Abbreviations:

95% CI: 95% confidence interval
ALSWH: Australian Longitudinal Study on Women's Health
BMI: Body Mass Index
BWHS: Black Women's Health Study
CARDIA: Coronary Artery Risk Development in Young Adults
CCHS: Copenhagen City Heart Study
CGPS: Copenhagen General Population Study
CHNS: China Health and Nutrition Survey
CPS II: Cancer Prevention Study II
EPIC: European Prospective Investigation Into Cancer and Nutrition
FFQ: Food frequency questionnaire
FHS: Framingham Heart Study
GESUS: General Suburban Population Study
HANDLS: Healthy Aging in Neighborhoods of Diversity across the Life Span
HR: Hazard ratio
KoGES: Korean Genome and Epidemiology Study
M: Men
MUFA: Monounsaturated fat
NHS: Nurses' Health Study
NR: Not reported
OR: Odds ratio
OYS: Oslo Youth Study
PHS: Physician Health Study
PREDIMED: Prevención con Dieta Mediterránea
PUFA: Polyunsaturated fat
RCT: Randomized controlled trial
RR: Risk ratio
SSB: sugar sweetened beverages
SFA: Saturated fat
SFFQ: semi-quantitative food frequency questionnaire
SMC: Sweden Mammography cohort
SPHC: Stockholm Public Health Cohort
SUN: Seguimiento University of Navarra
US: United States
SWAN: Study of Women's Health Across the Nation
W: Women
WHS: Women's Health Study

Supplemental Methods 1: NutriGrade Scoring system for prospective cohort studies

1) Risk of bias/ study quality/ study limitations **(2 P)**
    a. No information available (0 P)
    b. Risk of bias (2 P)
        i. Ascertainment of exposure[1]
        ii. Adjusted basic & outcome relevant model[1]
        iii. Assessment of outcome[1]
        iv. Adequacy of follow-up duration[1]
    c. Study quality (2 P)[2]
2) Precision **(1 P)**
    a. <500 events OR ≥500 events but 95% CI overlaps the null, and includes important benefit (RR: <0.8) or harm (RR: >1.2) (0 P)
    b. ≥500 events and the 95% CI excludes the null values; ≥500 events but 95% CI overlaps the null, and excludes important benefit (RR: <0.8) or harm (RR: >1.2) (1 P)
3) Heterogeneity **(1 P)**
    a. ≤ 5 studies (0 P)
    b. 6-9 studies (if ≥10 studies; multiply by 2):
        i. I^2 (H^2 and/or tau^2) (0.1 P)
        ii. CIs for I^2 (0.1 P)
        iii. If I^2 <40% (0.3 P) skip iv
        iv. Modelling detected heterogeneity (I^2 ≥40%) with random effects model (0.1 P)
            1. Exploring detected heterogeneity with subgroup analysis or meta-regression (0.1 P)
            2. Sensitivity analyses with higher levels of heterogeneity (0.1 P)
4) Directness **(1 P)**
    a. Differences in population; differences in intervention; surrogate markers; network meta-analysis (0 P)
    b. No important differences in population or intervention; hard clinical outcome (1 P)
5) Publication bias **(1 P)**
    a. <5 studies OR evidence for severe bias with test or plot OR publication bias not assessed (0 P)
    b. No evidence for publication bias with test or plot (5-9 studies) OR evidence for moderate/small amount of publication bias with test or plot (0.5 P)
    c. No evidence for publication bias with test or plot (≥10 studies) (1 P)
6) Funding bias **(1 P)**
    a. Industry funding OR conflict of interest (0 P)
    b. Private institutions, foundations, non-governmental organizations (0.5 P)
    c. Academic institutions, research institutions (1 P)
7) Effect size **(2 P)**
    a. No effect (HR/RR: 0.80-1.20) (0 P)
    b. Moderate effect size (HR/RR: <0.80-0.50 or >1.2-2.00) (1 P)
    c. Large effect size (HR/RR: <0.50 or >2.00) (2 P)
8) Dose-response **(1 P)**
    a. No dose-response relationship (corresponding statistical test non-significant) (0 P)
    b. Linear and/ or non-linear dose-response relationship (corresponding statistical test significant) (1 P)

Overall Score[3]

P: point(s); RR: risk ratio.
[1] ≥2/3 of studies low risk of bias = 0.5 P; >1/3 of studies high risk of bias OR not assessed = 0 P; unclear risk of bias = 0.25 P)
[2] cut-off for different quality scale (≥3/4 of overall score= 2 P; ≥1/2 of overall score= 1 P; <1/2 of overall score= 0 P); i.e. **Newcastle-Ottawa Scale** (mean): ≥7= 2 P; 4-6.9= 1 P; 0-3.9= 0 P;
[3] 0-3.99: very low meta-evidence; 4-5.99: low meta-evidence; 6-7.99: moderate meta-evidence; ≥8: high meta-evidence.

Supplemental Table 1: Search strategy (PubMed):
#1 food*[tiab] OR whole grain*[tiab] OR refined grain*[tiab] OR cereal*[tiab] OR pasta*[tiab] OR rice*[tiab] OR potato*[tiab] OR vegetables*[tiab] OR fruit*[tiab] OR nut*[tiab] OR legume*[tiab] OR bean*[tiab] OR egg*[tiab] OR dairy[tiab] OR dairies[tiab] OR milk[tiab] OR yogurt[tiab] OR cheese[tiab] OR fish[tiab] OR seafood[tiab] OR meat[tiab] OR processed meat[tiab] OR sugar sweetened beverage*[tiab]
#2 anthropometry[tiab] OR "body weight"[tiab] OR obesity[tiab] OR obese[tiab] OR overweight[tiab] OR "weight gain"[tiab] OR "weight change"[tiab] OR adiposity[tiab] OR "body mass"[tiab] OR BMI[tiab] OR "waist circumference"[tiab] OR "abdominal fat"[tiab] OR "body fatness"[tiab] OR"body size"[tiab] OR "body fat distribution"[tiab] OR "waist-to-hip ratio" [tiab] OR "waist hip ratio"[tiab]
#3 prospective OR cohort OR longitudinal OR follow-up OR case-cohort OR nested case-control
#4 (#1 AND #2 AND #3)

Supplemental Table 2: Included studies and definition for each food group

Food group	Definition	Reference
Whole grains	Whole-grain bread, whole-grain breakfast cereals, popcorn, cooked oatmeal, wheat germ, brown rice, bran, and other grains (e.g. bulgur, kasha, couscous)	(37-42)
Refined grains	White bread, refined-grain breakfast cereal, pasta, white rice, pizza, sweet rolls and cakes or desserts, muffins or biscuits, pancakes or waffles	(37, 38, 40, 41)
Vegetables	Cruciferous vegetables (e.g. broccoli, cabbage, cauliflower and brussels sprouts), dark and yellow vegetables (e.g. carrots, yellow squash, yams and sweet potatoes), green leafy vegetables (e.g. spinach, kale and lettuce), corn, mixed vegetables, celery, eggplant, mushrooms, pickled vegetables, seaweed, garlic, zucchini, cucumber, onion, asparagus, green, red, yellow pepper, tomato	(39, 43, 44-48)
Fruit	Citrus fruits (grapefruit, grapefruit juice, orange, and orange juice), berries (blueberries and strawberries), apple, peach, nectarine, apricot, watermelon, melon, grapes, cherry, fig, banana, olives	(39, 43, 45, 47-49)
Nuts	Peanuts, tree nuts (walnuts and other nuts), almonds, hazelnuts, salted peanuts, seeds	(47, 50-53)
Legumes	Lentils, beans, peas, string beans, tofu	(45, 47)
Eggs	Eggs, omelette, fried and scrambled eggs	(47, 54)
Dairy products	Low-fat/skim milk, whole milk, condensed milk, skim yogurt, whole yogurt, custard, all types of cheeses, sherbet, cream, sour cream, ice cream, butter	(39, 47, 55-64)
Fish	Dark-meat fish, white-meat fish (e.g. hair tail or Alaska Pollack), canned tuna, salt-preserved fish, non-fried fish, fried fish	(47, 65-67)
Red meat	Pork, veal, lamb, beef, mutton, processed red meat (sausages, salami, ham), hamburger, meatloaf	(39, 68-70)
Processed meat	Salami, cold-cut sausage, ham, fried sausage, liver sausage	(47, 68)
SSB	Sugar-sweetened carbonated colas (e.g. Coke, Pepsi, Sprite), separately categorized into caffeinated or decaffeinated drinks, fruit-flavored carbonated sugar soft drinks	(56, 69, 71-79)

Supplemental Table 3: Reasons for exclusion

Supplemental Reference	**Reason for exclusion**
(1-84)	Not relevant exposure/ outcome
(73, 85-117)	No risk estimates (RR/ HR/ OR)
(118-149)	Not relevant study design
(150-164)	Reviews/ meta-analysis
(165-174)	Not relevant association
(175-184)	Abstracts
(185-187)	Comments/ Letter
(188, 189)	in children
(190)	Updated report available
(8, 22, 59, 60, 63, 64, 85, 88, 89, 94, 95, 98, 114, 115, 137, 191-226)	Duplicates

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Supplemental Table 4: Conversion of 1 serving of intake in grams[1]

Food group	**Amount**
Refined grains/whole grains	30 grams
Vegetables/fruits	80 grams
Nuts	28 grams
Legumes	100 grams
Eggs	55 grams
Dairy	200 grams
Fish	100 grams
Red meat	85 grams
Processed meat	30 grams
Sugar sweetened beverages	250 mL/grams

[1]World Cancer Research Fund International: Continuous Update Project (CUP). London (2017). http://www.wcrf.org/int/research-we-fund/continuous-update-project-cup (last access: 16.07.2017)

Supplementary data

Supplemental Table 5: General study characteristics of the included studies investigating the association between whole grain intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, *n***	**Total cases, *n***	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of whole grains**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) RR/HR/OR (95% CI)**
Bautista-Castano (37)	2013	Spain	PREDI MED	55-80	M & W	*2213*	*540*	SFFQ (validated)	Weight gain: >2 kg over a mean period of 4 years	Assessment of weight and height measured with calibrated scales and wall-mounted stadiometers. Waist circumference was measured midway between the lower rib margin and the iliac crest using an anthropometric tape	Whole-grain bread	Age, sex, intervention group, weight at baseline, prevalence of diabetes mellitus at baseline, change in energy, alcohol, proteins, SFA, PUFA and MUFA intake, change in smoking and physical activity.	4	Weight gain: OR: 1.03 (0.75, 1.42) Fourth vs. first quartile
Bazzano et al. (38)	2005	US	PHS	40-84	M	*22071*	*2713 (Over-weight)* *1550 (Weight gain: ≥10 kg)*	SFFQ (validated in the NHS)	Overweight Weight gain: ≥10 kg over a mean period of 13 years	Self-reported	Whole-grain breakfast cereals	Age, smoking, baseline BMI, alcohol, physical activity, history of hypertension, history of high cholesterol, and use of multivitamins	13	Overweight: RR: 0.91 (0.79, 1.05) Weight gain: RR: 0.78 (0.64, 0.96) Fourth vs. first quartile
Boggs et al. a (39)	2013	US	BWHS	21-39	W	*19885*	*7183*	FFQ (validated)	Obesity	Self-reported (validated)	Whole grain	Age, total energy intake, baseline BMI, vigorous exercise, television watching, education, geographic region,	16	Obesity: HR: 0.85 (0.76, 0.95) in relation to

												smoking status, parity, age at first birth, and all other components within the respective diet quality index		2001 AHEI-2010 and DASH component scores (quintile 5 vs. quintile 1)
De la Fuente-Arrillaga et al. (40)	2014	Spain	SUN	38	M & W	*9267*	*943*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated)	Whole-grain bread	Age, sex, physical activity, time spent in TV watching, total time of sedentary activities, smoking status, baseline BMI, fiber intake, total energy intake, olive oil consumption, soft-drinks, and fast-food consumption	5	Overweight/ Obesity: OR: 0.66 (0.35, 1.24) Fourth vs. first quartile
Liu et al. (41)	2003	US	NHS	38-63	W	*74091*	*6400 (Obesity)* *657 (Weight gain: ≥25 kg)*	FFQ (validated)	Obesity Weight gain: ≥25 kg over a mean period of 12 years	Self-reported (validated)	Whole-grain	Age, changes in exercise, changes in smoking status, changes in hormone replacement therapy status, changes in intakes of alcohol, caffeine, and total energy; changes in intakes of saturated fat, polyunsaturated fat, monounsaturated fat, trans fat, and protein; and BMI at baseline.	12	Obesity: OR: 0.81 (0.73, 0.91) Weight gain: OR: 0.77 (0.59, 1.01) Fifth vs. first quintile
Quatela et al. (42)	2017	Australia	ALSWH	45-50	W	*>58000*	*308*	FFQ (validated)	Obesity	Self-reported (validated)	High fiber (or whole grain) breakfast cereal	Smoking, managing income, area of residency, physical activity, hypertension, daily energy intake, fiber and other breakfast cereals consumption, dietary and non-dietary confounding factors	12	Obesity: OR: 0.79 (0.57, 1.10) Yes vs. no at Survey 3

Supplemental Table 6: General study characteristics of the included studies investigating the association between refined grain intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of refined grains**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Bautista-Castano et. al. (37)	2013	Spain	PREDI MED	55-80	M & W	*2213*	*540*	SFFQ (validated)	Weight gain: >2 kg over a mean period of 4 years	Assessment of weight and height measured with calibrated scales and wall-mounted stadiometer; Waist circumferen ce was measured midway between the lower rib margin and the iliac crest using an anthropo-metric tape	White bread	Age, sex, intervention group, weight at baseline, prevalence of diabetes mellitus at baseline, change in energy, alcohol, proteins, SFA, PUFA and MUFA intake and change in smoking and physical activity.	4	Weight gain: OR: 1.16 (0.83, 1.62) Fourth vs. first quartile
Bazzano et al. (38)	2005	US	PHS	40-84	M	*22071*	*2713 (Over-weight)* *1550 (Weight gain: ≥10 kg)*	SFFQ (validated in the NHS)	Overweight Weight gain: ≥10 kg over a mean period of 13 years	Self-reported	Refined-grain breakfast cereals	Age, smoking, baseline BMI, alcohol, physical activity, history of hypertension, history of high cholesterol, and use of multivitamins	13	Overweight: RR: 0.81 (0.65, 1.01) Weight gain: RR: 0.77 (0.56, 1.06)

														Fourth vs. first quartile
De la Fuente-Arrillaga et al. (40)	2014	Spain	SUN	38	M & W	*9267*	*943*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated)	White-grain bread	Age, sex, physical activity, time spent in TV watching, total time of sedentary activities, smoking status, baseline BMI, fiber intake, total energy intake, olive oil consumption, soft-drinks, and fast-food consumption	5	Overweight/ Obesity: OR: 1.43 (1.11, 1.85) Fourth vs. first quartile
Liu et al. (41)	2003	US	NHS	38-63	W	*74091*	*6400 (Obesity)* *657 (Weight gain: ≥25 kg)*	FFQ (validated)	Obesity Major weight gain: ≥25 kg over a mean period of 12 years	Self-reported (validated)	Refined grains	Age, changes in exercise, changes in smoking status, changes in hormone replacement therapy status, changes in intakes of alcohol, caffeine, and total energy; changes in intakes of saturated fat, polyunsaturated fat, monounsaturated fat, trans fat, and protein; and BMI at baseline.	12	Obesity: OR: 1.18 (1.08, 1.28) Major weight gain: OR: 1.26 (0.97, 1.64) Fifth vs. first quintile

Supplemental Table 7: General study characteristics of the included studies investigating the association between vegetables intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of vegetables**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Boggs et al. a (39)	2013	US	BWHS	21-39	W	*19885*	*7183*	FFQ (validated)	Obesity	Self-reported (validated)	Vegetables	Age, total energy intake, baseline BMI, vigorous exercise, television watching, education, geographic region, smoking status, parity, age at first birth, and all other components within the respective diet quality index	16	Obesity: HR: 0.95 (0.83, 1.09) in relation to 2001 AHEI-2010 and DASH component scores (Fifth vs. first quintile)
He et al. (43)	2004	US	NHS	38-63	W	*74063*	*6530*	FFQ (validated)	Obesity Major weight gain: ≥25 kg over a mean period of 12 years	Self-reported (validated)	Vegetables	Age, year of follow-up, change in physical activity, change in cigarette smoking status, changes in alcohol consumption and caffeine intake, change in use of hormone replacement therapy, and changes in energy-adjusted intakes of saturated fat, polyunsaturated fat, monounsaturated fat, trans-unsaturated fatty acid, protein, and total energy and baseline BMI	12	Obesity: OR: 0.84 (0.75, 0.93) Major weight gain: OR: 0.76 (0.59, 0.99) Fifth vs. first quintile
Kahn et al. (44)	1997	US	CPS II	50-74	M & W	*31343*	*16011*	Diet history	Weight gain at the waist	Self-reported	Vegetables	Age, education, region of the country, baseline BMI, slope of BMI from 18 years of age to 1982, change in marital status, total calorie	10	Weight gain: OR: 0.77 (0.70, 0.85) Third vs.

												intake, cigarette smoking, meat and vegetable intake, vitamin E use, alcohol intake, physical activities, and, for women, menopausal status, estrogen use, and parity		first tertile
Rautiainen et al. (45)	2015	US	WHS	≥45	W	*18146*	*8125*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated in the NHS)	Vegetables	Age, randomization treatment assignment, physical activity, history of hypercholesterolemia or hypertension, smoking status, postmenopausal status, postmenopausal hormone use, alcohol use, multivitamin use, and energy intake.	15.9	Overweight/ Obesity: HR: 0.99 (0.91, 1.07) Fifth vs. first quintile
Sawada et al. (46)	2015	Japan	NR	19-60	M & W	*1250*	*42*	FFQ (validated)	Weight gain: >3 kg per year	All participants were measured at the same clinic using the same measurement equipment	Vegetables	Age, sex, total energy, marriage status, weight at baseline, and energy-adjusted consumption of fish, cereals, fruits, milk, Japanese sweets, sweetened beverages, sugar, dressing, and alcohol	1	Weight gain: OR: 0.27 (0.08, 0.99) Fourth vs. first quartile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Vegetables	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 0.99 (0.90, 1.09) For 100 g/d increase
Vioque et al. (48)	2008	Spain	NR	42	M & W	*206*	*95*	FFQ (validated)	Weight gain: >3.41 kg over a mean period of 10 years	Clinical examinations	Vegetables	Sex, age, educational level, BMI, time spend watching TV, presence of disease, height, total energy, and energy-adjusted intakes of protein, SFA, MUFA, PUFA ,fiber, caffeine, and alcohol consumption; self-reported change of fruit intake over the past 10 years and the self-reported change of vegetable intake over	10	Weight gain: OR: 0.18 (0.05, 0.73) Fourth vs. first quartile

												past 10 years		

Supplemental Table 8: General study characteristics of the included studies investigating the association between fruit intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of fruit**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Boggs et al. a (39)	2013	US	BWHS	21-39	W	*19885*	*7183*	FFQ (validated)	Obesity	Self-reported (validated)	Fruit	Age, total energy intake, baseline BMI, vigorous exercise, television watching, education, geographic region, smoking status, parity, age at first birth, and all other components within the respective diet quality index	16	Obesity: HR: 1.00 (0.88, 1.14) in relation to 2001 AHEI-2010 and DASH component scores (quintile 5 vs. quintile 1)
De Munter et al. (49)	2015	Sweden	SPHC	18-84	M/W	*23108*	*2767*	NR	Overweight/ Obesity	Self-reported (validated)	Fruit	Age, education, lifestyle habits	8	Overweight/ Obesity: RR: 0.91 (0.85, 0.97) ≥Daily vs. less than daily
He et al. (43)	2004	US	NHS	38-63	W	*74063*	*6530 (Obesity)* *669 (Major weight gain: ≥25 kg)*	FFQ (validated)	Obesity Major weight gain: ≥25 kg over a mean period of 12 years	Self-reported (validated)	Fruit	Age, year of follow-up, change in physical activity, change in cigarette smoking status, changes in alcohol consumption and caffeine intake, change in use of hormone replacement therapy, and changes in energy-adjusted intakes of saturated fat, polyunsaturated fat, monounsaturated fat, trans-	12	Obesity: OR: 0.76 (0.68, 0.84) Major weight gain: OR: 0.73 (0.56, 0.95) Fifth vs. first quintile

												unsaturated fatty acid, protein, and total energy and baseline BMI		
Rautiainen et al. (45)	2015	US	WHS	≥45	W	*18146*	*8125*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated in the NHS)	Fruit	Age, randomization treatment assignment, physical activity, history of hypercholesterolemia or hypertension, smoking status, postmenopausal status, postmenopausal hormone use, alcohol use, multivitamin use, and energy intake.	15.9	Overweight/ Obesity: HR: 0.87 (0.80, 0.94) Fifth vs. first quintile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Fruit	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 0.94 (0.88, 1.00) for 100 g/d increase
Vioque et al. (48)	2008	Spain	NR	42	M & W	*206*	*95*	FFQ (validated)	Weight gain: >3.41 kg over a mean period of 10 years	Clinical examination	Fruit	Sex, age, educational level, BMI, time spend watching TV, presence of disease, height, total energy, and energy-adjusted intakes of protein, SFA, MUFA, PUFA, fiber, caffeine, and alcohol consumption; self-reported change of fruit intake over the past 10 years and the self-reported change of vegetable intake over past 10 years	10	Weight gain: OR: 0.62 (0.18, 2.10) Fourth vs. first quartile

Supplemental Table 9: General study characteristics of the included studies investigating the association between nuts intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of nuts**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Bes-Rastrollo et al. (50)	2007	Spain	SUN	38	M & W	*8865*	*434 (Overweight / Obesity)* *937 (Weight gain: ≥5 kg)*	SFFQ (validated)	Overweight/ Obesity Weight gain: ≥5 kg over a mean period of 2.3 years	Self-reported (validated)	Nuts	Age, sex, baseline BMI, leisure-time physical activity; smoking status, snacking, television watching	2.3	Overweight/ Obesity: OR: 0.73 (0.48, 1.11) Weight gain: OR: 0.73 (0.55, 0.96) Fourth vs. first quartile
Bes-Rastrollo et al. (51)	2009	US	NHS	20-45	W	*51188*	*5924*	FFQ (validated)	Obesity	Self-reported (validated)	Nuts	Age, alcohol, physical activity, smoking, postmenopausal hormone use, oral contraceptive use, baseline BMI, glycemic load, and intakes of total fiber, trans fat, fruit, vegetables, red meat, processed meat, refined grain, whole grain, snacks, sugar-sweetened beverages, diet beverages, low-fat dairy products, and high-fat dairy products, changes in the adherence of prudent and Western dietary patterns	8	Obesity: OR: 0.81 (0.61, 1.08) Fourth vs. first quartile
Fernandez-Montero et al. (52)	2013	Spain	SUN	38	M & W	*9887*	*4290*	SFFQ (validated)	Abdominal Obesity: according to the	Self-reported (validated)	Nuts	Age, BMI, smoking, physical activity, alcohol intake and total energy intake.	6	Abdominal Obesity: OR: 0.76 (0.65, 0.89)

									population- and country-specific definition (≥94 cm for men and ≥80 cm for women)					Fourth vs. first quartile
Freisling et al. (53)	2017	Europe	EPIC	20-70	M & W	*373293*	*31215*	SFFQ (validated)	Overweight/ Obesity	Self-reported (validated)	Nuts	Age, sex, country/center, BMI at baseline, follow-up time in years, total energy intake, educational level, levels of physical activity, smoking status at follow-up, and plausibility of dietary energy reporting, and for the modified relative Mediterranean diet score	5	Overweight/ Obesity: RR: 0.95 (0.92, 0.98) Fourth vs. first quartile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Nuts	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 1.06 (0.47, 2.39) for 100 g/d increase

Supplemental Table 10: General study characteristics of the included studies investigating the association between legume intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of legumes**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Rautiainen et al. (45)	2015	US	WHS	≥45	W	*18146*	*8125*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated in the NHS)	Legumes	Age, randomization treatment assignment, physical activity, history of hypercholesterolemia or hypertension, smoking status, postmenopausal status, postmenopausal hormone use, alcohol use, multivitamin use, and energy intake.	15.9	Overweight/ Obesity: HR: 0.87 (0.81, 0.94) Fifth vs. first quintile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Legumes	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 0.89 (0.64, 1.24) for 100 g/d increase

Supplemental Table 11: General study characteristics of the included studies investigating the association between egg intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of eggs**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Woo et al. (54)	2016	Korea	KoGES	≥40	M & W	*1663*	*NR*	FFQ (validated)	Abdominal Obesity: ≥90 cm in men and ≥85 cm in women;	Visit in the clinic	Eggs	Age, educational level, physical activity, energy intake	3.2	Abdominal Obesity: RR: 0.97 (0.59, 1.59) Fourth vs. first quartile
Schulz et al. (47)	2002	Germany	EPIC-Pots-dam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Eggs	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 1.54 (1.00, 2.37) for 100 g/d increase

Supplemental Table 12: General study characteristics of the included studies investigating the association between dairy intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of dairy**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Babio et al. (55)	2015	Spain	PREDI-MED	55-80	M & W	*1868*	*1040*	FFQ (validated)	Abdominal Obesity: for European individuals (>102 cm for men and >88 cm for women)	Determined by trained staff	Dairy	Age, sex, physical activity, BMI, energy intake, smoking, and use of hypoglycemic, hypolipidemic, antihypertensive and insulin treatment at baseline, vegetable, fruit, legumes, cereals, fish, red meat, alcohol, biscuits, olive oil and nuts during the follow-up	3.2	Abdominal Obesity: HR: 1.06 (0.83, 1.36) Third vs. first tertile
Bergholdt et al. (61)	2015	Denmark	CCHS CGPS GESUS	20-100	M & W	*97811*	*41949*	FFQ	Overweight/ Obesity	Self-reported	Milk	Sex, age, physical activity, smoking, alcohol intake, education, family history of diabetes, and intakes of fruit, vegetable , fish, fast food, and soda drinks	5.5	Overweight/ Obesity: HR: 1.07 (1.02, 1.12) Fifth vs. first quintile
Beydoun et al. (64)	2018	US	HAND LS	30-64	M & W	*1371*	*NR*	24-h dietary recall	Obesity Abdominal Obesity: >102 cm for men and >88 cm for women	Measured	All milk	Age, sex, race, socio-economic status, energy intake, current smoking, current drug use and self-rated health, total fruit, dark green vegetables, deep yellow vegetables, whole grains, non-whole grains, legumes, nuts/seeds, soya, total meat/poultry/fish, eggs, grams of discretionary solid fat, discretionary oils, added sugars, alcoholic beverages, and caffeine	5	Obesity: HR: 0.98 (0.90, 1.06) Abdominal Obesity: HR: 1.00 (0.75, 1.36) Per cup/d
Boggs et al. a (39)	2013	US	BWHS	21-39	W	*19885*	*7183*	FFQ (validated)	Obesity	Self-reported (validated)	Low-fat dairy	Age, total energy intake, baseline BMI, vigorous exercise, television watching,	16	Obesity: HR: 1.16 (0.99, 1.36)

												education, geographic region, smoking status, parity, age at first birth, and all other components within the respective diet quality index		in relation to 2001 AHEI-2010 and DASH component scores (quintile 5 vs. quintile 1)
Funtikova et al. (56)	2015	Spain	NR	25-74	M & W	*3058*	*336*	FFQ (validated)	Abdominal Obesity: >102 cm for men and >88 cm for women	Measured	Milk	Age, sex, baseline waist circumference, smoking, energy intake, educational level, physical activity, modified Mediterranean Diet score, and energy under- and over-reporting	10	Abdominal Obesity: RR: 1.00 (0.85, 1.18) Third vs. first tertile
Kim et al. al. (57)	2017	South Korea	KoGES	40-69	M & W	*5510*	*1475*	FFQ (validated)	Abdominal Obesity: ≥90 cm in men or ≥80 cm in women	Measured	Dairy	Age, BMI, residential location, educational level, household income, smoking status, alcohol intake and physical activity, nutrient intakes such as energy and energy-adjusted calcium and fiber.	5.6	Abdominal Obesity: HR: 0.72 (0.52, 0.99) Fifth vs. first quintile
Martinez-Gonzalez et al. (62)	2014	Spain	SUN	37	M & W	*8516*	*1860*	FFQ (validated)	Overweight/ obesity	Self-reported (validated)	Yogurt	Age, sex, physical activity, hours of TV watching, hours spent sitting down, smoking status, snacking between meals, following a special diet, energy intake, and adherence to the Mediterranean diet, marital status, and years of education and BMI	6.6	Overweight/ Obesity: HR: 0.80 (0.68, 0.94) Fifth vs. first quintile
Pereira et al. (58)	2002	US	CARDIA	18-30	M & W	*5515*	*619*	FFQ (validated)	Obesity	Measured	Dairy	Age, sex, race, energy intake, study center, BMI, education, alcohol, smoking, physical activity, vitamin supplements, caffeine, PUFA, fiber, whole grains, meat, fruit, vegetable, soda, magnesium, calcium, vitamin D, protein, saturated fat, potassium	10	Obesity: OR: 0.82 (0.72, 0.93) Per 1 Daily Eating Occasion

Rautiainen et al. (59)	2016	US	WHS	≥45	W	*18438*	*8238*	FFQ (validated)	Overweight/ Obesity	Self-reported (validated in the NHS)	Dairy	Age, randomization treatment, smoking status, physical activity, postmenopausal status, postmenopausal hormone use, history of hypercholesterolemia, history of hypertension, multivitamin use, alcohol intake, energy intake, and fruit and vegetable intake	11.2	Overweight/ Obesity: HR: 0.96 (0.89, 1.04) Fifth vs. first quintile
Rosell et al. (60)	2006	US	SMC	40-55	W	*19352*	*NR*	FFQ (validated)	Weight gain: >1 kg over a mean period of 8.8 years	Self-reported	Dairy	Age, height and weight at baseline, education, parity, intakes at baseline of energy, fat, carbohydrate, protein, fiber, and alcohol, absolute change in intakes of these nutrients during follow-up	8.8	Weight gain: OR: 0.94 (0.90, 0.98) ≥1 vs. <1 servings/d consumption at baseline
Sayon-Orea et al. (63)	2015	Spain	SUN	37	M & W	*8063*	*2029*	FFQ (validated)	Abdominal Obesity: ≥94 cm in men and ≥80 cm in women	Self-reported (validated)	Yogurt	Age, sex, baseline weight, total energy intake, alcohol intake, soft drinks, red meat, French fries, fast food, Mediterranean diet, physical activity, sedentary behavior, hours sitting, smoking status, snacking between meals, following special diet	6	Abdominal Obesity: OR: 0.85 (0.74, 0.98) Third vs. first tertile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Dairy	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 1.00 (0.97, 1.03) for 100 g/d increase

Supplemental Table 13: General study characteristics of the included studies investigating the association between fish intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of fish**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Baik et al. (65)	2010	South Korea	KoGES	40-69	M & W	*3504*	*723*	FFQ (validated)	Abdominal Obesity: ≥102 cm for men and ≥88 cm for women	Measured	Fish	Age, BMI, income, occupation, marital status, education level, smoking status, alcohol intake, physical activity, daily intake of energy, fat, and dietary fiber, consumption of red meat, dairy products, and sweetened carbonated beverages, use of multivitamin supplements and baseline report of a physician diagnosis of diabetes or hypertension.	4	Abdominal Obesity: OR: 0.72 (0.42, 1.26) Fourth vs. first quartile
Jakobsen et al. (66)	2013	Norway	EPIC-PANA-CEA	NR	M & W	*344757*	*28962*	FFQ (validated)	Overweight/ Obesity	Self-reported	Fish	Age, BMI at enrolment, menopausal status (women only), highest educational level achieved, smoking status, physical activity level, total energy intake and an indicator variable for the plausibility of reported energy intake	5	Overweight/ Obesity: OR: 1.01 (1.00, 1.02) for 10 g/d increase
Kim et al. b (67)	2016	US	CARDIA	18-30	M & W	*4356*	*1641*	FFQ (validated)	Abdominal Obesity: >102 cm for men and >88 cm for women	Measured	Fish	Age, gender, ethnicity, study center, education, smoking status, family history of diabetes, physical activity, alcohol consumption, BMI, protein, saturated fatty acid, polyunsaturated fatty acid, and total energy, "Fruit-Vegetable" pattern, meat pattern	25	Obesity: HR: 0.75 (0.62, 0.91) Fifth vs. first quintile
Schulz et	2002	Germany	EPIC-	24-69	M &	*17369*	*1128*	FFQ (validated)	Weight gain:	Self-	Fish	Age, initial body weight and	2.2	Weight gain:

al. (47)			Potsdam		W				>2 kg per year	reported		height, education, weight history, medication, dietary change, prevalent stroke		OR: 1.06 (0.83, 1.35) for 100 g/d increase

Supplemental Table 14: General study characteristics of the included studies investigating the association between red meat intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of red meat**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Babio et al. (68)	2012	Spain	PREDI-MED	55-80	M & W	*870*	*36*	FFQ (validated)	Abdominal Obesity: >102 cm in men and >88 cm in women	Determined by trained staff	Red meat	Age, sex, smoking, body mass index, physical activity, total energy intake, dietary baseline variables: alcohol, dietary fiber, magnesium and potassium, and intervention group.	1	Abdominal Obesity: OR: 2.20 (0.50, 10.2) Fourth vs. first quartile
Bes-Rastrollo et al. (69)	2006	Spain	SUN	38	M & W	*7194*	*3583*	SFFQ (validated)	Weight gain: ≥1 kg during time period of an average of 28.5 months	Self-reported (validated)	Red meat	Age, sex, total energy intake from non-fast-food sources, fiber, alcohol, physical activity, smoking status, snacking, television watching, baseline weight, and weight gain ≥3 kg during the past 5 y	2.4	Weight gain: OR: 1.16 (0.99, 1.36) Fifth vs. first quintile
Boggs et al. a (39)	2013	US	BWHS	21-39	W	*19885*	*7183*	FFQ (validated)	Obesity	Self-reported (validated)	Red and processed meat	Age, total energy intake, baseline BMI, vigorous exercise, television watching, education, geographic region, smoking status, parity, age at first birth, and all other components within the respective diet quality index	16	Obesity: HR: 1.23 (1.07, 1.41) in relation to 2001 AHEI-2010 and DASH component scores Fifth vs. first quintile
Wang et al. (70)	2014	US	CHNS	18-75	M & W	*16822*	*1464*	24 h dietary recall (3-consecutive days)	Abdominal Obesity: ≥85 cm for men and ≥80 cm for	determined by trained staff	Red meat	Age, individual income, education level, urbanity index, physical activity, smoking status, alcohol consumption, disease	>10	Abdominal Obesity: OR: 1.18 (1.06, 1.31)

									women			history, processed red meat consumption, total energy intake, and intake of relevant food groups, baseline waist circumference		Fourth vs. first quartile

Supplemental Table 15: General study characteristics of the included studies investigating the association between processed meat intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of processed meat**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Babio et al. (68)	2012	Spain	PREDI-MED	55-80	M & W	*870*	*36*	FFQ (validated)	Abdominal Obesity: >102 cm in men and >88 cm in women	Determined by trained staff	Processed meat	Age, sex, smoking, body mass index, physical activity, total energy intake, dietary baseline variables: alcohol, dietary fiber, magnesium and potassium, and intervention group.	1	Abdominal Obesity: OR: 8.80 (1.20, 64.28) Fourth vs. first quintile
Schulz et al. (47)	2002	Germany	EPIC-Potsdam	24-69	M & W	*17369*	*1128*	FFQ (validated)	Weight gain: >2 kg per year	Self-reported	Processed meat	Age, initial body weight and height, education, weight history, medication, dietary change, prevalent stroke	2.2	Weight gain: OR: 1.18 (1.02, 1.36) for 100 g/d increase

Supplemental Table 16: General study characteristics of the included studies investigating the association between SSB intake and risk of adiposity

Author	**Year**	**Country**	**Cohort Name**	**Age at entry, y**	**Sex**	**Sample size, n**	**Total cases, n**	**Dietary assessment**	**Outcome**	**Outcome assessment**	**Type of SSB**	**Adjustment factors**	**Follow up years**	**Results (high vs. low intake category) HR/RR/OR (95% CI)**
Appelhans et al. (78)	2017	US	SWAN	42-52	W	*1448*	*NR*	FFQ	Abdominal Obesity: waist circumference ≥80 cm for Chinese and Japanese women and ≥88 cm for other ethnic/ racial groups	Examination	SSB	Age, ethnicity/race, study site, total energy intake, menopausal status, hormone therapy use, smoking status, depressive symptoms, education, income, and physical activity	14	Abdominal Obesity: OR: 1.10 (1.03, 1.16) per 355 mL/d
Barrio-Lopez et al. (71)	2013	Spain	SUN	36	M & W	*8157*	*3508*	SFFQ (validated)	Abdominal Obesity: ≥94 cm in males and ≥80 cm in females	Self-reported (validated)	SSB	Age, sex, baseline BMI, smoking, physical activity, alcohol intake, soft drink intake at baseline, total energy intake, consumption of red meat, French fries, fast food consumption and adherence to the Mediterranean dietary pattern	6	Abdominal Obesity: OR: 2.30 (1.90, 2.78) Fifth vs. first quintile
Bes-Rastrollo et al. (69)	2006	Spain	SUN	38	M & W	*7194*	*3555*	SFFQ (validated)	Weight gain: ≥1 kg during time period of an average of 28.5 months	Self-reported (validated)	SSB	Age, sex, total energy intake from non-fast-food sources, fiber, alcohol, physical activity, smoking status, snacking, television watching, baseline weight, and weight gain ≥3 kg during the past 5 y	2.4	Weight gain: OR: 1.21 (1.03, 1.42) Fifth vs. first quintile
Boggs et al. b (79)	2013	US	BWHS	21-39	W	*19479*	*6947*	FFQ (validated)	Obesity	Self-reported (validated)	SSB	Age, BMI, vigorous physical activity, walking for exercise, education, geographic region, smoking status, alcohol intake, parity, and prudent and Western dietary patterns	14	Obesity: HR: 1.12 (1.00, 1.25)

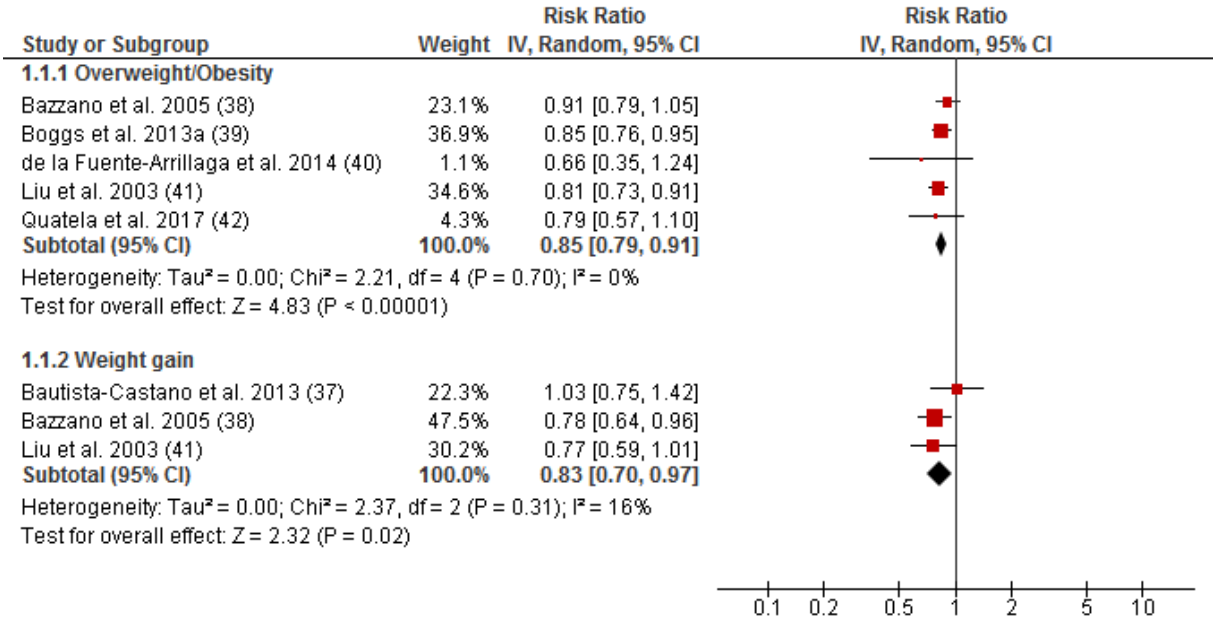
Dhingra et al. (74)	2007	US	FHS	Mean age 53	M & W	5209	*769 (Obesity)* *1764 (Abdominal Obesity)*	FFQ (validated)	Obesity Abdominal Obesity: waist circumference ≥102 cm for men and ≥88 cm for women	Examination	SSB	Age, sex, metabolic syndrome component, physical activity index, smoking, dietary consumption of saturated fat, trans fat, fiber, magnesium, total calories, and glycemic index	4	Obesity: OR: 1.50 (1.06, 2.11) Abdominal Obesity: OR: 1.40 (1.08, 1.82) Third vs. first tertile
Duffey et al. (73)	2010	US	CARDIA	18-30	M & W	*4356*	*637*	FFQ (validated)	Abdominal Obesity: waist circumference ≥102 cm for men and ≥88 cm for women	Measured	SSB	Race, sex, center, and year 0 age, weight, smoking status, energy from food, total physical activity, energy from the 3 other beverages, and energy from alcohol	20	Abdominal Obesity: RR: 1.09 (1.04, 1.15) Per quartile average
Ferreira-Pego et al. (75)	2016	Spain	PREDI-MED	55-80	M & W	*1868*	*495*	FFQ (validated)	Abdominal Obesity: ≥102 cm for men and ≥88 cm for women	Determined by trained staff	SSB	Age years, sex, physical activity, BMI, smoking status, average consumption during the follow-up of dietary variables as continuous variables: vegetables, legumes, fruit, cereals, meat, fish, baked products, dairy products, olive oil, and nuts; average total energy intake during follow-up, alcohol, and alcohol	3.24	Abdominal Obesity: HR: 1.20 (0.62, 2.30) Fourth vs. first quartile
Funtikova et al. (56)	2015	Spain	NR	25-74	M & W	*3058*	*336*	FFQ (validated)	Abdominal Obesity: ≥102 cm for men and ≥88 cm for women	Measured	SSB	Age, sex, baseline waist circumference, smoking, energy intake, educational level, physical activity, modified Mediterranean Diet score, and energy under- and over-reporting	10	Abdominal Obesity: RR: 1.48 (1.02, 2.16) Third vs. first tertile
Kang et al. (72)	2017	South Korea	KoGES	40-69	M & W	*5797*	*1502*	FFQ (validated)	Abdominal Obesity: ≥90 cm for men or ≥80 cm for women	Measured	SSB	Age, income level, education level, alcohol consumption, smoking status, physical activity, BMI, energy intake,	5.7	Abdominal Obesity: HR: 1.17 (0.86, 1.60)

												percentage of fat, fiber intake and the presence of diseases		Fourth vs. first quartile
Kvaavik et al. (76)	2005	Norway	OYS	25-33	M & W	*1086*	*151*	FFQ (validated)	Overweight/ Obesity	Self-reported	SSB	BMI	9	Overweight/ Obesity: OR: 1.27 (0.70, 2.30) Third vs. first tertile
Phelan et al. (77)	2010	US	CARDIA	18-30	M & W	*1869*	*536*	FFQ (validated)	Weight gain among overweight/ obese over a mean period of 5 years	Measured	SSB	Race, gender, marital status, dieting history, and history of diabetes, measured in 2000. Results based on sequential multiple regression in which demographic variables were entered first, followed by physical activity, dietary, and psychosocial variables	5	Weight gain: OR: 1.25 (1.09, 1.43) Regain vs. weight-loss maintainers

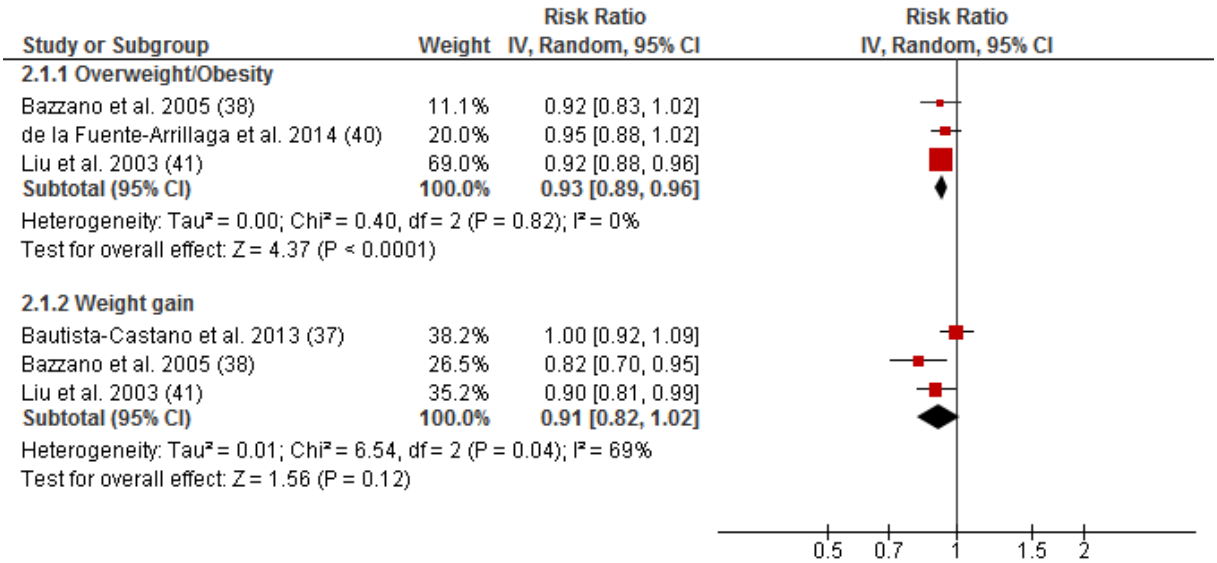
Supplemental Table 17: Linear dose-response meta-analysis including 12 food groups and the risk of overweight/obesity, abdominal obesity or weight gain and NutriGrade grading.

Food group	Amount	Outcome	No of studies	RR	95% CI	I² (%)	NutriGrade grading
Whole grains	30 g/d	Overweight/ Obesity	3	0.93	0.89, 0.96	0	Low[1]
		Weight gain	3	0.91	0.82, 1.02	69	Very low[2]
Refined grains	30 g/d	Overweight/ Obesity	3	1.05	1.00, 1.10	61	Very low[2]
		Weight gain	3	1.01	0.92, 1.12	68	Very low[2]
Vegetables	100 g/d	Overweight/ Obesity	2	0.98	0.93, 1.03	92	Low[1]
		Weight gain	4	0.90	0.81, 1.01	60	Very Low[2]
Fruits	100 g/d	Overweight/ Obesity	2	0.93	0.86, 1.00	89	Low[1]
		Weight gain	3	0.91	0.86, 0.97	7	Low[1]
Nuts	28 g/d	Overweight/ Obesity	3	0.78	0.58, 1.06	64	Low[1]
		Abdominal Obesity	1	0.42	0.31, 0.57	NA	Low[1]
		Weight gain	2	0.81	0.64, 1.02	0	Very low[2]
Legumes	50 g/d	Overweight/ Obesity	1	0.88	0.84, 0.93	NA	Low[1]
		Weight gain	1	0.89	0.64, 1.24	NA	Very low[2]
Eggs	50 g/d	Overweight/ Obesity	1	0.95	0.63, 1.43	NA	Very low[2]
		Weight gain	1	1.24	1.00, 1.54	NA	Very low[2]
Dairy	200 g/d	Overweight/ Obesity	5	0.97	0.93, 1.01	79	Low[1]
		Abdominal Obesity	4	1.01	0.95, 1.07	0	Very low[2]
		Weight gain	1	0.99	0.93, 1.05	NA	Very low[2]
Fish	100 g/d	Overweight/ Obesity	1	1.06	0.99, 1.14	NA	Very low[2]
		Abdominal Obesity	2	0.83	0.71, 0.97	0	Low[1]
		Weight gain	1	1.06	0.83, 1.35	NA	Very low[2]
Red meat	100 g/d	Abdominal Obesity	2	1.10	1.04, 1.16	0	Very low[2]
		Weight gain	1	1.14	1.03, 1.26	NA	Very low[2]
Processed meat	50 g/d	Weight gain	1	1.18	1.02, 1.36	NA	Very low[2]
Sugar sweetened beverages	250 mL/d	Overweight/ Obesity	3	1.05	1.00, 1.11	33	Very low[2]
		Abdominal Obesity	5	1.12	1.04, 1.20	38	Low[1]
		Weight gain	1	1.12	0.82, 1.53	NA	Low[1]

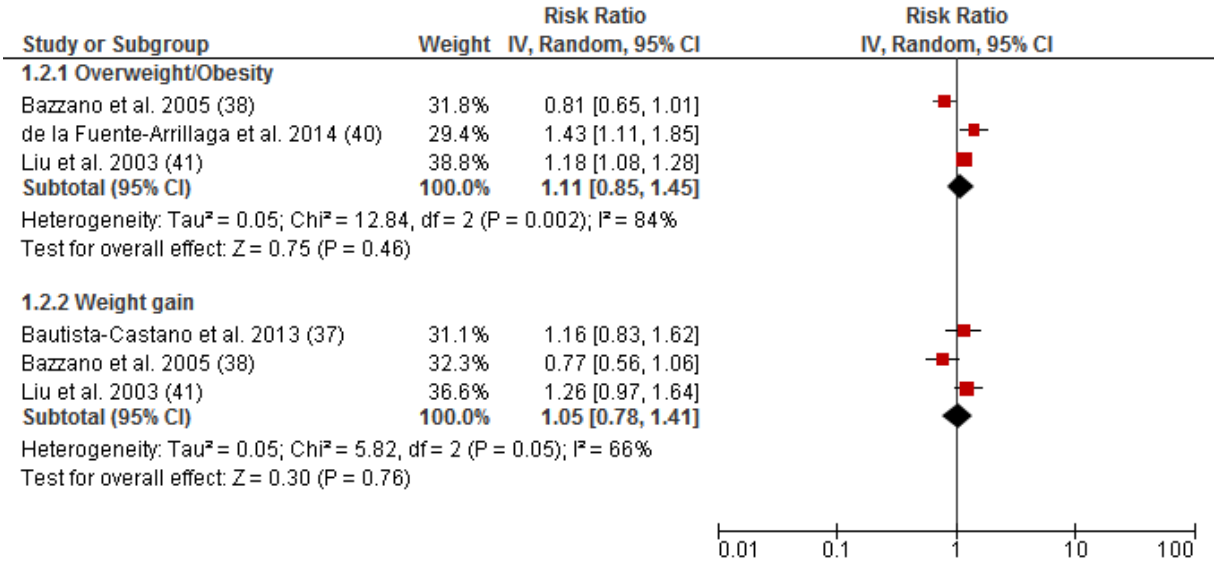
[1]There is low confidence for the effect estimate, further research will provide important evidence on the confidence and likely change the effect estimate.
[2]There is very low confidence for the effect estimate; meta-evidence is very limited and uncertain.



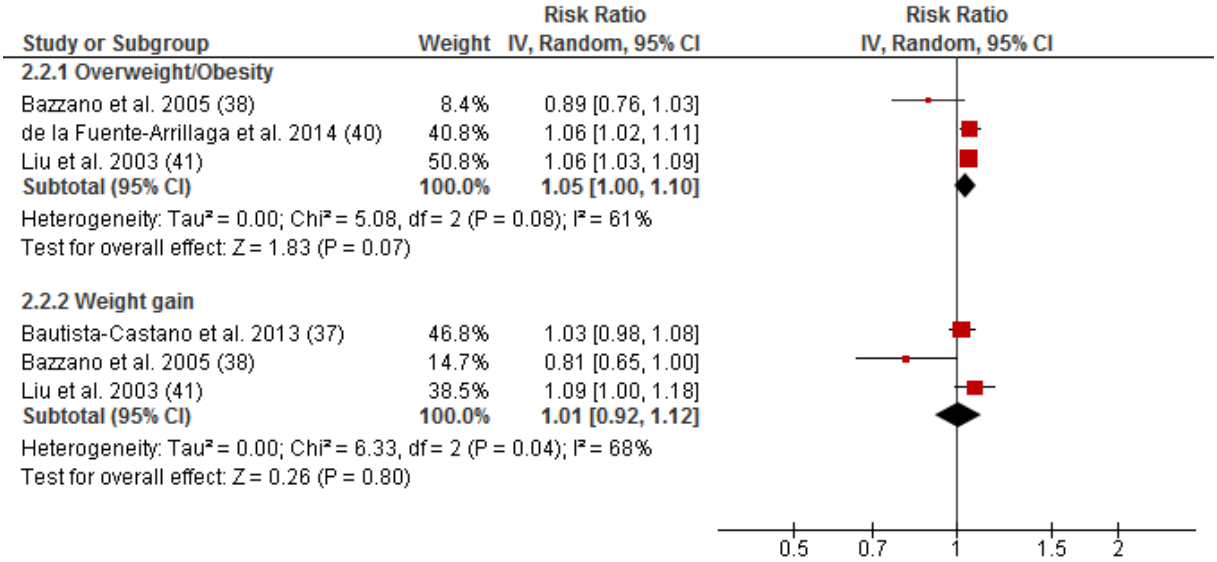
Supplemental Figure 1: Summary of relative risk of adiposity for high versus low whole grain intake. 95% CI, 95% confidence interval.



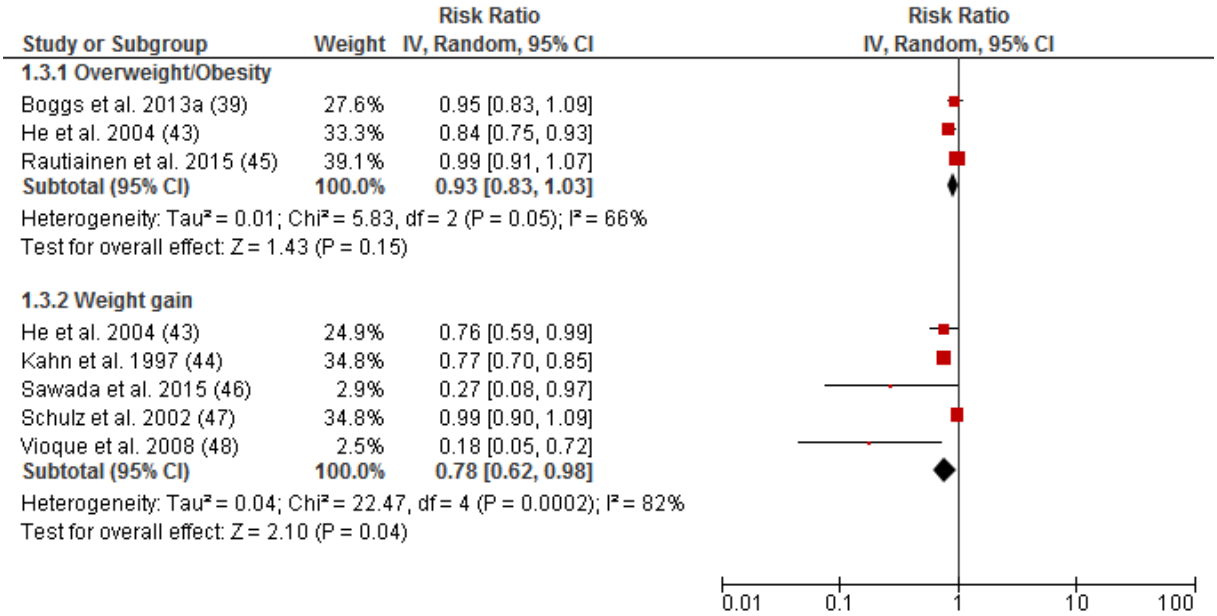
Supplemental Figure 2: Summary of relative risk of adiposity for each 30 g/d increase in whole grain intake. 95% CI, 95% confidence interval.



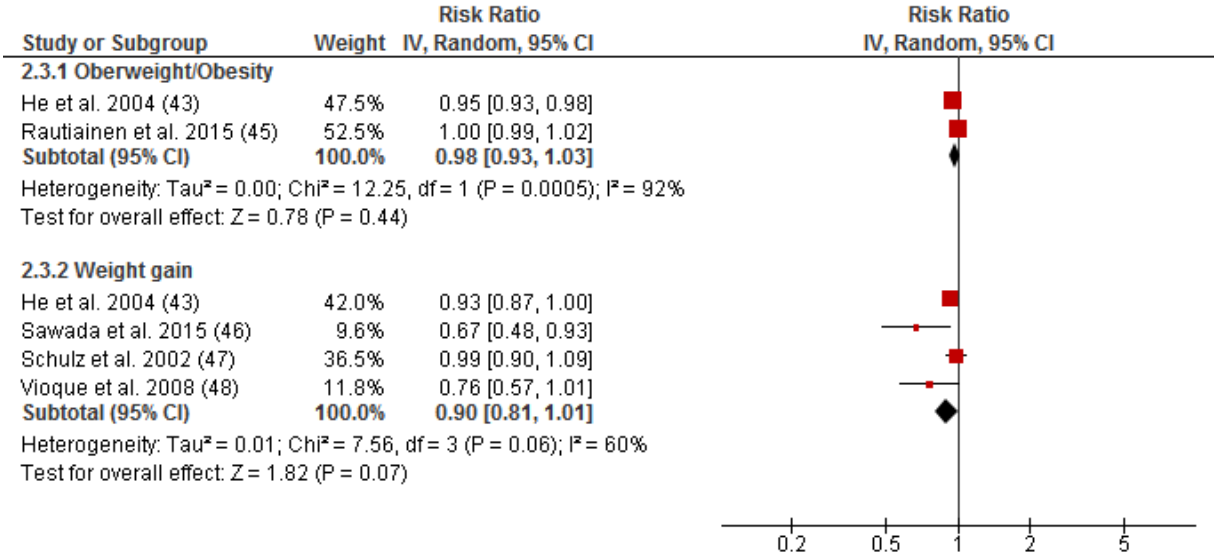
Supplemental Figure 3: Summary of relative risk of adiposity for high versus low refined grain intake. 95% CI, 95% confidence interval.



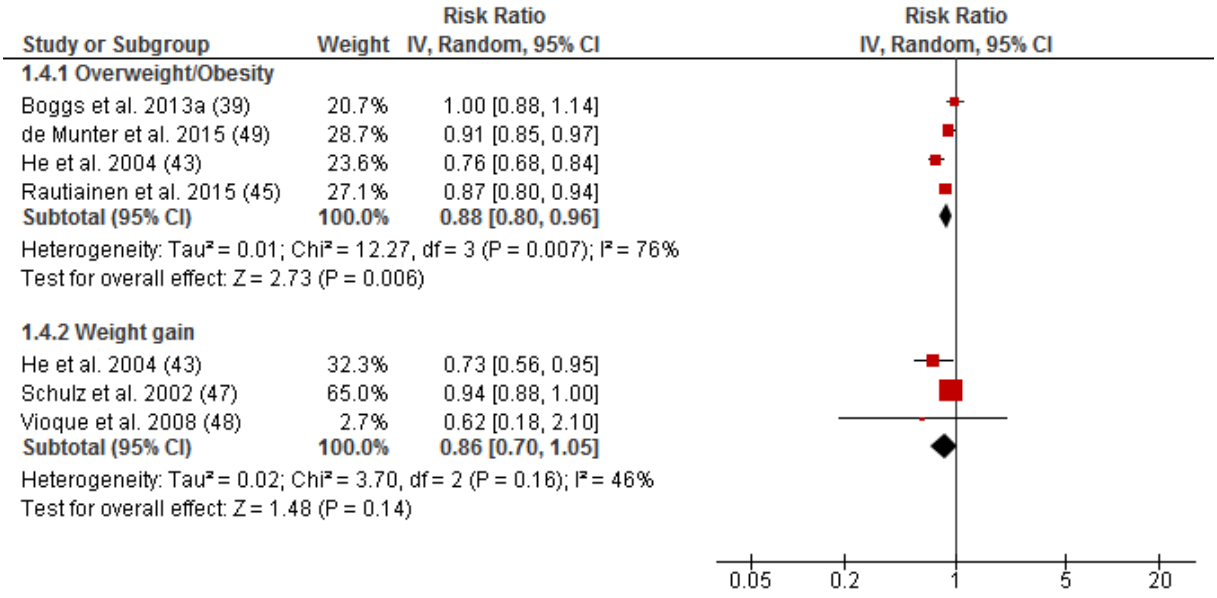
Supplemental Figure 4: Summary of relative risk of adiposity for each 30 g/d increase in refined grain intake. 95% CI, 95% confidence interval.



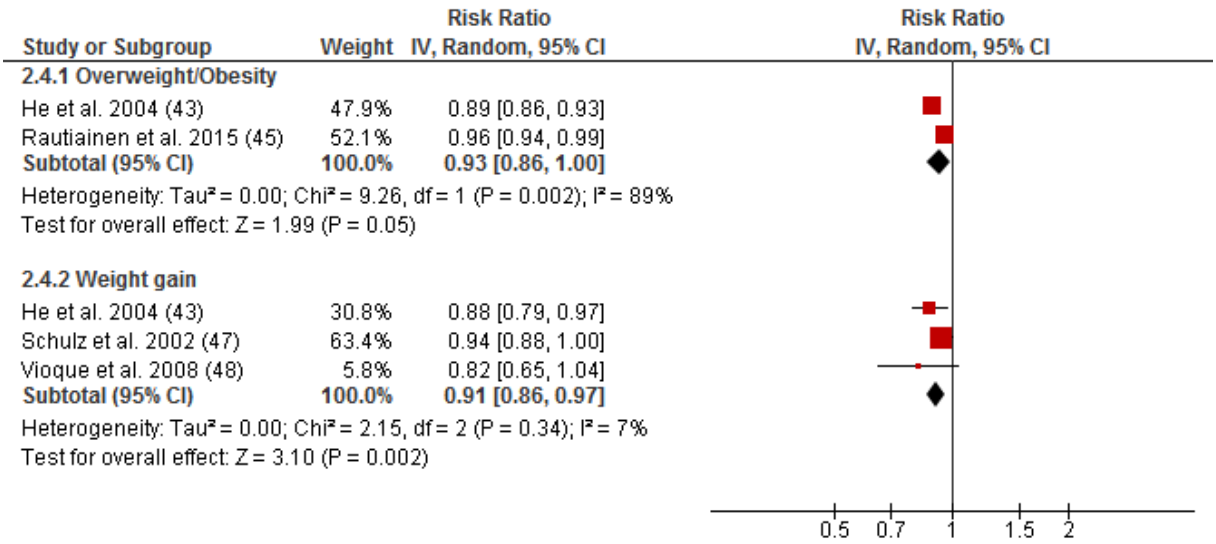
Supplemental Figure 5: Summary of relative risk of adiposity for high versus low vegetable intake. 95% CI, 95% confidence interval.



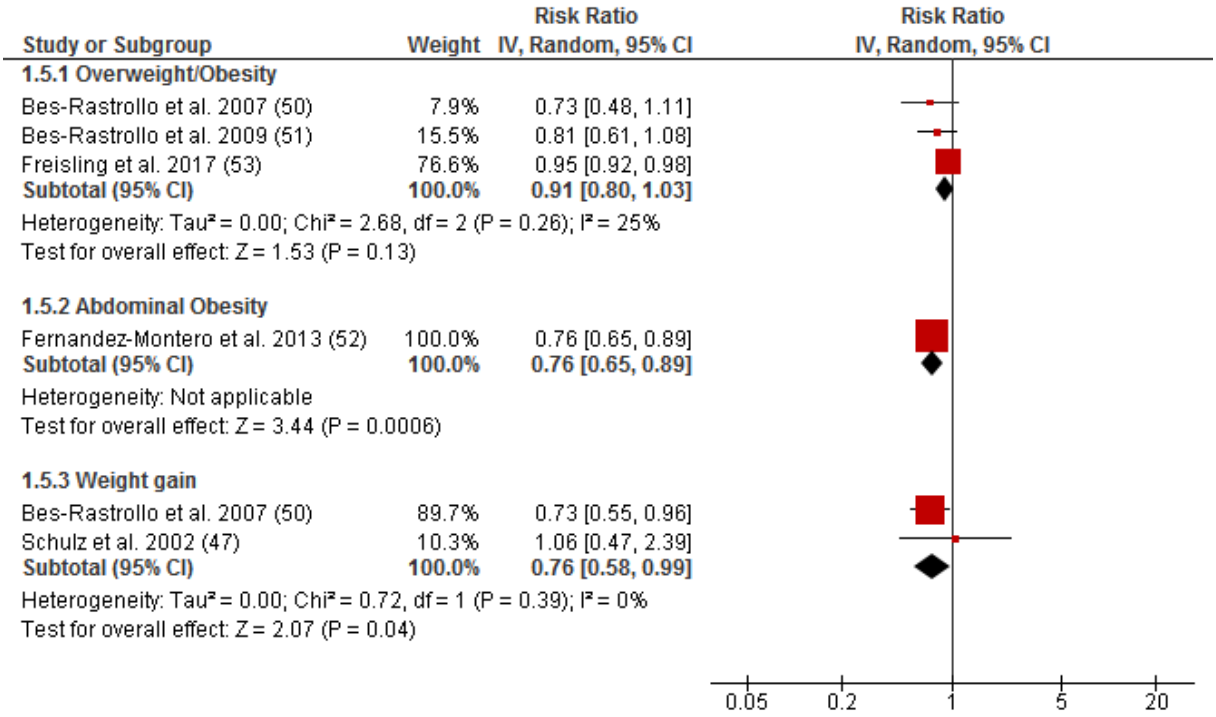
Supplemental Figure 6: Summary of relative risk of adiposity for each 100 g/d increase in vegetable intake. 95% CI, 95% confidence interval.



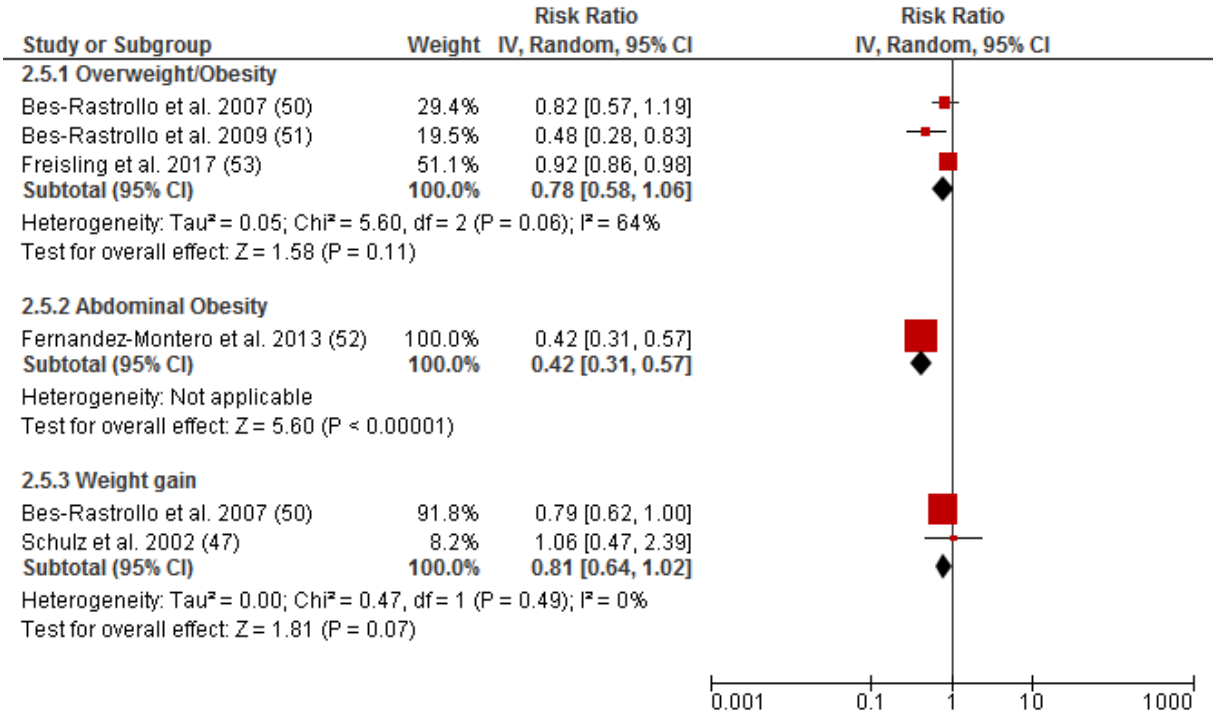
Supplemental Figure 7: Summary of relative risk of adiposity for high versus low fruit intake. 95% CI, 95% confidence interval.



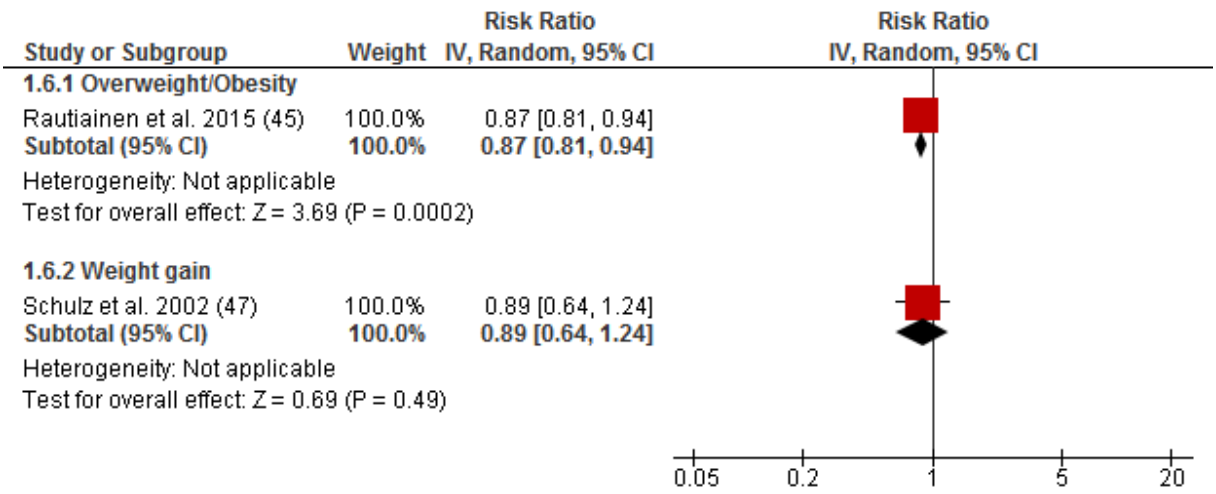
Supplemental Figure 8: Summary of relative risk of adiposity for each 100 g/d increase in fruit intake. 95% CI, 95% confidence interval.



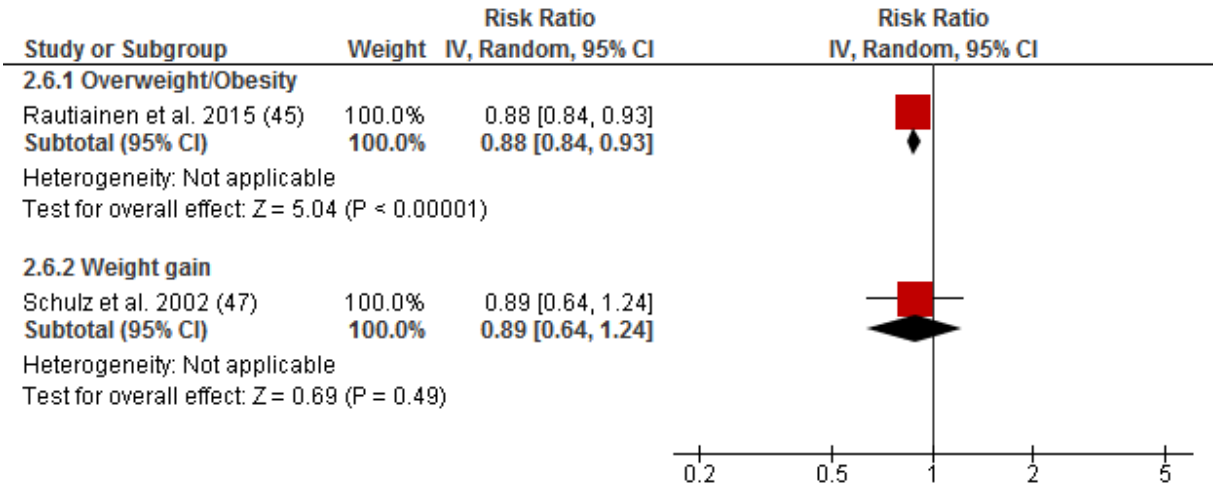
Supplemental Figure 9: Summary of relative risk of adiposity for high versus low nuts intake. 95% CI, 95% confidence interval.



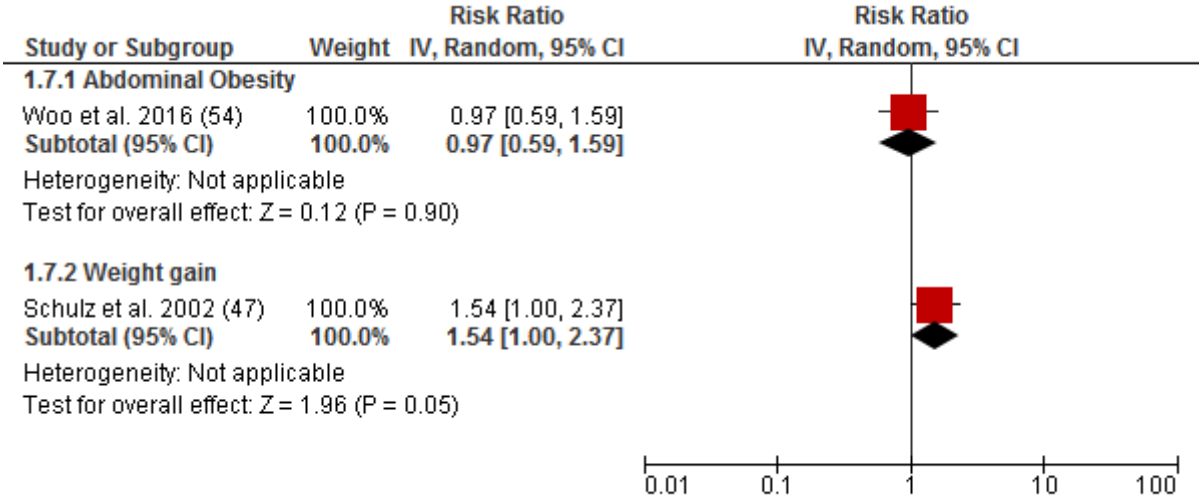
Supplemental Figure 10: Summary of relative risk of adiposity for each 28 g/d increase in nuts intake. 95% CI, 95% confidence interval.



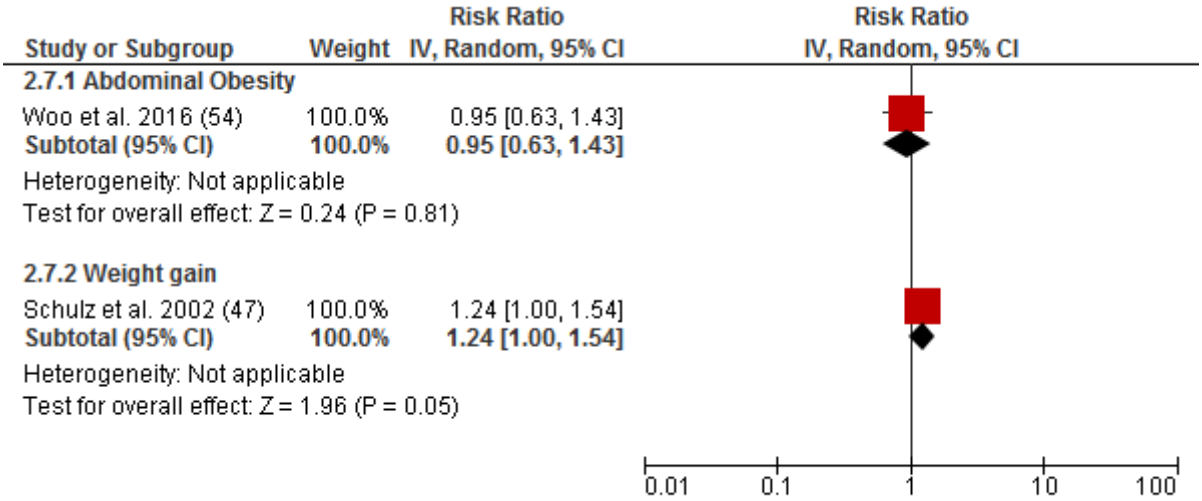
Supplemental Figure 11: Summary of relative risk of adiposity for high versus low legume intake. 95% CI, 95% confidence interval.



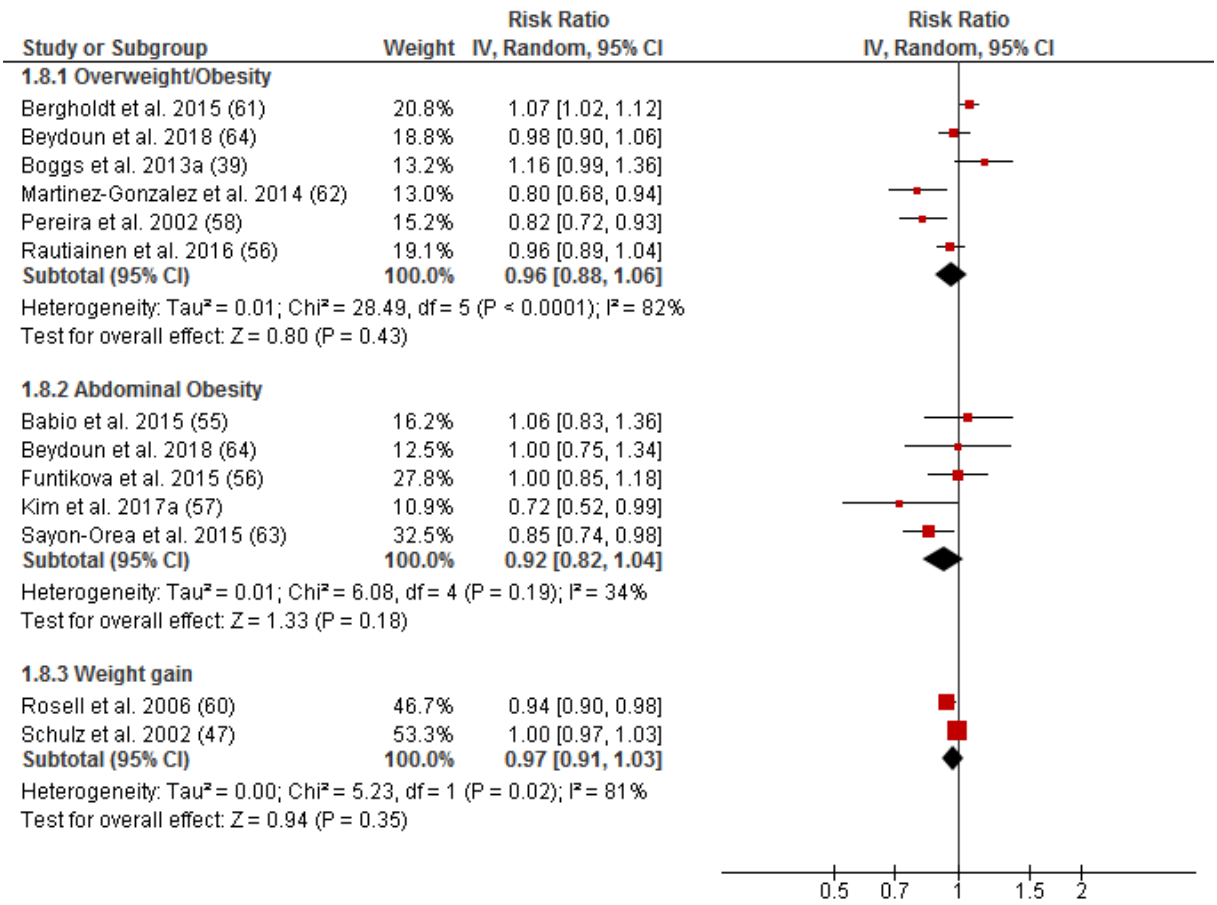
Supplemental Figure 12: Summary of relative risk of adiposity for each 50 g/d increase in legume intake. 95% CI, 95% confidence interval.



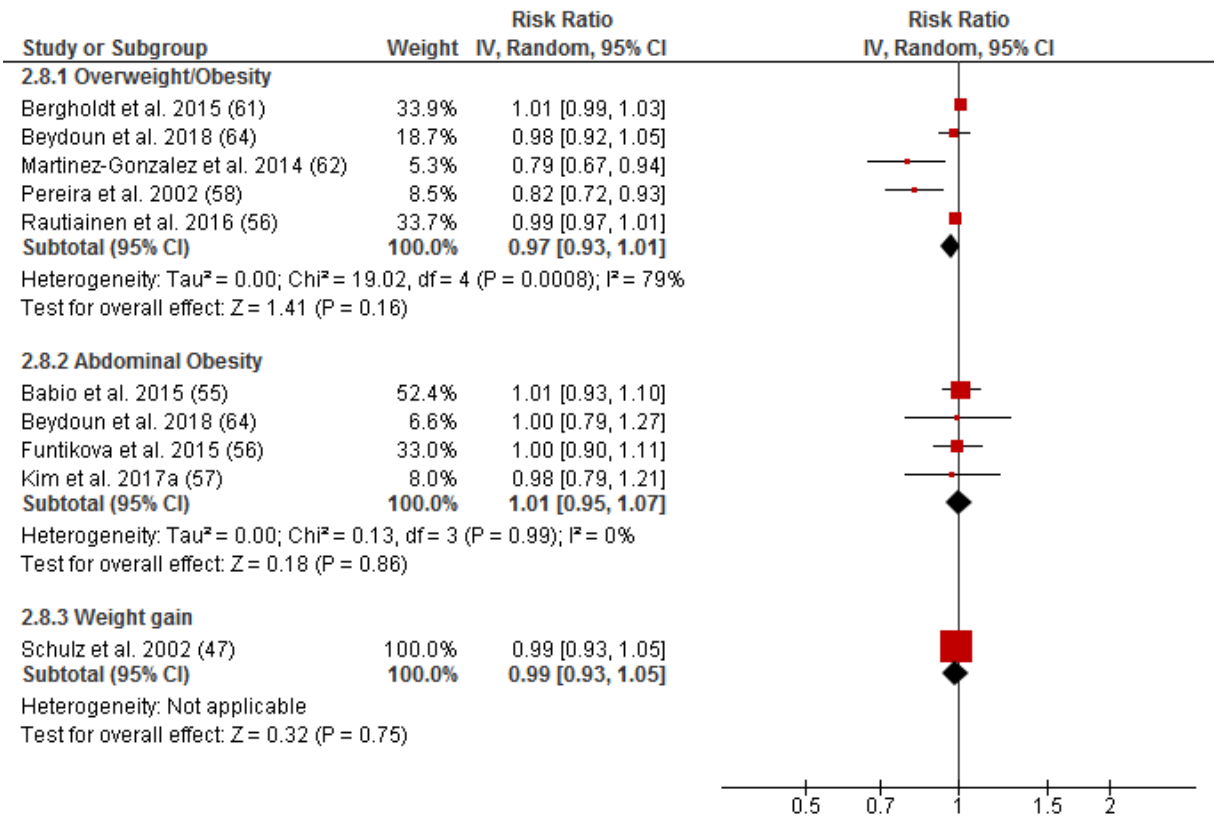
Supplemental Figure 13: Summary of relative risk of adiposity for high versus low egg intake. 95% CI, 95% confidence interval.



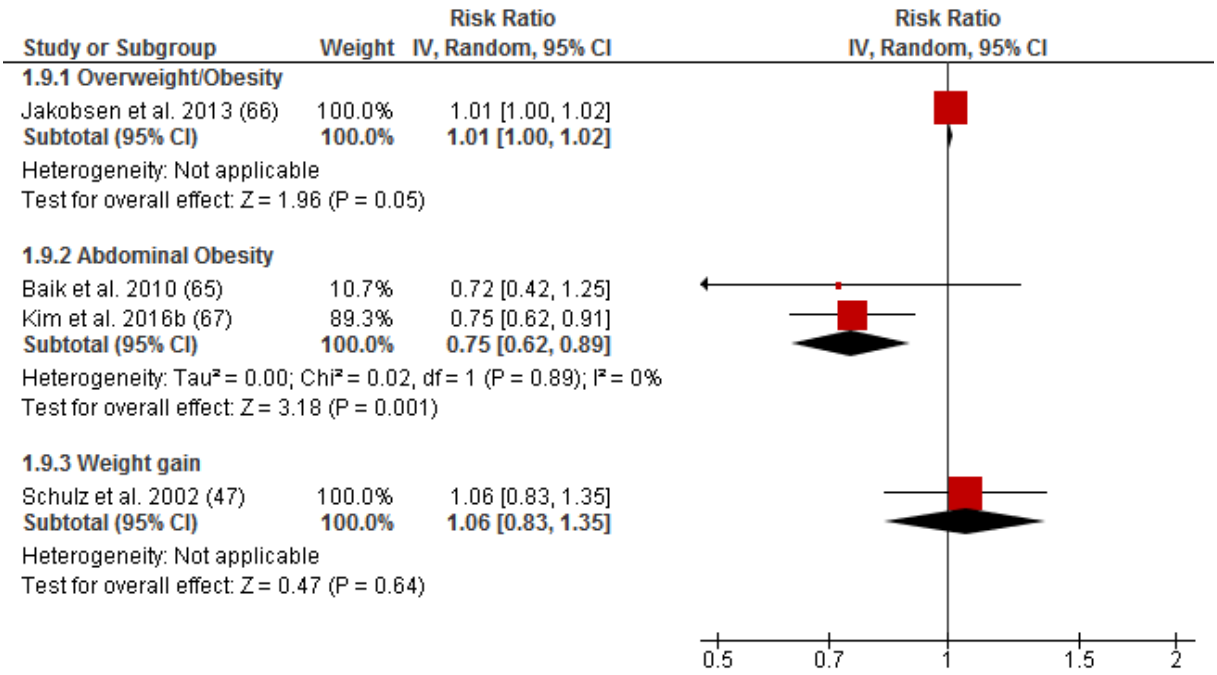
Supplemental Figure 14: Summary of relative risk of adiposity for each 50 g/d increase in egg intake. 95% CI, 95% confidence interval.



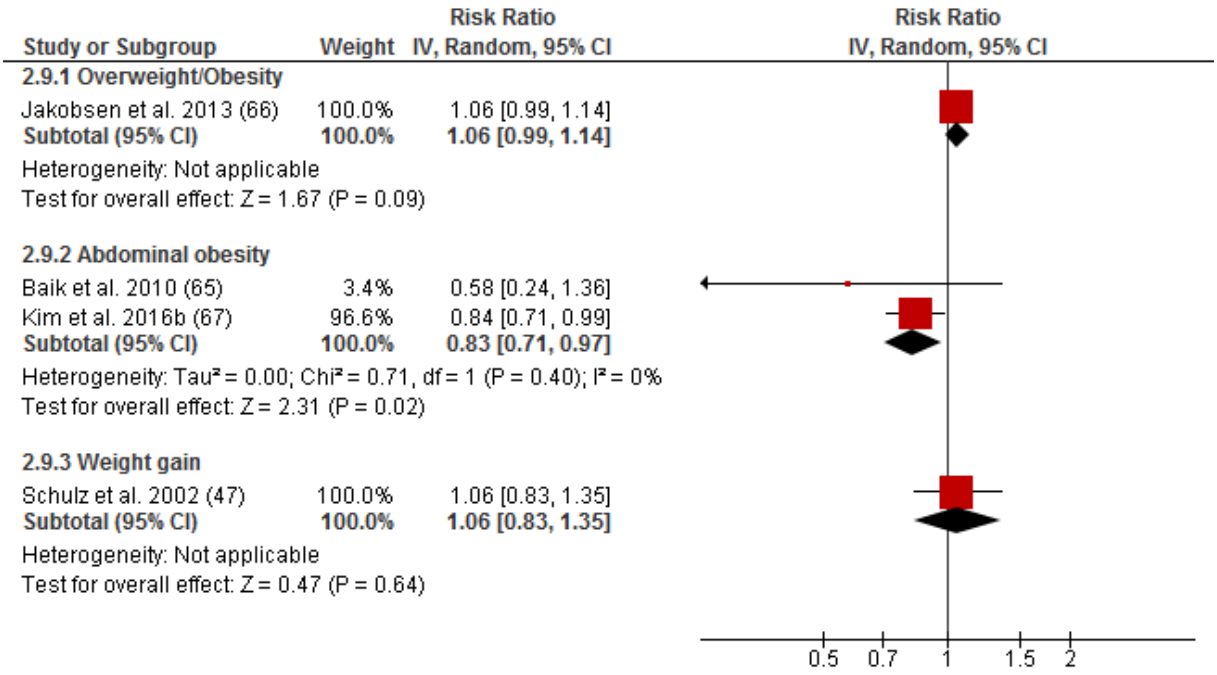
Supplemental Figure 15: Summary of relative risk of adiposity for high versus low dairy intake. 95% CI, 95% confidence interval.



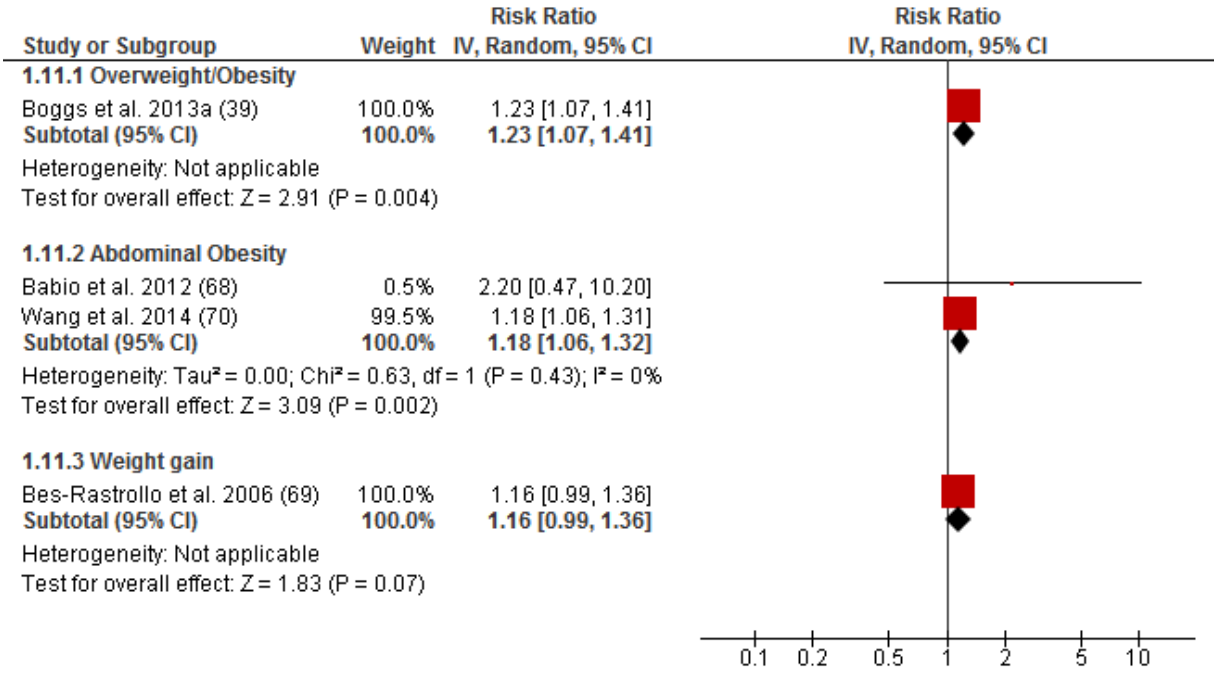
Supplemental Figure 16: Summary of relative risk of adiposity for each 200 g/d increase in dairy intake. 95% CI, 95% confidence interval.



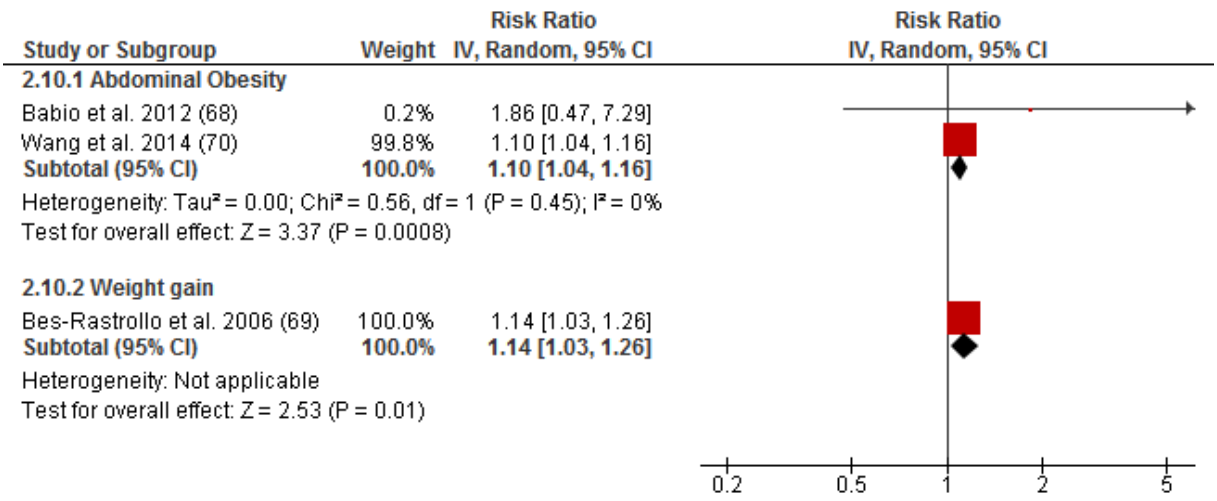
Supplemental Figure 17: Summary of relative risk of adiposity for high versus low fish intake. 95% CI, 95% confidence interval.



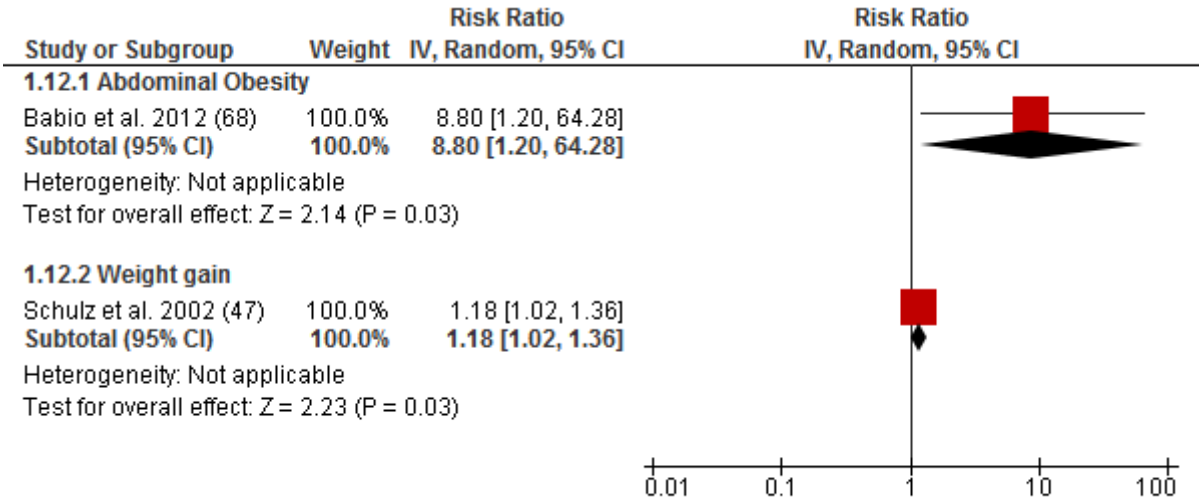
Supplemental Figure 18: Summary of relative risk of adiposity for each 100 g/d increase in fish intake. 95% CI, 95% confidence interval.



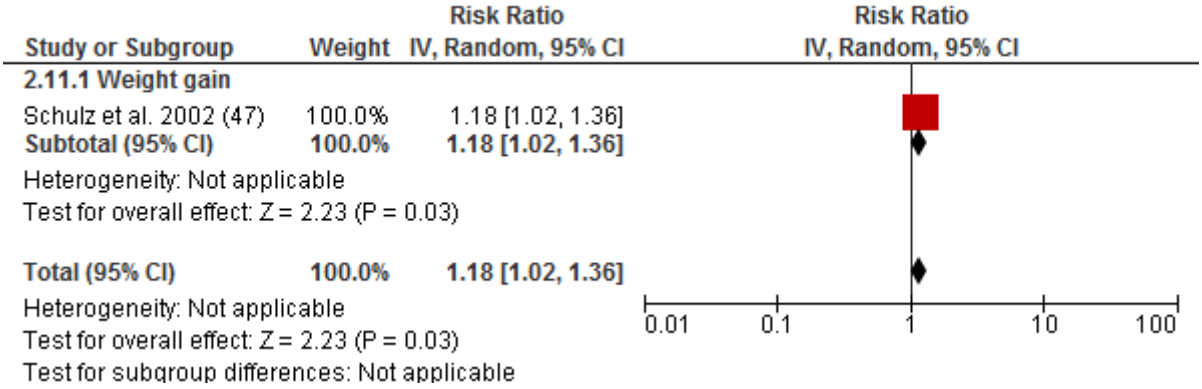
Supplemental Figure 19: Summary of relative risk of adiposity for high versus low red meat intake. 95% CI, 95% confidence interval.



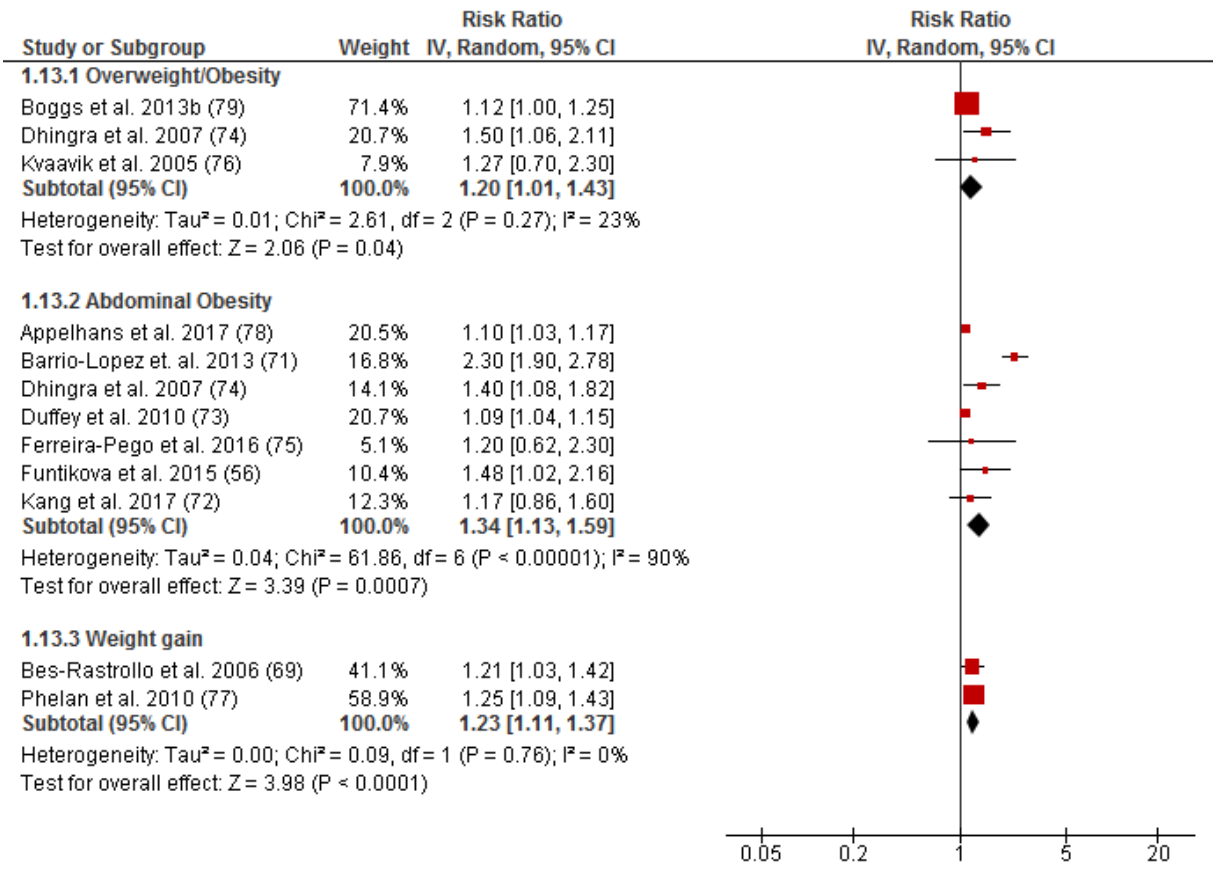
Supplemental Figure 20: Summary of relative risk of adiposity for each 100 g/d increase in red meat intake. 95% CI, 95% confidence interval.



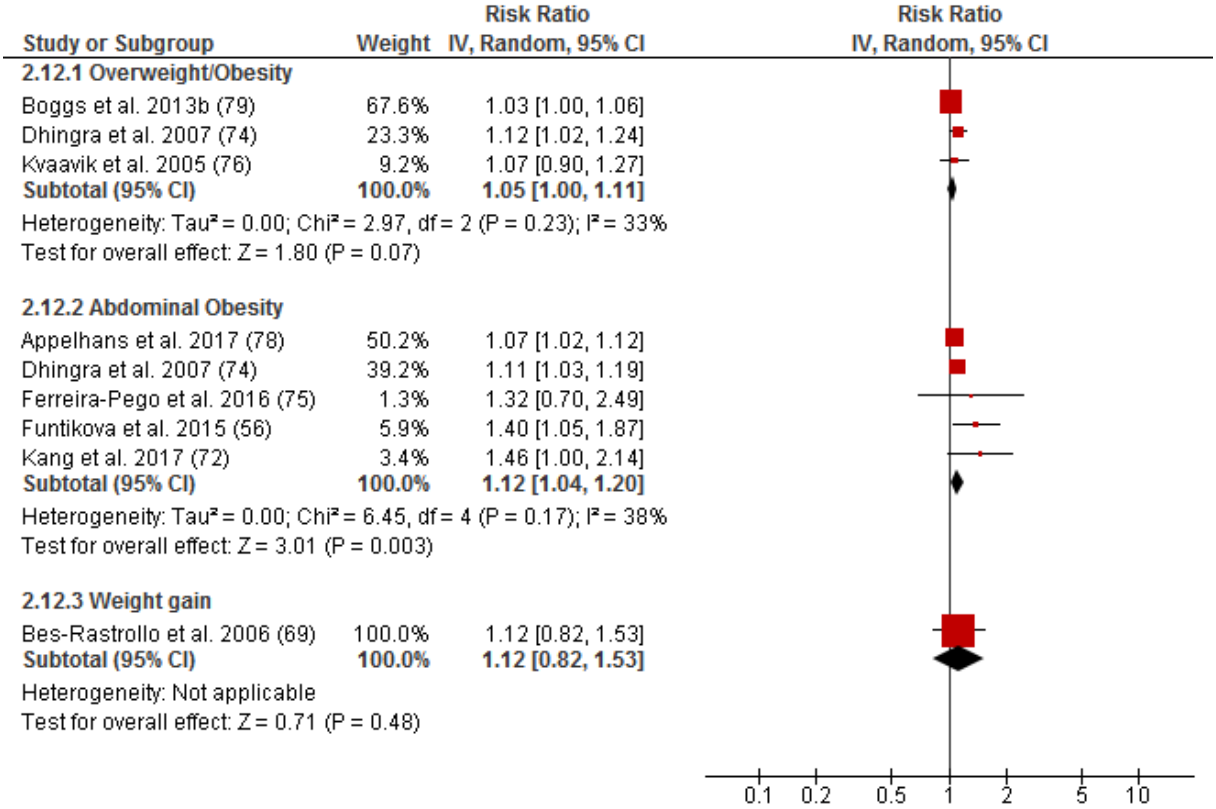
Supplemental Figure 21: Summary of relative risk of adiposity for high versus low processed meat intake. 95% CI, 95% confidence interval.



Supplemental Figure 22: Summary of relative risk of adiposity for each 50 g/d increase in processed meat intake. 95% CI, 95% confidence interval.



Supplemental Figure 23: Summary of relative risk of adiposity for high versus low sugar sweetened beverages intake. 95% CI, 95% confidence interval.



Supplemental Figure 24: Summary of relative risk of adiposity for each 250 mL/d increase in sugar sweetened beverages intake. 95% CI, 95% confidence interval.