| **Study Reference****Quality Rating** | **Study Characteristics** | **Inclusion/Exclusion** | **CONSORT Numbers****Retention** | **Participant Characteristics**  |
| --- | --- | --- | --- | --- |
| **Orlistat Trials** |  |  |  |  |
| Berne, 2005180Fair | **Design:** RCT**Location:** Sweden**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Patients with type 2 diabetes receiving treatment with metformin alone or metformin and sulphonylurea; 30-75 years old; BMI 28-40 kg/m2; hemoglobin A1c was 6.5-10%**Exclusion:** Treatment with insulin; recent myocardial infarction; other significant peripheral vascular, cardiac, respiratory, renal, neurological, gastrointestinal, or endocrine diseases; signs of fat soluble deficiencies; taking the following medications: drugs that influence appetite, resins, fish oil supplements, and retinoids | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** NR**N Randomized:**  Total: 220 (221 randomized but 1 didn't ever receive drug) IG: 111 CG: 109**Followup (12 mo), n (%):** Total: 190 (86.4) IG: 96 (86.5) CG: 94 (86.2) **Cluster information:** NR | **Age (mean):** 59.1 (calc)**Sex (% female):** 45.5 (calc)**Race/Ethnicity:** *% Caucasian:* 100**SES (income, education):** NR**% Hypertension:** *% Antihypertensive drugs:* 45**% Diabetes:** 100**% Dyslipidemia:** *% Lipid-lowering drugs:* 14**Other health problems:** NR |
| Broom, 2002181UK Multimorbidity StudyFair | **Design:** RCT**Location:** UK**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Men and nonpregnant women; aged 18-80 yrs; BMI ≥28 kg/m2 (both at baseline and screening visits); at least one of the following obesity-associated CV risk factors: imapired glucose tolerance (serum glucose ≥8.0 mmol/L, 2 hrs after standard 75 g OGTT), dyslipidemia (total serum cholesterol ≥5.2 mmol/L or LDL cholesterol ≥4.2 mmol/L at screening); hypertension (sitting DBP 90-105 mmHg)**Exclusion:** Women of child-bearing age that were lactating or not using adequate contraception; MI; coronary artery bypass graft or percutaneous transluminal coronary angioplasty within 3 months before screening; gastrointestinal surgery for weight reduction; active gastrointestinal disorders; pancreatic disease; history of post-surgical adhesions; excessive alcohol intake; substance abuse; required any drug that might alter body weight or plasma lipids; administration of systemic steroids (other than hormone-replacement therapy); concomitant pharmacotherapy for type 2 diabetes, dyslipidemia or hypertension | **N recruited or assessed for eligibility:** 737**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Single-blind placebo and mildly hypocaloric diet (600 kcal/day deficit)Required compliance: NRLength: 2 weeksN (%) retained after run-in: NR Compliance used as stratification variable**N Randomized:**  Total: 531 IG: 265 CG: 266**N ITT:** Total: 522 IG: 259 CG: 263**Followup (12 mo), n (%):** Total: 347 (65) IG: 186 (70) CG: 161 (61)**Cluster information:** NR  | **Age (mean):** 46.0**Sex (% female):** 78.4 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension alone:** 21.6 **% Hypertension** **overall**: 43**% Impaired glucose tolerance alone:** 5.0**% Impaired glucose tolerance overall:** 17.0 **% Dyslipidemia alone:** 44.8 **% Dyslipidemia overall:** 72**Other health problems:** Combinations of IGT, hypertension, and dyslipidemia*Note: Characteristics for N ITT.* |
| Davidson, 1999182Fair | **Design:** RCT**Location:** Multiple states, US**Recruitment Setting:** Clinical research centers**Self-selected:** NR | **Inclusion:** Age older than 18 years; BMI 30-43 kg/m2; adequate contraception in women of childbearing potential; absence of weight loss (>4 kg) in the previous 3 months**Exclusion:** Frequently changed smoking habits or had stopped smoking in the past 6 months; history or presence of substance abuse; excessive intake of alcohol; significant cardiac, renal, hepatic, gastrointestinal, psychiatric, or endocrine disorders; drug-treated type 2 diabetes mellitus; concomitant use of medications that alter appetite or lipid levels | **N recruited or assessed for eligibility:** NR**N eligible:** 1187**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Controlled-energy diet (30% intake as fat and energy, prescribed as 1.3 BMR − 2100 to 3360 kj/d), placebo capsulesRequired compliance: ≥75% placebo capsules takenLength: 4 weeksN (%) retained after run-in: 892 (75.1)**N Randomized:**  Total: 892 IG: 668 CG: 224**N ITT:** Total: 880 IG: 657 CG: 223**Followup (12 mo), n (%):** Total: 591 (66.3) IG: 458 (68.6) CG: 133 (59.4)*24 mo data not given because high attrition***Cluster information:** NR | **Age (mean):** 43.5 (calc)**Sex (% female):** 84.2 (calc)**Race/Ethnicity:** *% White:* 80.8 (calc)*% Black:* 14.0 (calc)*% Hispanic:* 4.2 (calc)*% Other:* 1.0 (calc)**SES (income, education):** NR**% Hypertension:** *% DBP>90 mmHg**Untreated:* 5.9 (calc)*Treated:* 2.5 (calc)**% Diabetes:** 4.1**% Dyslipidemia:** *% Abnormal LDL level (>129.9 mg/dL):* 33.1 (calc)*% Abnormal HDL level (<.9 mmol/L):* 14.4 (calc)*% Abnormal triglycerides level (>98.2 mg/dL):* 9.2 (calc)**Other health problems:** Impaired glucose tolerance\* Characteristics for N ITT |
| Derosa, 2003183Fair | **Design:** RCT**Location:** Italy**Recruitment Setting:** Database from the Clinica Medica II at the University of Pavia**Self-selected:** N | **Inclusion:** Obese (BMI>30 kg/m2); aged >40 years; severe hypercholesterolemia (TC≥240 mg/dL); normotensive (SBP<140 mmHg and DBP<90 mmHg); nonsmokers; normal thyroid function; not taking diuretics or beta-blockers**Exclusion:** NR | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Controlled-energy diet (1500 kcal, 54% carbohydrates, 24% proteins, 22% lipids (6% saturated), 108 mg cholesterol, and 35 g fiber); placeboRequired compliance: NRLength: 4 weeksN (%) retained after run-in: NR Degree of weight loss in compliance trial used for stratification**N Randomized:**  Total: 99 IG-O: 27 IG-F: 24\* IG-OF: 25\* CG: 23 Total (IG-O + CG): 50**Followup (12 mo), n (%):** Total (IG-O + CG): 48 (96.0) IG-O: 25 (92.6) CG: 23 (100) **Cluster information:** N/A\*IG-F (fluvastatin) & IG-OF (orlistat + fluvastatin) are not included in remainder of abstraction. | **Age (mean):** 52.0 (calc)**Sex (% female):** 52 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR |
| Derosa, 2010215Good | **Design:** RCT**Location:** Italy**Recruitment Setting:** University medical centers**Self-selected:** N | **Inclusion:** Caucasian; type II diabetic patients; aged 18 years or older; BMI ≥30 kg/m2; uncontrolled type II diabetes (glycated hemoglobin >8.0%) in therapy with different oral hypoglycemic agents or insulin**Exclusion:** History of ketoacidosis; unstable or rapidly progressive diabetic retinopathy, nephropathy, or neuropathy; impaired hepatic function; impaired renal function; severe anemia; serious cardiovascular disease or cerebrovascular conditions within 6 months before study enrollment; women pregnant or breastfeeding or of childbearing potential and not taking adequate contraceptive precautions | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** NR**N Randomized:**  Total: 254 IG: 126 CG: 128**Followup (12 mo), n (%):** Total: 234 (92.1) IG: 113 (89.7) CG: 121 (94.5) **Cluster information:** NR | **Age (mean):** 52.5 (calc)**Sex (% female):** 49.6 (calc)**Race/Ethnicity:***% White:* 100**SES (income, education):** NR**% Hypertension:** 71.7**% Diabetes:** 100**% Dyslipidemia:** *% Hypercholesterolemia:* 35.0*% Hypertriglyceridemia:* 3.1*% Combined dyslipidemia:* 17.3**Other health problems:** NR |
| Finer, 2000184James, 1997290 Fair | **Design:** RCT**Location:** UK**Recruitment Setting:** Local advertisement or GP referral**Self-selected:** Mixed | **Inclusion:** Obese (BMI 30-43 kg/m2); 18 years or older**Exclusion:** Weight loss of more than 4 kg in the 3 months before screening; history of any serious systemic disease, including diabetes; uncontrolled hypertension; previous gastrointestinal surgery for weight reduction; history of post-surgical adhesions; history or presence of cancer; psychiatric or neurological disorder requiring chronic medications or liable to prejudice patient compliance; evidence of alcohol or substance abuse; bulimia or evidence of laxative abuse; pregnancy or lactation (women of childbearing potential were allowed to enter the study if using adequate contraceptive precautions); post-menopausal women who had been amenorrhoeic for less than 1 year; taken drugs capable of influencing body weight, resins for lipid-lowering, anti-coagulants, digoxin or lipid-soluble vitamin supplements within the previous month | **N recruited or assessed for eligibility:** NR**N eligible:** 267**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo and low-calorie dietRequired compliance: Taking 75% of capsulesLength: 4 weeksN (%) retained after run-in: 228 (85.4) Stratified by weight loss during run in**N Randomized:**  Total: 228 IG: 114 CG: 114**Followup (12 mo), n (%):** Total: 139 (61.0) IG: 66 (57.9) CG: 73 (64.0)**Cluster information:** NR | **Age (mean):** 41.5 (calc)**Sex (% female):** 88.5 (calc)**Race/Ethnicity:** *% White:* 94.9*% Black:* 1.4*% Other:* 3.7**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR |
| Hanefeld, 2002187Fair | **Design:** RCT**Location:** Germany**Recruitment Setting:** Centers (primary care physicians and outpatient clinics)**Self-selected:** NR | **Inclusion:** Aged 18-70 years; BMI ≥28 kg/m2; HbA1c 6.5-11%; diagnosis of type 2 diabetes treated with sulphonylureas for at least two months before screening or were diagnosed with type 2 diabetes but not yet treated with antidiabetic medication**Exclusion:** Diabetes patients treated with drugs other than sulphonylureas; treated with medications known to effect body weight, serum lipids or vitamins; proliferative retinopathy or papilloedema; uncontrolled hypertension (DBP>120 mmHg); hypo- or hyper-thyroidism; secondary or type I diabetes; cardiac insufficiency (NYHA III/IV); presence or history of cancer or any significant appetite, renal, hepatic, gastrointestinal, psychiatric, immunological, or metabolic disorders; pregnant, lactating, or of childbearing potential and not taking adequate contraceptive measures | **N recruited or assessed for eligibility:** **N eligible:** 492**N excluded:** **N refused or other reason:** **Pre-randomization compliance trial**Description: Placebo and dietRequired compliance:NRLength: 4 weeksN (%) retained after run-in: 383 (77.8)**N Randomized:**  Total: 383 IG: 195 CG: 188**N ITT:** IG: 189 CG: 180**Followup (12 mo), n (%):** Total: 264 (68.9) IG: 133 (68.2) CG: 131 (69.7)**Cluster information:** NR | **Age (mean):** 56.2 (calc)**Sex (% female):** 50.9 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** 100**% Dyslipidemia:** NR**Other health problems:** NR |
| Hauptman, 2000189Fair | **Design:** RCT**Location:** Multiple states, US**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Obese (BMI 30-44 kg/m2); aged >18 years**Exclusion:** Women who were pregnant, lactating, or of childbearing potential and not taking adequate contraceptive measures; weight loss of more than 4 kg during the previous 3 months; history of significant cardiac, renal, hepatic, or gastrointestinal disorders; uncontrolled hypertension or any other clinically significant condition; gastrointestinal surgery for weight-reducing purposes; bulimia or laxative and/or substance abuse; abnormal laboratory measures (values ≥10% greater than the reference value for the normal range sufficient to require medical followup by the study physician); changes in smoking habits in the previous 6 months; use of any drug that might influence body weight or food intake during the 8 weeks before screening | **N recruited or assessed for eligibility:** NR**N eligible:** 796**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo and reduced-energy diet (same as in study)Required compliance: 75% compliance, determined by counting capsules returnedLength: 4 weeksN (%) retained after run-in: 635 (79.8)**N Randomized:**  Total: 635 IG1 (60 mg): 213 IG2 (120 mg): 210 CG: 212(Use IG2 in MA)**Followup (12 mo), n (%):** Total: 427 (67.2) IG1: 154 (72.3) IG2: 151 (71.9) CG: 122 (57.5)**Cluster information:** NR  | **Age (mean):** 42.5 (calc)**Sex (% female):** 78.3**Race/Ethnicity:** % White: 90.9% Black: 6.8% American Indian: 0.2% Hispanic: 1.9% Other: 0.3**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR |
| Hill, 1999190Fair | **Design:** RCT**Location:** Multiple sites, US**Recruitment Setting:** Clinical research centers**Self-selected:** NR | **Inclusion:** Men and women aged ≥18 years; BMI 28-43 kg/m2; had to lose ≥8% of their initial body weight in run in**Exclusion:** Ever had significant medical disorders; uncontrolled hypertension; recurrent nephrolithiasis; symptomatic cholelithiasis; active gastrointestinal disorders; type 2 diabetes; pancreatic disease; cancer; pregnant or lactating; history of presence of substance abuse; eating disorders; excessive alcohol intake; significantly abnormal laboratory test results; previous gastrointestinal surgery for weight reduction; history of postsurgical adhesions; had not taken any medications known to influence body weight, appetite, or lipid concentrations during the 8 weeks prior to screening | **N recruited or assessed for eligibility:** NR**N eligible:** 1313**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Hypoenergetic diet (deficit of 4180 kJ/day with goal 0.5-1.0 kg/wk; 30% fat, 50% carb, 20% protein) with no pharmacologic intervention. Included dietary counseling, 4 session behavioral modification (UM's Wise Weighs) program, and encouraged to increase physical activity (brisk walking 20-30 min 5 times/wk)Required compliance: Lose ≥8% of initial body wtLength: 6 monthsN (%) retained after run-in: 729 (55.5)**N Randomized:**  Total: 729 IG1 (30 mg): 187 IG2 (60 mg): 173 IG3 (120 mg): 181 CG: 188**Followup (12 mo), n (%):** Total: 537 (73.7) IG1: 140 (74.9) IG2: 133 (76.9) IG3: 126 (69.6) CG: 138 (73.4)**Cluster information:** NR | **Age (mean):** 46.3 (calc)**Sex (% female):** 84.0 (calc)**Race/Ethnicity:** % White: 88.3 (calc)% Black: 5.8 (calc)% Hispanic: 4.9 (calc)% Other: 1.0 (calc)**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR*Note: Characteristics captured at beginning of run-in period (-6 months), not at randomization. Also, 9 participants appear to be missing in the characteristics table (720 participants total, yet 729 completed the run-in period).* |
| Hollander, 1998191Fair | **Design:** RCT**Location:** 12 centers, US**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Aged >18 years; drug compliance ≥70% during 5-week placebo run-in; HbA1c of 6.5-10%, fasting plasma glucose level of 5.6-12.2 mmol/l at the end of the 4th week of the run-in; blood levels of fat-soluble vitamin above the lower limit of the normal reference range; BMI 28-40 kg/m2; were on oral hypoglycemic drug therapy for at least 6 months before the study; stable plasma glucose level on a second-generation sulfonylurea agent as the only hypoglycemic agent at entry**Exclusion:** Pregnant; lactating; of child-bearing potential and not using contraception; any clinically relevant condition that might affect study outcomes; complications associated with diabetes; weight loss of >4 kg during the previous 3 months; history of recurrent hephrolithiasis or symptomatic cholelithiasis; gastrointestinal surgery for weight reducing purposes; history of bulimia or laxative abuse; had taken any drug that might influence body weight or plasma lipids during the 8 weeks before the study initiation | **N recruited or assessed for eligibility:** NR**N eligible:** NR **N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo and mildly hypocaloric(-500 kcal) weight loss diet (~30% calories from fat, 50% from carbohydrate, and 20% from protein, with a maximum of 300 mg/day of cholesterol)Required compliance: ≥70% drug complianceLength: 5 weeksN (%) retained after run-in: 322 (82.4 (calc)) (322 of 391)**N Randomized:**  Total: 322 IG: 163 CG: 159**Followup (12 mo), n (%):** Total: 254 (79) IG: 139 (85) CG: 115 (73)**Cluster information:** NR | **Age (mean):** 55.1 (calc)**Sex (% female):** 48.9 (calc)**Race/Ethnicity (calc):** *% White:* 87.5*% Black:* 6.9*% Hispanic:* 3.1*% Other:* 2.5**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR |
| Krempf, 2003193Fair | **Design:** RCT**Location:** France**Recruitment Setting:** NR **Self-selected:** NR | **Inclusion:** Aged 18-65 years; BMI ≥28**Exclusion:** Serious eating disorders; type I or type II diabetes; pregnant or lactating; smoking ≥1 pack/day or intention to stop smoking during the trial; previous surgical treatment for obesity; known or suspected substance abuse; significant thyroid, renal, hepatic, gastrointestinal, or immune disorders; concomitant use of medications that alter body weight, appetite, or the absorption of food | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo run-in, no further informationRequired compliance: NRLength: 15 daysN (%) retained after run-in: 696 (87.4% (calc))**N Randomized:**  Total: 696 IG: 346 CG: 350**Followup (18 mo), n (%):** Total: 425 (61.1) (calc) IG: 224 (64.7) (calc) CG: 201 (57.4) (calc)**Cluster information:** NR | **Age (mean):** 41**Sex (% female):** 86.4 **Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** 0**% Dyslipidemia:** NR**Other health problems:** NR |
| Lindgarde, 2000194Swedish Multimorbidity StudyFair | **Design:** RCT**Location:** Sweden**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Men and nonpregnant women; aged 18-75 yrs; BMI 28-38 kg/m2; at least one of the following obesity-associated CHD risk factors: fasting serum glucose ≥6.7 mmol/L or confirmed type 2 diabetes treated with sulphonylurea or metformin but not insulin, total serum cholesterol ≥6.5 mmol/L and/or LDL cholesterol ≥4.2 mmol/L on at least 2 occasions or prescribed lipid-lowering med, DBP ≥90 mmHg on at least 2 occasions or confirmed hypertension treated with antihypertensive medication**Exclusion:** Women of child-bearing potential who were lactating or not using adequate contraception; MI within 3 mo prior to screening; gastrointenstinal surgery for weight reduction; active gastrointestinal disorders; pancreatic disease; history of postsurgical adhesions; excessive alcohol intake; substance abuse; required any drug that might alter body weight or plasma lipids; administration of systemic steroids (other than hormone replacement therapy) or insulin | **N recruited or assessed for eligibility:** NR**N eligible:** 382**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: single blind placebo and mildly hypocaloric diet (-600 kcal/day deficit); minimum diet 1200 kcal; 30% fatRequired compliance: NR (weight loss used for stratification)Length: 2 weeksN (%) retained after run-in: 376 (98.4)**N Randomized:**  Total: 376 IG: 190 CG: 186**Followup (12 mo), n (%):** Total: 323 (85.9) IG: 159 (83.7) CG: 164 (88.2)**Cluster information:** NR | **Age (mean):** 53.5**Sex (% female):** 63.6**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** 74.5**% Diabetes:** 26.1 (type 2)**% Dyslipidemia:** 39.9 (hypercholesterolemia)**Other health problems:** Combinations of hypercholesterolemia, diabetes, and hypertension and with each condition alone |
| Miles, 2002197Fair | **Design:** RCT**Location:** US and Canada**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Patients with type 2 diabetes; 40-65 yrs; BMI 28-43 kg/m2; maintained stable weight for ≥3 mo; HbA1c between 7.5 and 12.0%; received metformin treatment at 1000-2500 mg/day for at least 6 weeks (sulfonylurea therapy in combination with metformin was permitted as long as the sulfonylurea dose was stable for 12 weeks before study entry)**Exclusion:** Receiving insulin, thiazolidinediones, or α-glucosidase inhibitors; any clinical condition that might affect study end points, including renal, hepatic, or endocrine disorders; poorly controlled hypertension (SBP≥160 mmHg or DBP≥100 mmHg); active gastrointestinal disease; previous bariatric surgery; history of bulimia; substance abuse; use of any weight loss medications; women who were pregnant, lactating, or of child-bearing potential | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** NR**N Randomized:**  Total: 516 IG: 255 CG: 261**N ITT:** Total: 504 IG: 250 CG: 254**Followup (12 mo), n (%):** Total: 311 (60) IG: 165 (65) CG: 146 (56)**Cluster information:** NR | **Age (mean):** 53.1 (calc)**Sex (% female):** 48 (calc)**Race/Ethnicity:** *% Caucasian:* 82*% Black:* 12*% Other:* 6**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** 100**% Dyslipidemia:** NR**Other health problems:** NR |
| Richelsen, 2007198Fair | **Design:** RCT**Location:** Multiple sites, Scandinavia**Recruitment Setting:** Clinical research centers**Self-selected:** NR | **Inclusion:** Aged 18-65 years; BMI between 30-45 kg/m2 and a waist circumference ≥102 cm (men) or ≥92 cm (women); one or more of the following risk factors: impaired fasting glucose (plasma glucose ≥6.1 mmol/L), diet-treated type 2 diabetes (plasma glucose ≥7.0 mmol/L) or dyslipidemia (HDL cholesterol ≤0.9 mmol/L for men, ≤1.1 mmol/L for women), and/or serum triglycerides ≥2.0 mmol/L but <10.0 mmol/L**Exclusion:** NR | **N recruited or assessed for eligibility:** NR**N eligible:** 383**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Very-low-energy diet of 600-800 kcal/dayRequired compliance: Body weight loss of ≥5%Length: 8 weeksN (%) retained after run-in: 309 (80.7)**N Randomized:**  Total: 309 IG: 153 CG: 156**Followup (36 mo), n (%):** Total: 200 (64.7) IG: 102 (66.7) CG: 98 (62.8)**Cluster information:** NR | **Age (mean):** 47.0 (calc)**Sex (% female):** 50.8**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** 22.3**% Dyslipidemia:** *% Low HDL (≤0.9/1.1 mmol/L):* 43.4*% High triglycerides (>2.0 mmol/L):* 59.2**Other health problems:** Impaired fasting glucose*Characteristics reported for -2 months* |
| Rossner, 2000199Fair | **Design:** RCT**Location:** 14 centers, Europe**Recruitment Setting:** NR **Self-selected:** NR | **Inclusion:** Aged ≥18 years; BMI 28-43 kg/m2**Exclusion:** Pregnant, lactating, or of childbearing potential but not taking adequate contraceptive measures; any clinically significant condition other than obesity that might affect the outcome of the study; lost >4 kg during the previous 6 months; undergone GI surgery for weight reducing purposes; had a history of post-surgical adhesions or of bulimia or laxative abuse; taken any drug that might influence body weight or serum lipids during 8 weeks before screening; uncontrolled hypertension, drug-treated DM, or history or presence of symptomatic cholelithiasis | **N recruited or assessed for eligibility:** NR**N eligible:** 783**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo plus nutritionally balanced diet that was designed to cause a 600-kcal daily energy deficit and to supply about 30% of energy as fatRequired compliance: 75% assessed by proportion of capsules takenLength: 4 weeksN (%) retained after run-in: 729 (93.1) (calc)**N Randomized:**  Total: 729 (calc) IG1 (60 mg): 242 IG2 (120 mg): 244  CG: 243**Followup (12, 24 mo), n (%):***12 mo* Total: 524 (71.9) (calc) IG1: 185 (76.4) (calc)  IG2: 181 (74.2) (calc) CG: 158 (65.0)*24 mo* Total: 435 (59.7) (calc) IG1: 140 (57.9) (calc)  IG2: 159 (65.2) (calc) CG: 136 (56.0)**Cluster information:** NR | **Age (mean):** 44.2 (calc)**Sex (% female):** 82.3 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** % DBP ≥90 mmHg: 21.6**% Diabetes:** NR**% Dyslipidemia:** % LDL cholesterol ≥3.362 mmol/L: 53.3**Other health problems:** NRNOTE: Reported for 718 subjects only (assume that this excluded the subjects who had no followup assessments, n=11) |
| Sjostrom, 1998200Fair | **Design:** RCT**Location:** Multi-center, Europe**Recruitment Setting:** Hospital waiting lists and local advertising**Self-selected:** Mixed | **Inclusion:** Obese (BMI 28-47 kg/m2) men and women; aged 18 years and over; using adequate contraception (women of child-bearing age)**Exclusion:** Serious diseases, including uncontrolled hypertension and pharmacologically treated diabetes; weight loss of more than 4 kg in the 3 months before screening; surgery for weight reduction; history of post surgical adhesions, bulimia, or laxative abuse; use of any drug that might have influenced body weight or plasma lipids in the month before study entry; drug or alcohol abuse | **N recruited or assessed for eligibility:** 937**N eligible:** 743**N excluded:** 194**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Placebo TID with meals and hypo-caloric diet with -600 kcal/day from total estimated energy expenditure (1.3 times BMR) (roughly 30% of energy from fat); minimum 1200 kcal/dayRequired compliance: 75% compliance calculated from number of capsules returnedLength: 4 weeks**N (%) retained after run-in:** 688 (92.6)**N Randomized:**  Total: 688 IG: 345 CG: 343**N ITT:** Total: 683 IG: 343 CG: 340**Followup (12 mo), n (%):** Total: 544 (79) IG: 284 (82) CG: 260 (76)(Not clear if randomly reassigned at 12 mo)**Cluster information:** NR | **Age (mean):** 44.8 (calc)\***Sex (% female):** 83.0 (calc)\***Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** NR**% Dyslipidemia:** NR**Other health problems:** NR*\* Characteristics from ITT participants* |
| Swinburn, 2005201Fair | **Design:** RCT**Location:** 8 clinical research centers, Australia and New Zealand**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** Aged 40-70 years, BMI 30-50 kg/m2; One or more of the following conditions: hypercholesterolemia (serum total cholesterol >5.5mmol/l and/or LDL >3.5 mmol/L and clinically stable if on treatment), hypertension (systolic >140 mmHg and/or diastolic >90 mmHg and clinically stable if on treatment), and/or Type-2 diabetes treated with dietary modification or any oral hypoglycemic agent for 6+ months and clinically stable (glycated hemoglobin: 6.5-10%)**Exclusion:** History of significant cardiac, renal, hepatic, gastrointestinal, or endocrine disorders; uncontrolled hypertension; previous gastrointestinal surgery for weight reduction; history of post-surgical adhesions; smoking; history or presence of substance abuse, bulimia, type-1 diabetes, psychiatric disorders, or active gastrointestinal disease | **N recruited or assessed for eligibility:** 352**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** Description: Single blind placebo lead-in period with advice on reducing dietary fat and increasing physical activity levels Required compliance: NRLength: 4 weeksN (%) retained after run-in: NR**N Randomized:**  Total: 339 IG: 170 CG: 169**Followup (12 mo), n (%):** Total: 269 (79.4) (calc) IG: 132 (77.6 (calc)) CG: 137 (81.1 (calc))**Cluster information:** NR | **Age (mean):** 52.2 (calc)**Sex (% female):** 56.9 (calc), significantly greater in CG**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** 56.6 (calc)**% Diabetes:** *% Type 2 diabetes:* 26.8 (calc)**% Dyslipidemia:** *% Hypercholesterolemia:* 65.5 (calc)**Other health problems:** 10 year risk CV disease |
| Torgerson, 2004202Torgerson, 2001291XENDOSFair | **Design:** RCT**Location:** 22 medical centers, Sweden**Recruitment Setting:** Newspaper advertisements**Self-selected:** Y | **Inclusion:** Aged 30-60 years; BMI ≥30 kg/m2; nondiabetic glucose tolerance (2-hour whole blood glucose <10.0 mmol/L and fasting whole blood glucose <6.7 mmol/L); IGT (fasting whole blood glucose <6.7 mmol/L and 2-hour whole blood glucose 6.7-10.0 mmol/L)**Exclusion:** Diabetes; ongoing and active cardiovascular and gastrointestinal disease; change in body weight >2 kg between screening and baseline examinations; SBP >165 mmHg or DBP >105 mmHg on the same 2 consecutive visits; MI within 6 months; symptomatic cholelithiasis; gastrointestinal surgery for weight reduction; peptic ulcer; active pancreatic disease; malignancy; significant psychiatric or neurologic disorder; abuse or previous participation in any trial of orlistat | **N recruited or assessed for eligibility:** 20,401**N eligible:** 3373**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** NR**N Randomized:**  Total: 3305 IG: 1650 CG: 1655**Followup, n (%):** *12 mo*  Total: 2746 (83.1) (calc) IG: 1478 (calc) (89.6)  CG: 1268 (calc) (76.6)*48 mo* Total: 1414 (42.8%) IG: 850 (52%) , ITT 1640 (99.4 (calc)) CG: 564 (34%), ITT 1637 (98.9 (calc))**Cluster information:** NR | **Age (mean):** 43.3 (calc)**Sex (% female):** 55.2 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:** 0**% Dyslipidemia:** NR**Other health problems:** NR |
| **Metformin Trials** |  |  |  |  |
| Fontbonne, 1996185BIGPROFair | **Design:** RCT**Location:** France**Recruitment Setting:** NR**Self-selected:** NR | **Inclusion:** High waist-to-hip ratio (≥0.95 for men, ≥0.80 for women); men aged 35-60 years; women aged 40-65 years**Exclusion:** Ischemic cardiovascular disease (diagnosed before inclusion or detected by ECG required for inclusion; diabetes (diagnosed before inclusion or by OGTT at inclusion); heavy chronic medical treatment; serious life-threatening medical conditions; psychiatric disorders; impaired renal function (plasma creatinine ≥15 mg/dL) | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial:** NR**N Randomized:**  Total: 457 IG: 227 CG: 230**Followup (12 mo), n (%):** Total: 324 (70.9) IG: 164 (72.2) CG: 160 (69.6)**Cluster information:** NR | **Age (mean):** 49.5**Sex (% female):** 66.7 (calc)**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** *% With antihypertensive treatment:* 33.0 (calc)**% Diabetes:***% Abnormal glucose tolerance:* 21.5**% Dyslipidemia:** NR**Other health problems:** NR*Characteristics at baseline are for those for participants who complete study; Also present baseline characteristics of subjects present and absent at 12 months* |
| Gambineri, 2006186Fair | **Design:** RCT**Location:** Italy**Recruitment Setting:** Division of Endocrinology, S. Orsola-Malpighi Hospital**Self-selected:** Probably not but did not state that all PCOS were assessed so could have been some volunteer recruitment through fliers, etc. | **Inclusion:** Women with polycystic ovarian syndrome (Rotterdam consensus: (*need 2 of the following*)) 1. chronic anovulation or severe oligomenorrhea/amenorrhea, 2. hirsutism or total testosterone levels of at least 0.72 ng/mL, 3. polycystic ovarian morphology at ultrasound); aged 18-45 years; BMI of at least 28 kg/m2; waist circumference of at least 88 cm; consistent with an abdominal fat distribution phenotype**Exclusion:** Use of any medication or a significant modification in body weight within the previous 3 months or dieting; hyperprolactinemia; Cushing's syndrome; late-onset congenital adrenal hyperplasia; thyroid dysfunction; diabetes; cardiovascular, renal, or liver diseases | **N recruited or assessed for eligibility:** 140**N eligible:** 85**N excluded:** 55**N refused or other reason:** 5**Pre-randomization compliance trial:** NR | **Age (mean):** 27.0 (calc)**Sex (% female):** 100**Race/Ethnicity:** NR**SES (income, education):** NR**% Hypertension:** NR**% Diabetes:***% Impaired glucose tolerance and/or impaired fasting glucose:* 33**% Dyslipidemia:** NR**Other health problems:** 100% Polycystic ovarian syndrome |
| Diabetes Prevention Program Research Group, 1999142Haffner, 2005212 Orchard, 2005262Diabetes Prevention Program Research Group, 2006210Ratner, 2005207Knowler, 2002206West, 2008214Rubin, 2005205Ackermann, 2009211Diabetes Prevention ProgramGood | **Design:** RCT**Location:** 27 clinical centers (research and community based), US**Recruitment Setting:** Mass media, mail, telephone contacts, and recruitment through employment or social groups or health care systems**Self-selected:** Assume mostly self-selected | **Inclusion:** Fasting plasma glucose 95-125 mg/dL (≤125 mg/dL in American Indian clinics); 2-hour postchallenge glucose 140-199 mg/dL after a 75 g glucose load; aged ≥25 years; BMI ≥24 kg/m2 (≥22 kg/m2 for Asian Americans)**Exclusion:** Diabetes at baseline; medical conditions likely to limit life span and/or increase risk of intervention; conditions or behaviors likely to affect conduct of the trial; medications and medical conditions likely to confound the assessment for diabetes | **N recruited or assessed for eligibility:** NR**N eligible:** NR**N excluded:** NR**N refused or other reason:** NR**Pre-randomization compliance trial**Description: Compliance with pill taking (placebo) and diet and exercises recordkeeping, no further detailRequired compliance: NRLength: 3 weeksN (%) retained after run-in: NR**N Randomized:**  Total: 3234 IG-Metformin: 1073 IG-Lifestyle: 1079 CG: 1082**Followup (12 mo, 36 mo), n (%):***12 mo* Total: 3070 (94.9) (calc) IG-M: 1017 (94.8 (calc)) IG-L: 1026 (95.1 (calc)) CG: 1027 (94.9 (calc))*36 mo* Total: 1921 (59.4) (calc) IG-M: 626 (58.3 (calc)) IG-L: 638 (59.1 (calc))  CG: 657 (60.7 (calc))**Cluster information:** NR | **Age (mean):** 50.6**Sex (% female):** 67.7**Race/Ethnicity:** *% White:* 54.7*% African American:* 19.9*% Hispanic:* 15.7*% American Indian:* 5.3*% Asian/Pacific Islanders:* 4.4**SES (income, education):** NR**% Hypertension:** 29.6 **% Diabetes:** 0**% Dyslipidemia:** 44.1% had elevated LDL or taking medication**Other health problems:** History of stroke, revascularization, MI, MI by ECG, elevated TG, metabolic syndrome |