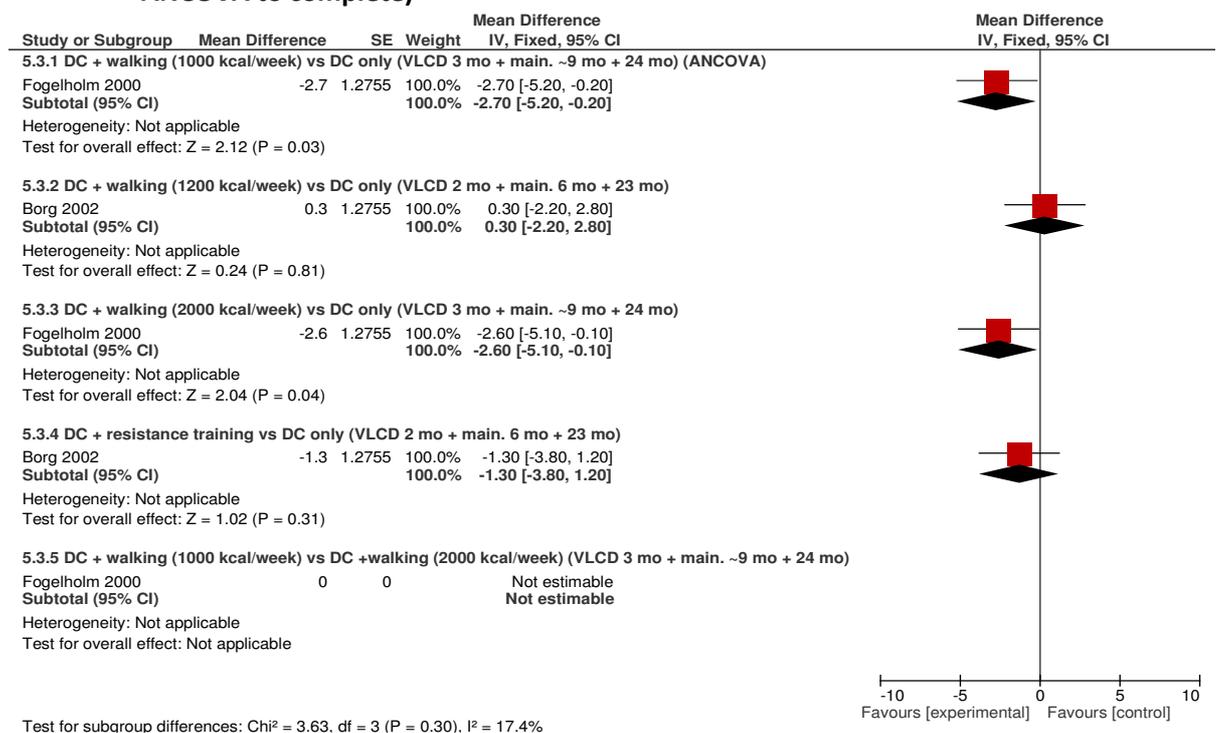
I.1.3.6 Withdrawals – hypocaloric diet

**Figure 22: Hypocaloric diet only (1600 kcal) versus meal replacement diet (hypocaloric diet 1600 kcal + VLCD 238 kcal) in obese patients after a VLCD**

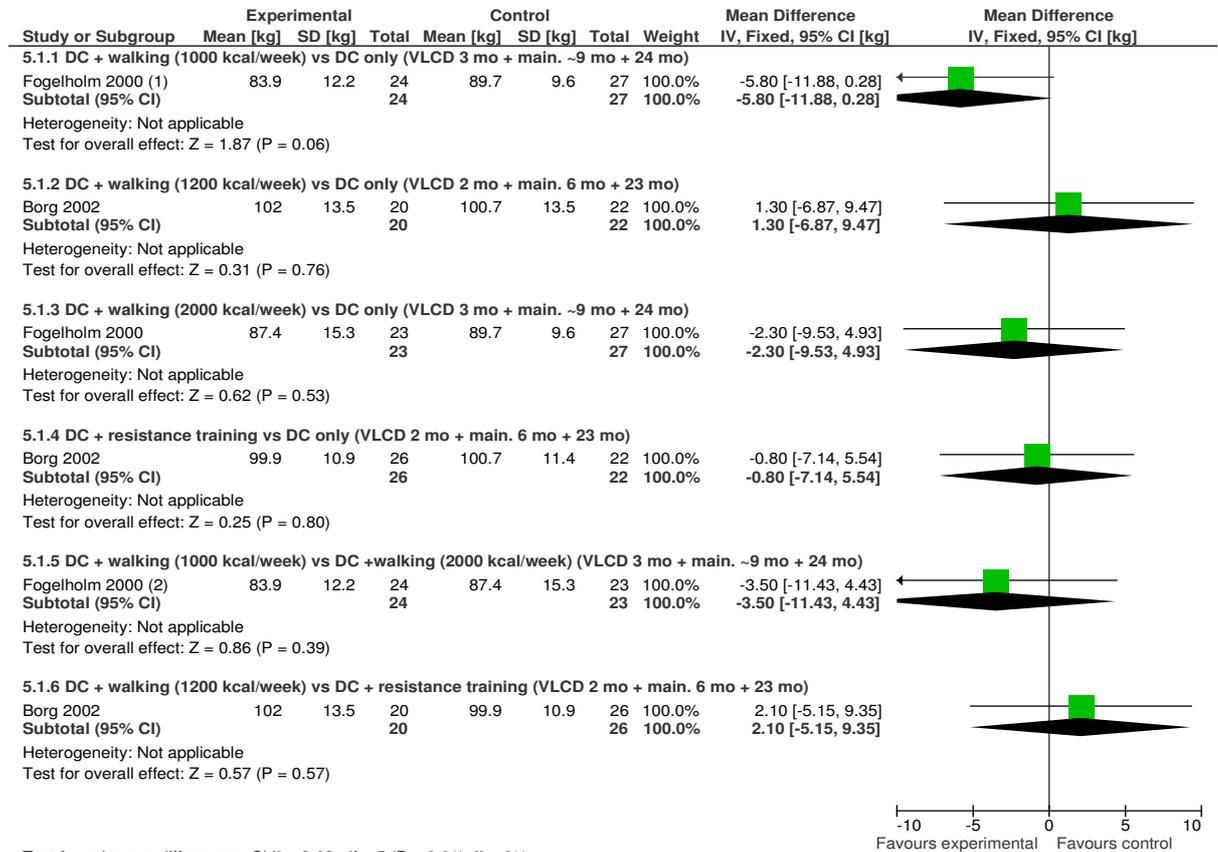


I.1.3.7 Weight in kg – dietary counselling with or without exercise

**Figure 23: Dietary counselling with exercise versus dietary counselling only in obese patients after a VLCD (Fogelholm: baseline at randomisation: control 80.0; walk 1: 78.0; walk 2: 78.2; ANCOVA – Walk 1 vs control: -2.7 (95% CI -5.2 to -0.2); walk 2 vs control: -2.6 (95% CI -5.1 to 0). Borg: baseline at randomisation: control 92.3; walk 91.9; resistance 90.8; ANCOVA to complete)**

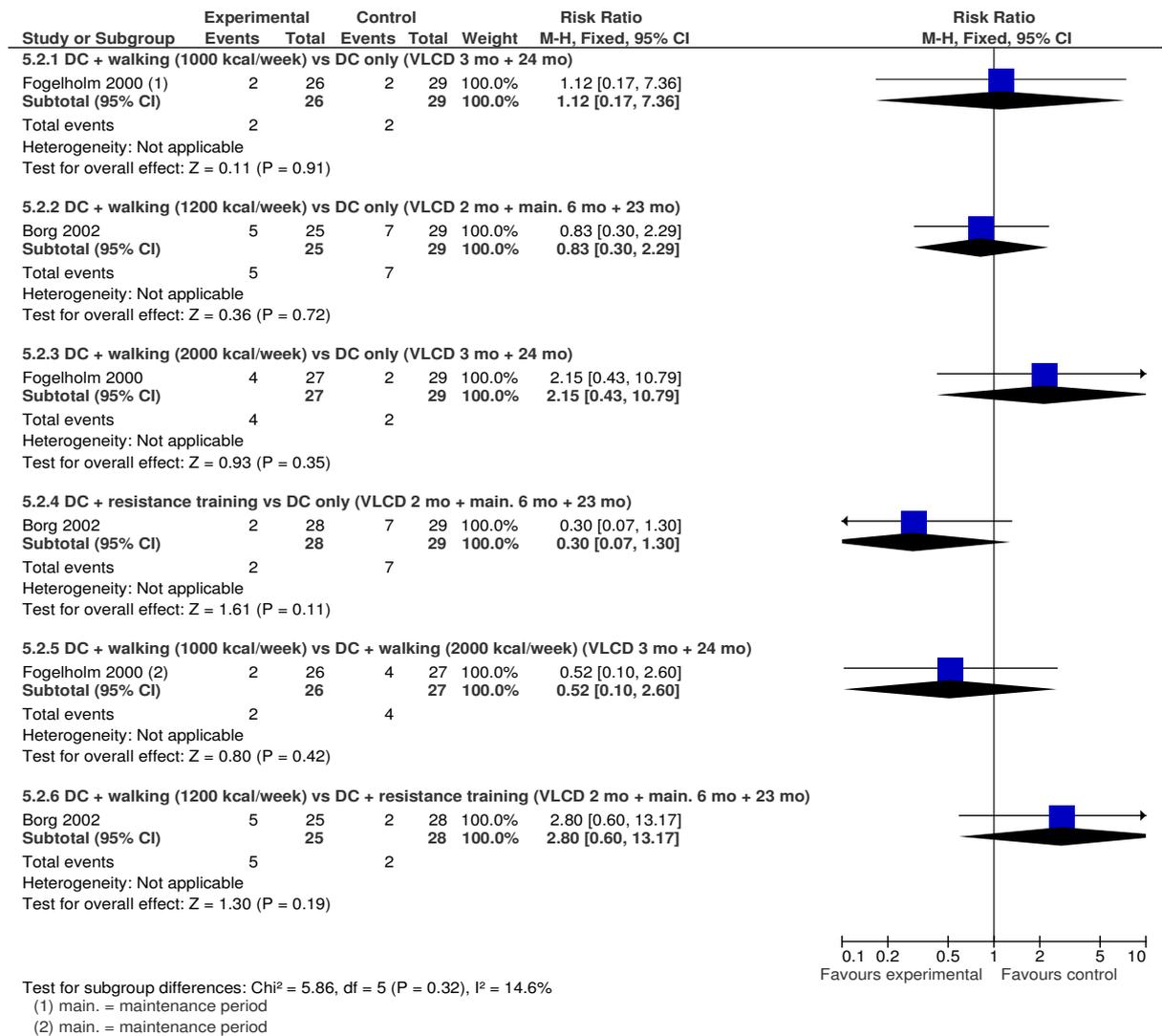


**Figure 24: Dietary counselling with exercise versus dietary counselling only in obese patients after a VLCD**



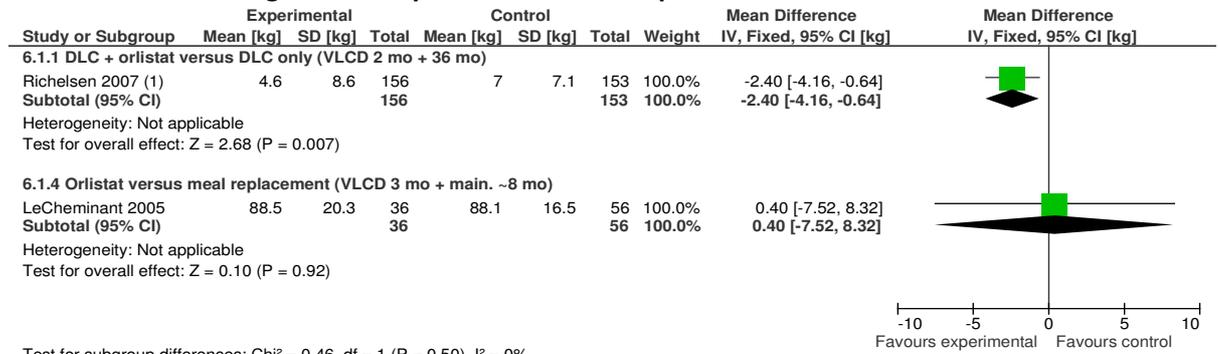
I.1.3.8 Withdrawals – dietary counselling with or without exercise

**Figure 25: Dietary counselling with exercise versus dietary counselling only in obese patients after a VLCD**



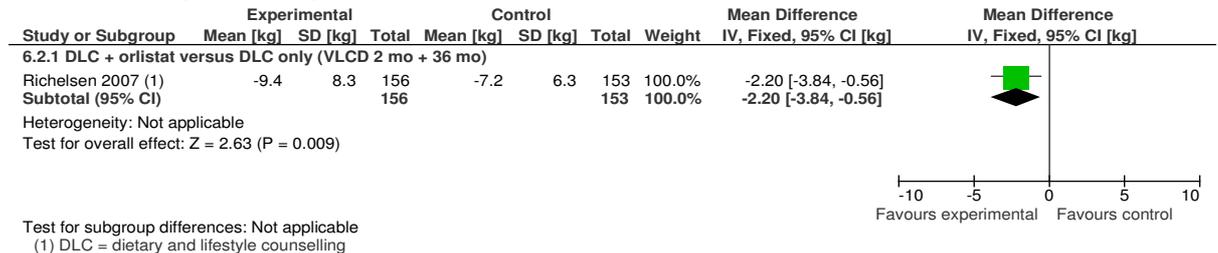
I.1.3.9 Weight in kg (change or final scores) - orlistat

**Figure 26: Orlistat (with or without dietary and lifestyle counselling) versus dietary and lifestyle counselling or meal replacement in obese patients after a VLCD**



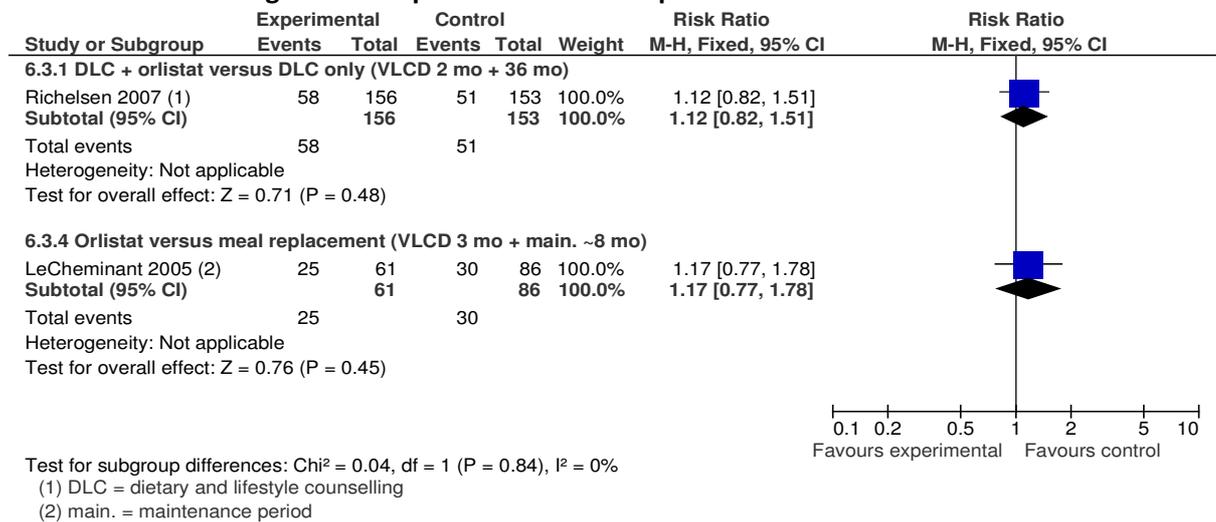
I.1.3.10 Weight in kg from before the VLCD lead in - orlistat

**Figure 27: Orlistat with dietary and lifestyle counselling versus dietary and lifestyle counselling only in obese patients after a VLCD**



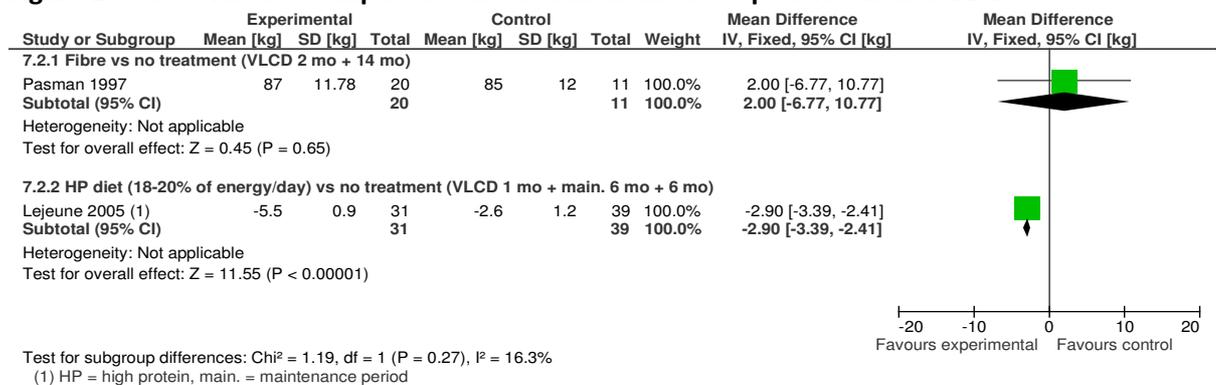
I.1.3.11 Withdrawals - orlistat

**Figure 28: Orlistat (with or without dietary and lifestyle counselling) versus dietary and lifestyle counselling or meal replacement in obese patients after a VLCD**



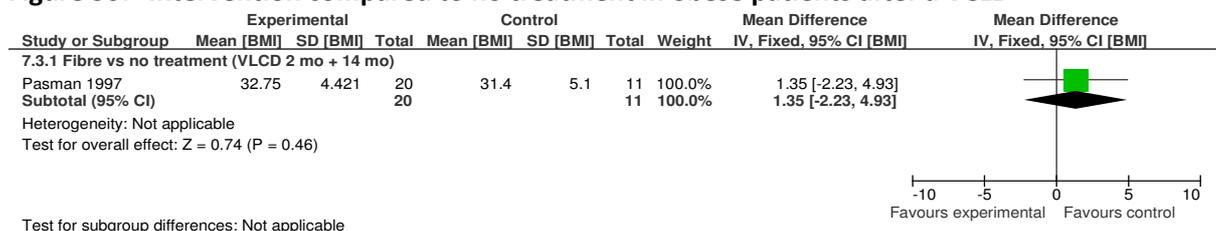
I.1.3.12 Weight in kg (change or final score) – comparison with no treatment

**Figure 29: Intervention compared to no treatment in obese patients after a VLCD**



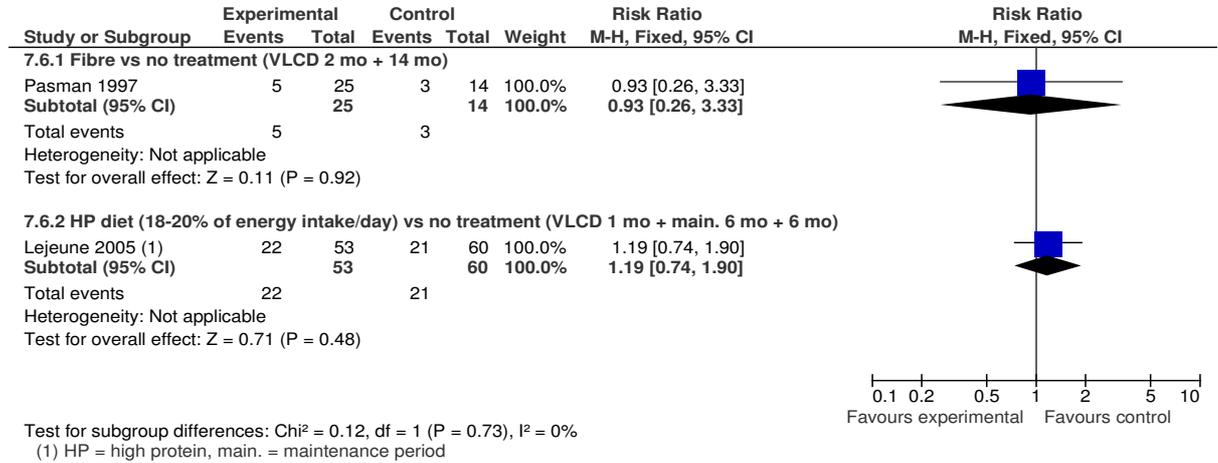
I.1.3.13 BMI from before VLCD period to end of weight maintenance period – comparison with no treatment

**Figure 30: Intervention compared to no treatment in obese patients after a VLCD**



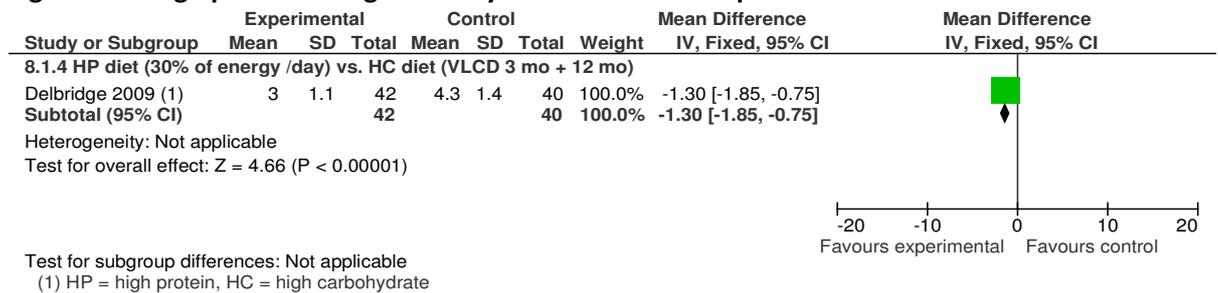
I.1.3.14 Withdrawals – comparison with no treatment

Figure 31: Intervention compared to no treatment in obese patients after a VLCD



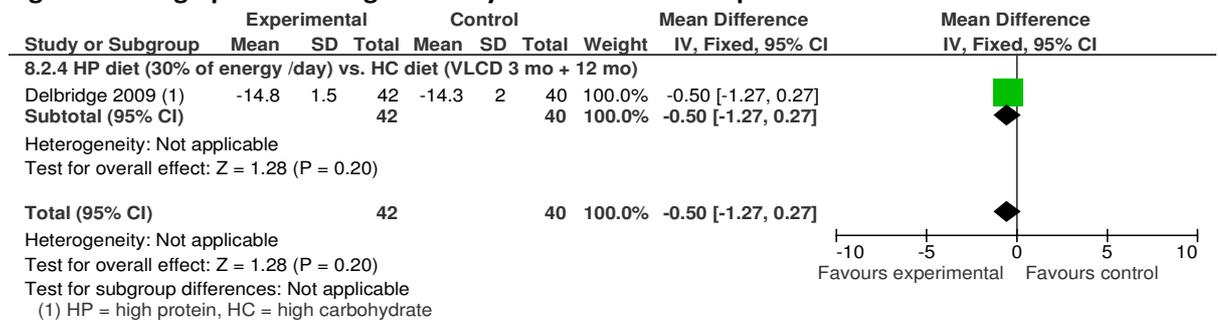
I.1.3.15 Weight in kg – high protein

Figure 32: High protein or high carbohydrate diet in obese patients after a VLCD



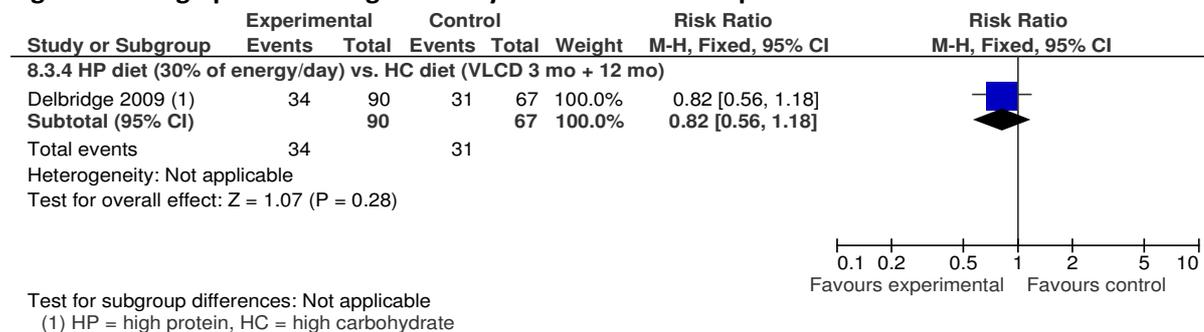
I.1.3.16 Weight in kg (including VLCD lead in period) – high protein

Figure 33: High protein or high carbohydrate diet in obese patients after a VLCD



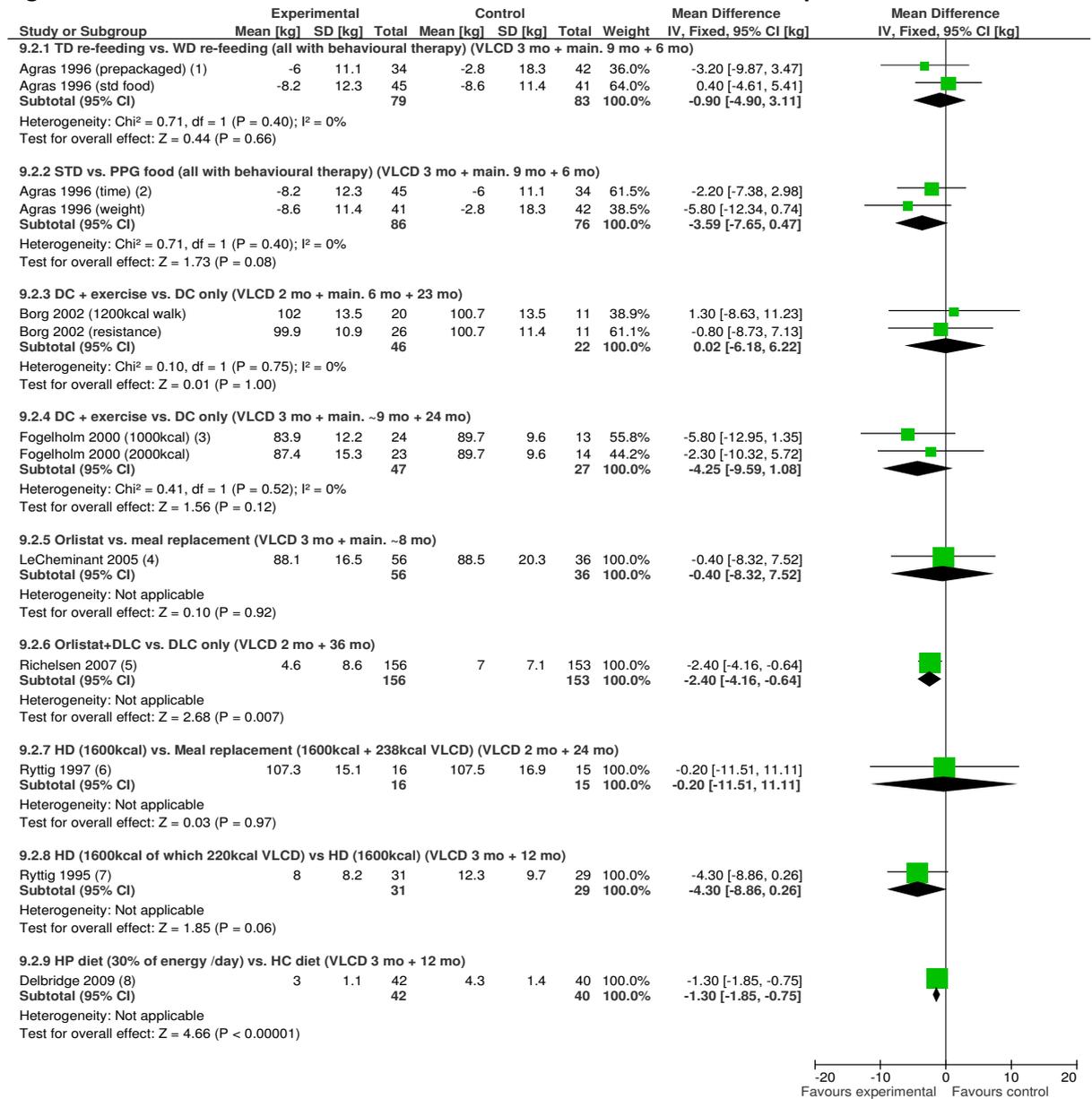
I.1.3.17 Withdrawals – high protein

**Figure 34: High protein or high carbohydrate diet in obese patients after a VLCD**



I.1.3.18 Weight in kg – all head-to-head trials

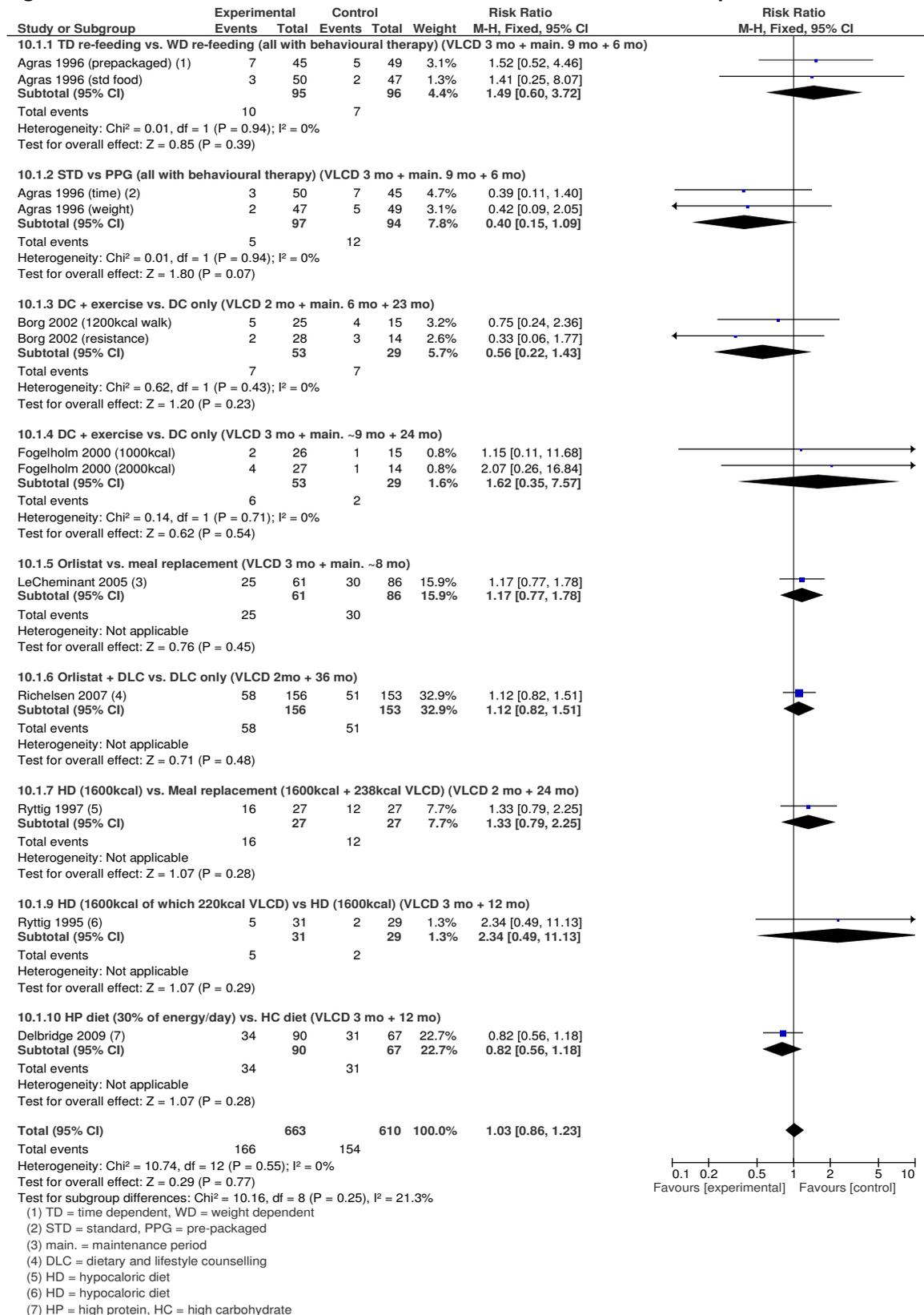
Figure 35: All head-to-head trials of maintenance intervention in obese patients after a VLCD



(1) TD = time dependent, WD = weight dependent  
(2) STD = standard, PPG = pre-packaged  
(3) DC = dietary counselling  
(4) main. = maintenance period  
(5) DLC = dietary and lifestyle counselling  
(6) HD = hypocaloric diet  
(7) HD = hypocaloric diet  
(8) HP = high protein, HC = high carbohydrate

I.1.3.19 Withdrawals – all head-to-head trials

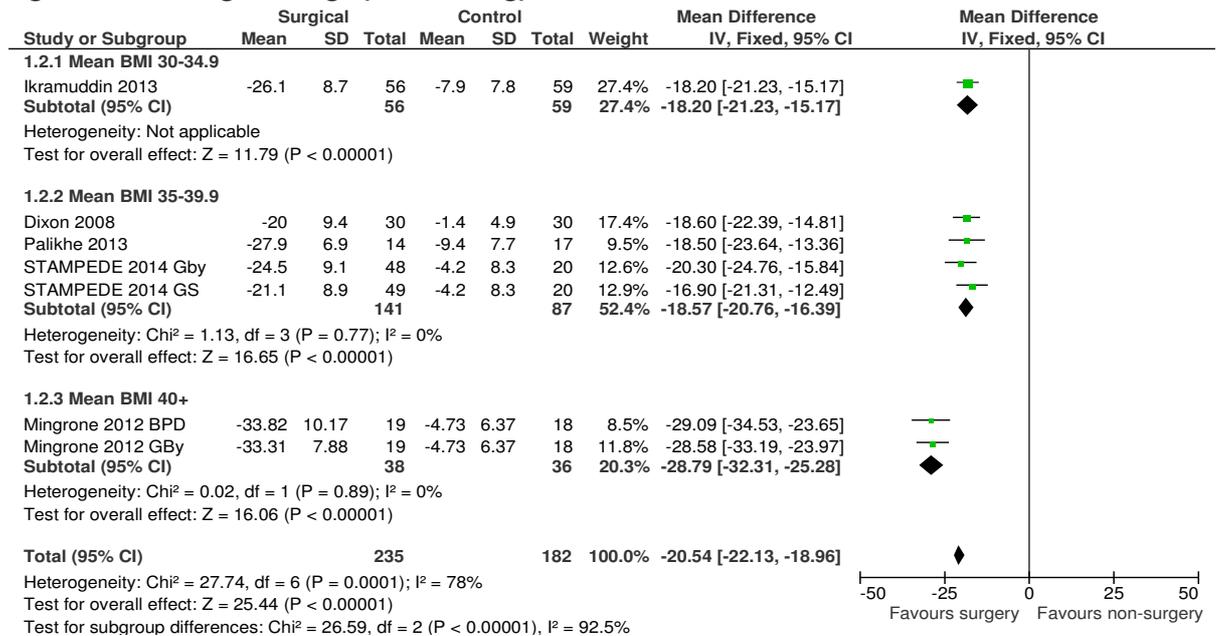
Figure 36: All head-to-head trials of maintenance intervention in obese patients after a VLCD



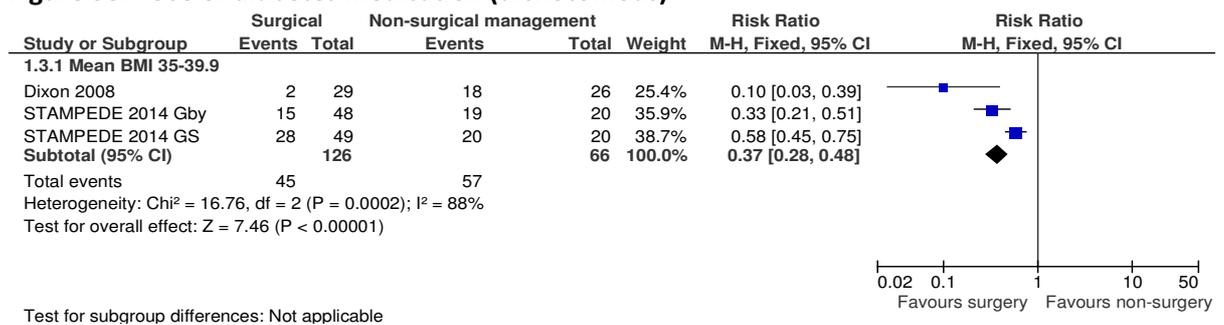
## I.2 Bariatric surgery in people with type 2 diabetes

### I.2.1 Surgical versus non-surgical management

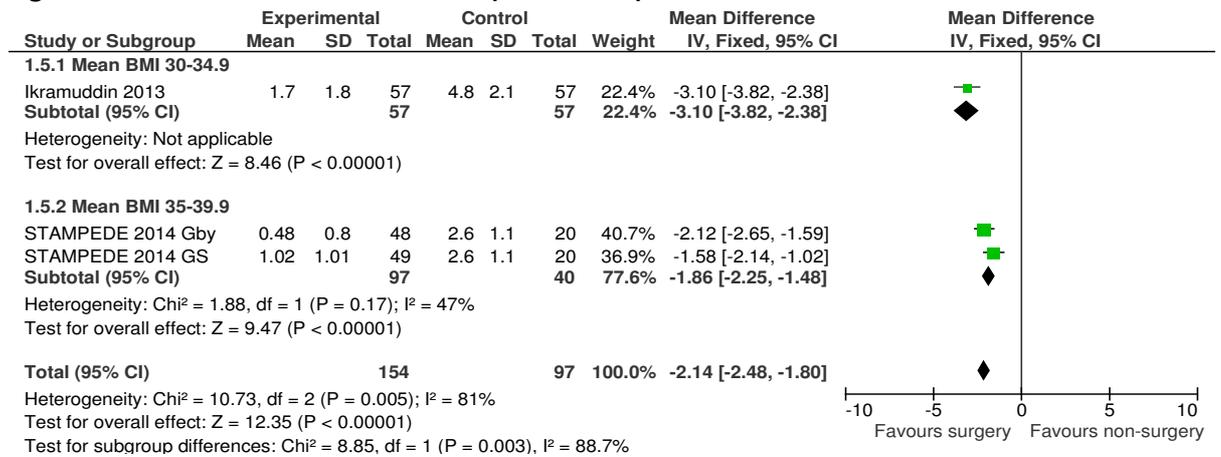
**Figure 37: % weight change (in BMI or kg)**



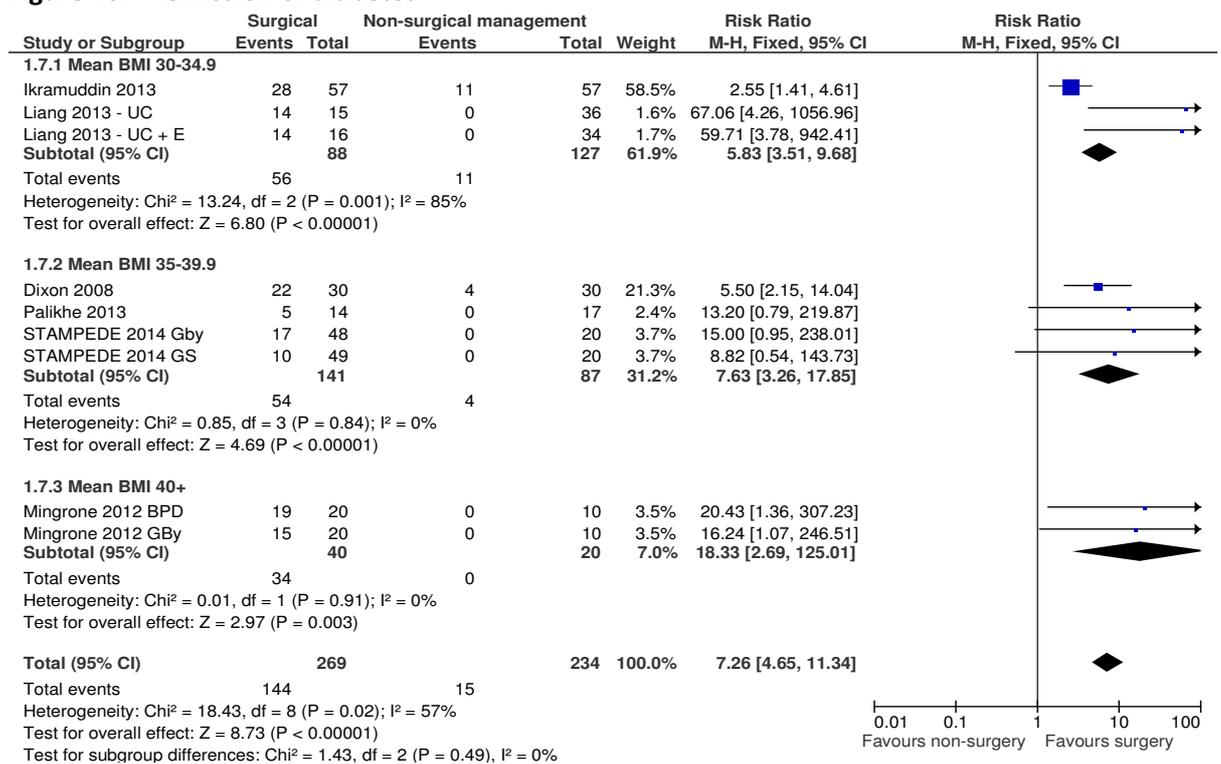
**Figure 38: Use of diabetes medication (dichotomous)**



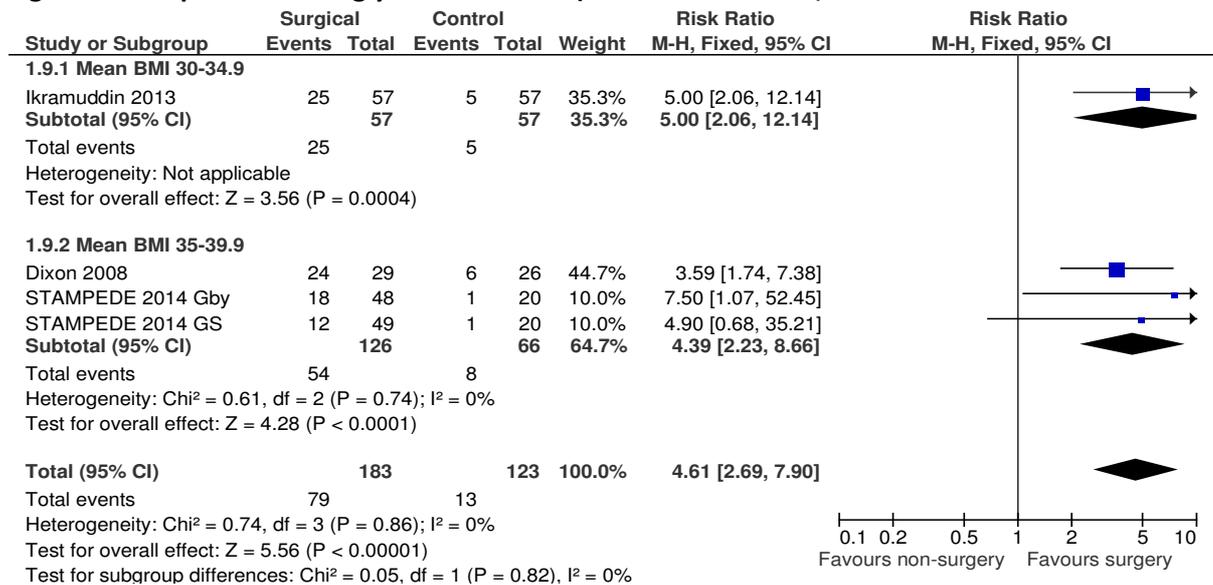
**Figure 39: Use of diabetes medication (continuous)**



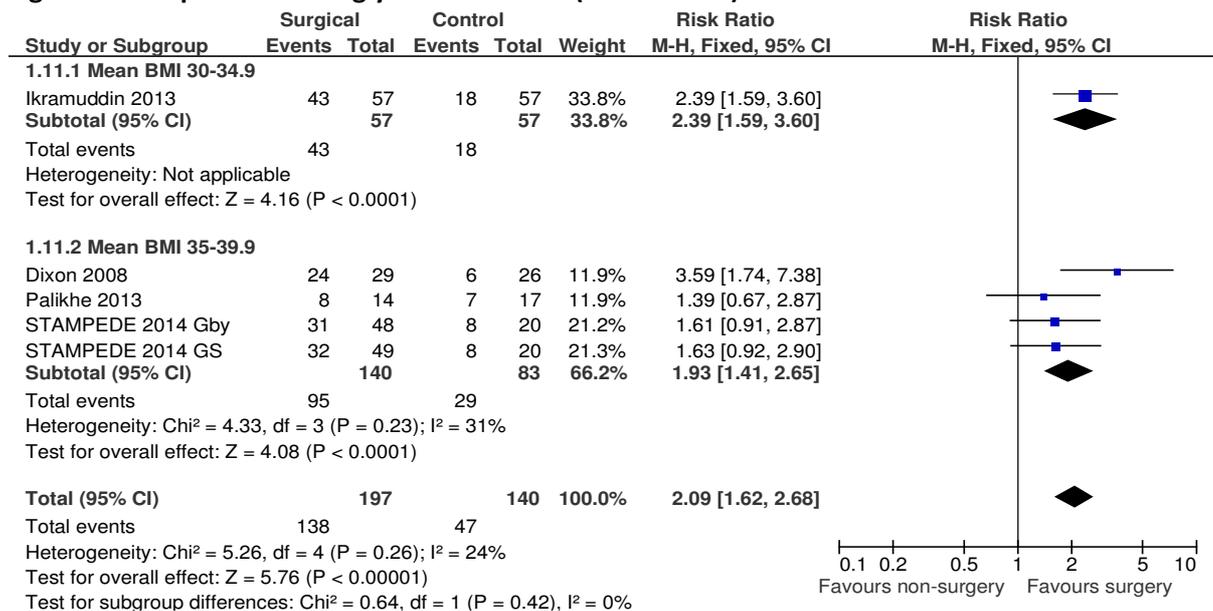
**Figure 40: Remission of diabetes**



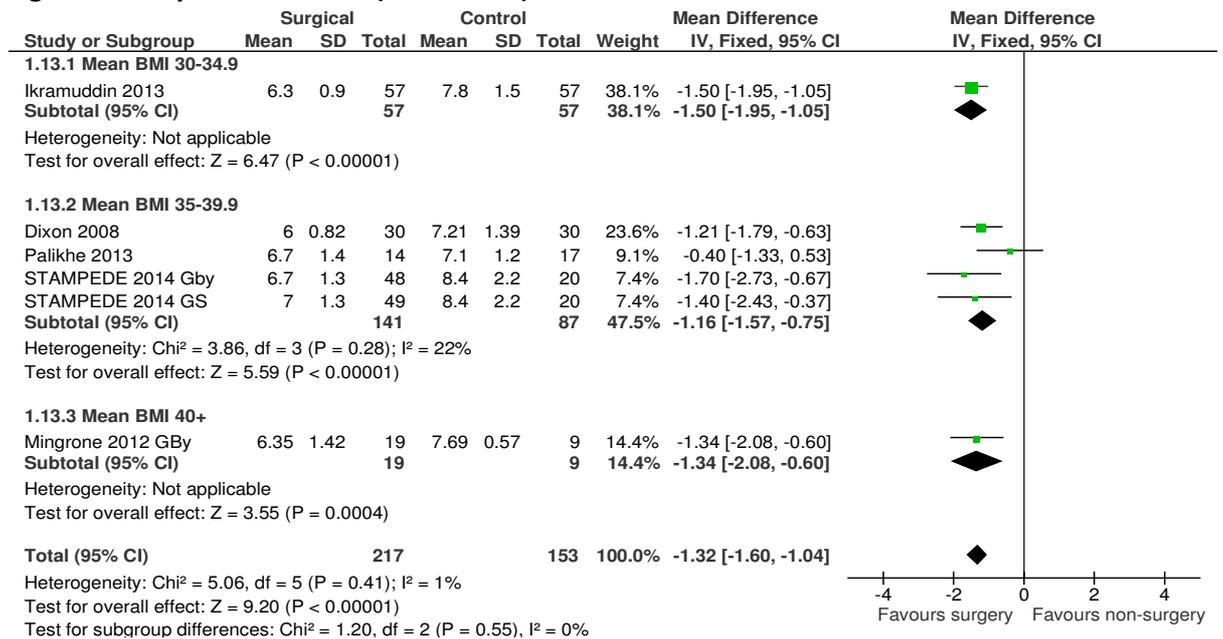
**Figure 41: Improvement in glycaemic control (HbA1C ≤ 6% or 6.2%)**



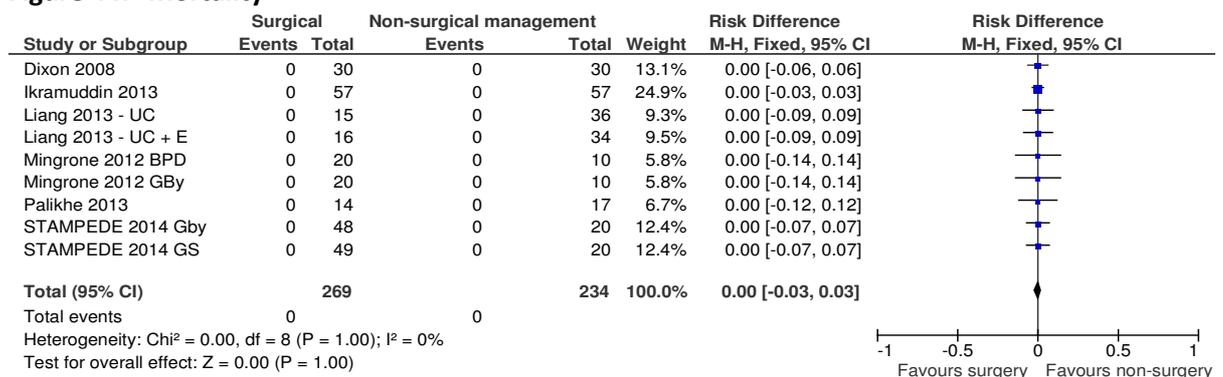
**Figure 42: Improvement in glycaemic control (HbA1C < 7%)**



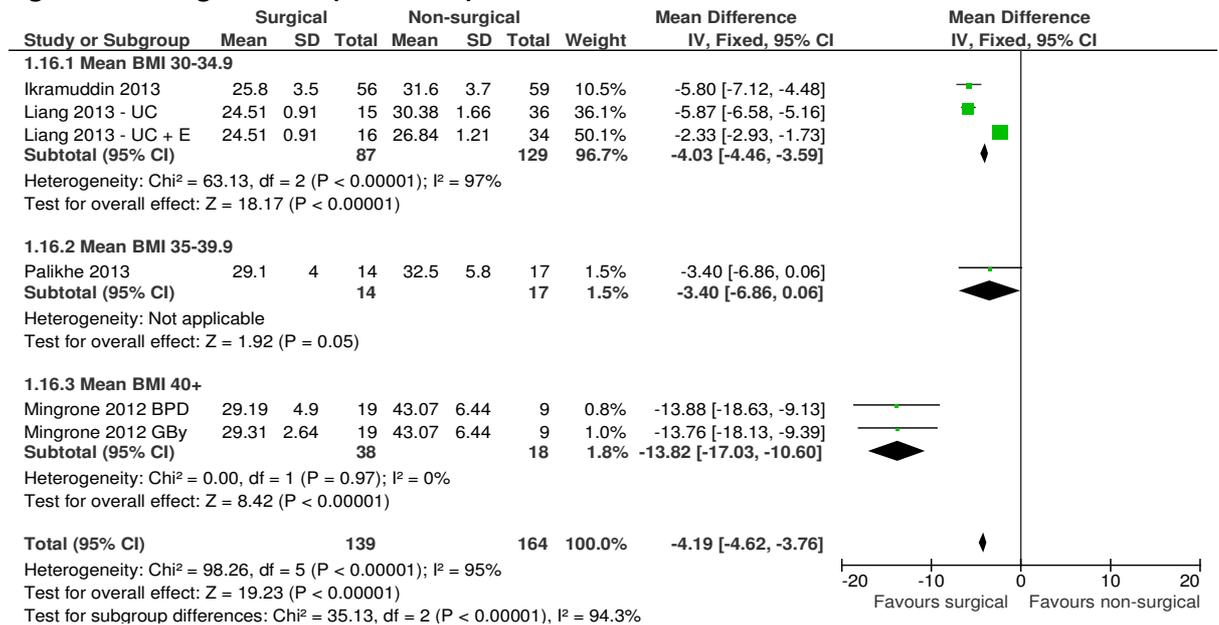
**Figure 43: Glycaemic control (continuous)**



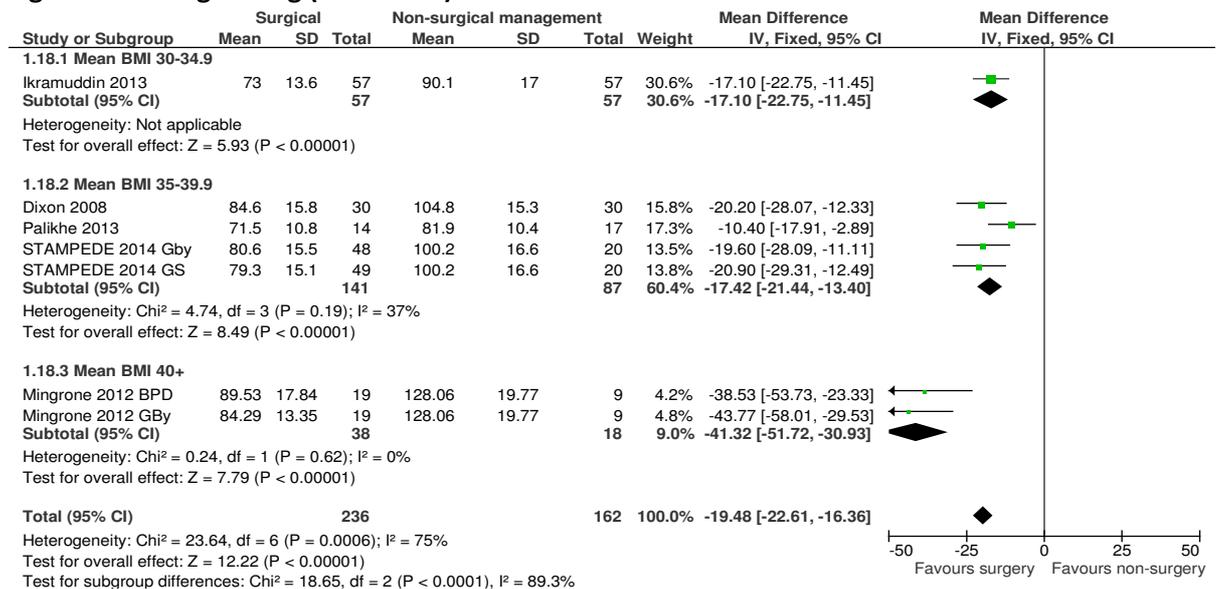
**Figure 44: Mortality**



**Figure 45: Weight in BMI (final score)**



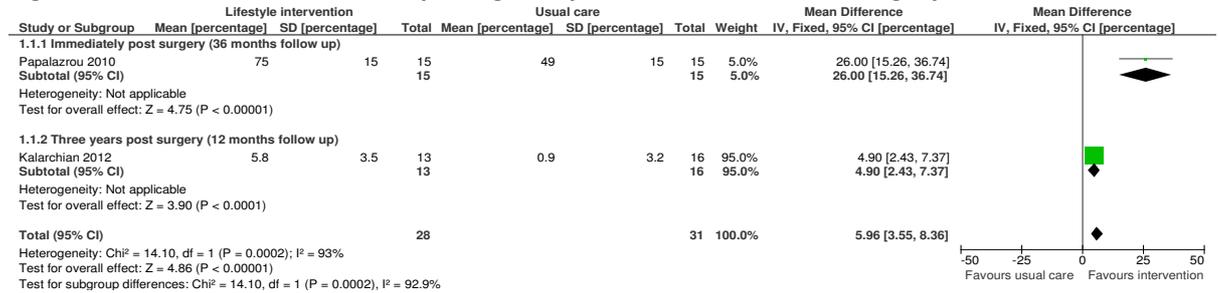
**Figure 46: Weight in kg (final score)**



## I.3 Follow-up care packages after bariatric surgery

### I.3.1 Percentage excess weight loss (kg)

**Figure 47: Usual care versus care packages in patients after bariatric surgery**



### I.3.2 Weight (in kg)

**Figure 48: Usual care versus care packages in patients after bariatric surgery**

