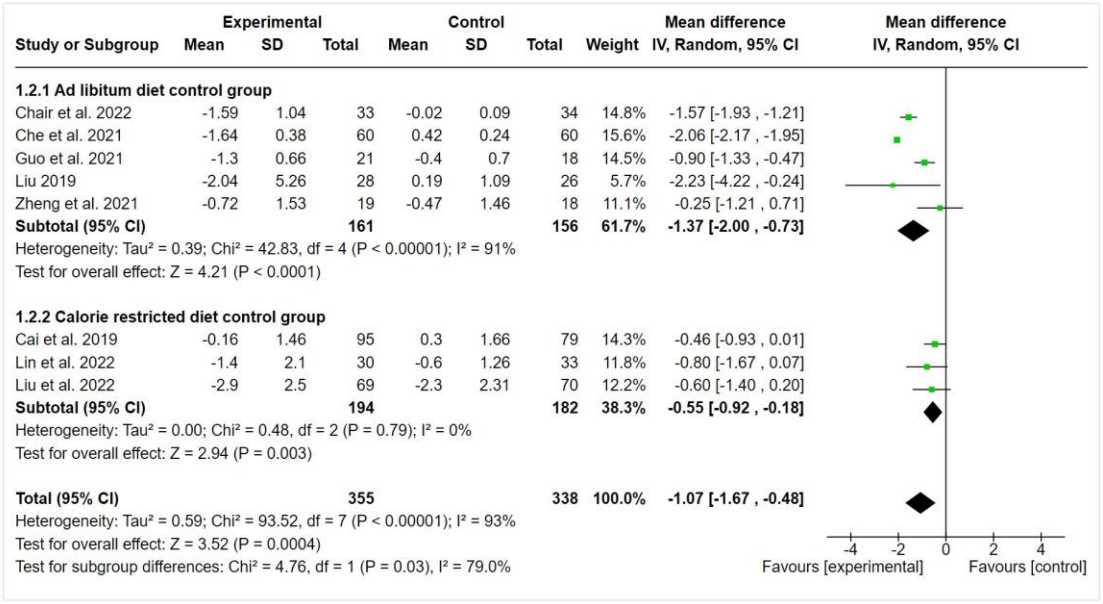

Figure S1. Forest plot for differences in body mass index (in kg/m^2) between intermittent fasting and control groups [12,17–24].

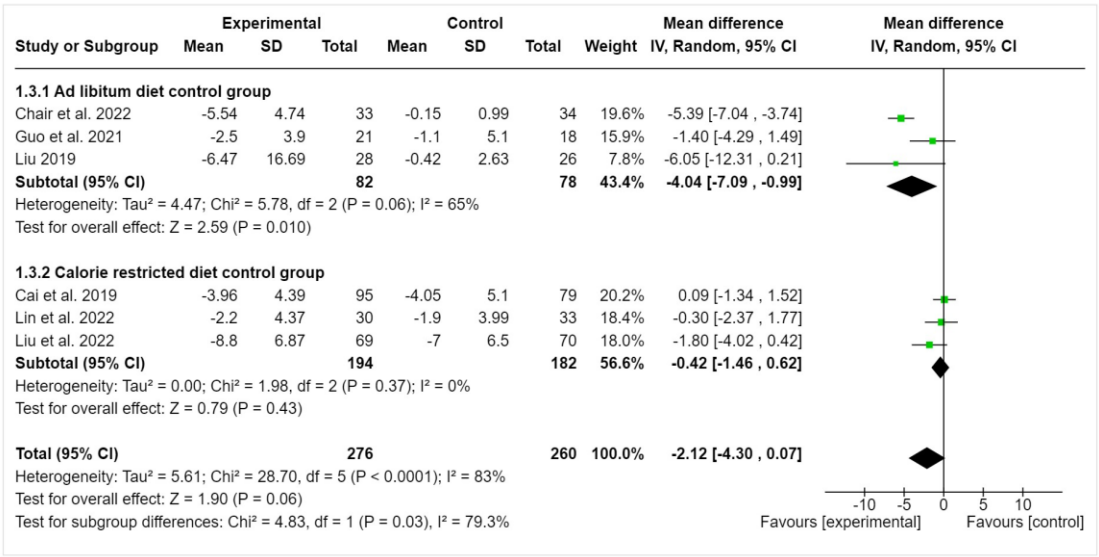

Figure S2. Forest plot for differences in waist circumference (in cm) between intermittent fasting and control groups [12,17,18,20–22].

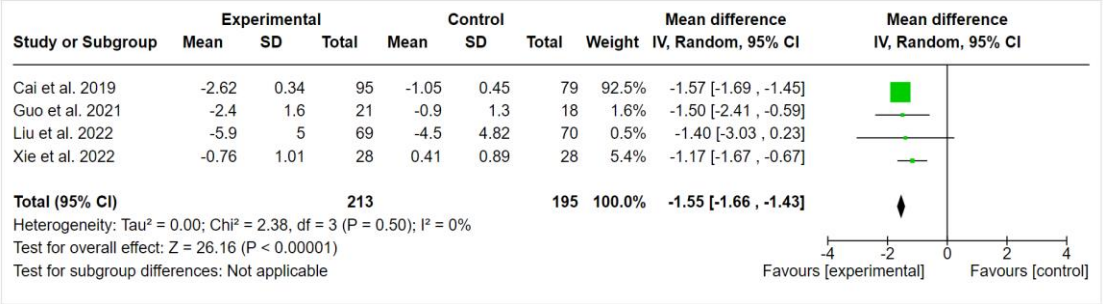

Figure S3. Forest plot for differences in body fat mass (in kg) between intermittent fasting and control groups [12,17,20,23].

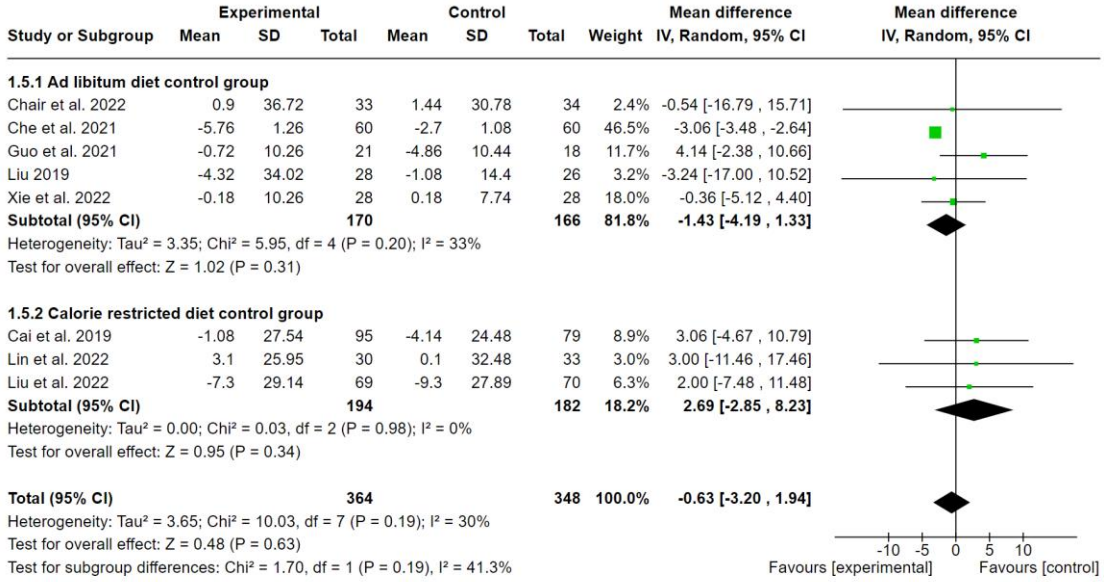

Figure S4. Forest plot for differences in total cholesterol (in mg/dL) between intermittent fasting and control groups [12,17–23].

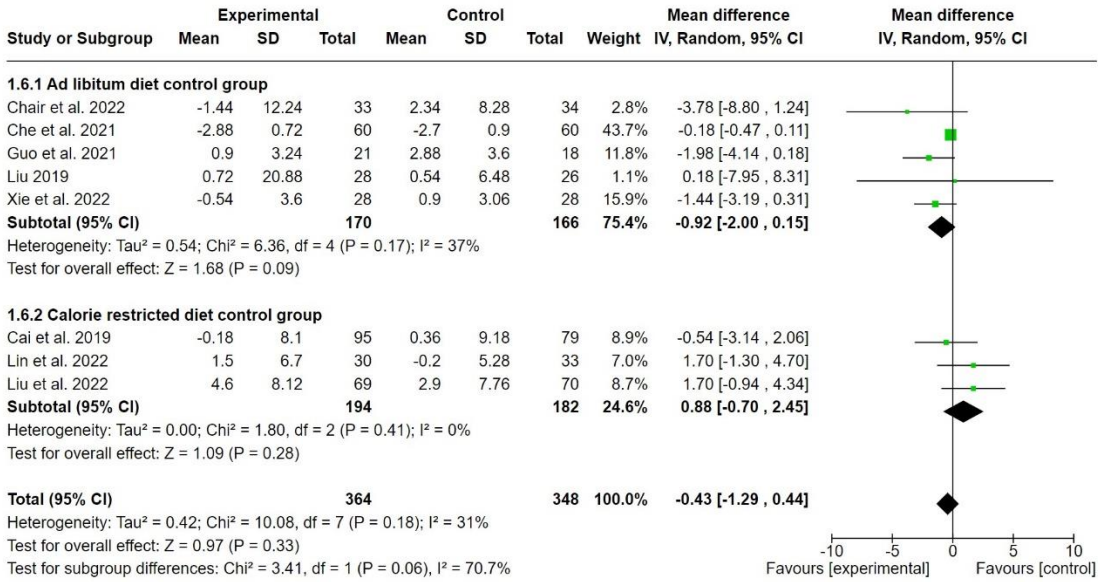

Figure S5. Forest plot for differences in high density lipoprotein cholesterol (in mg/dL) between intermittent fasting and control groups [12,17–23].

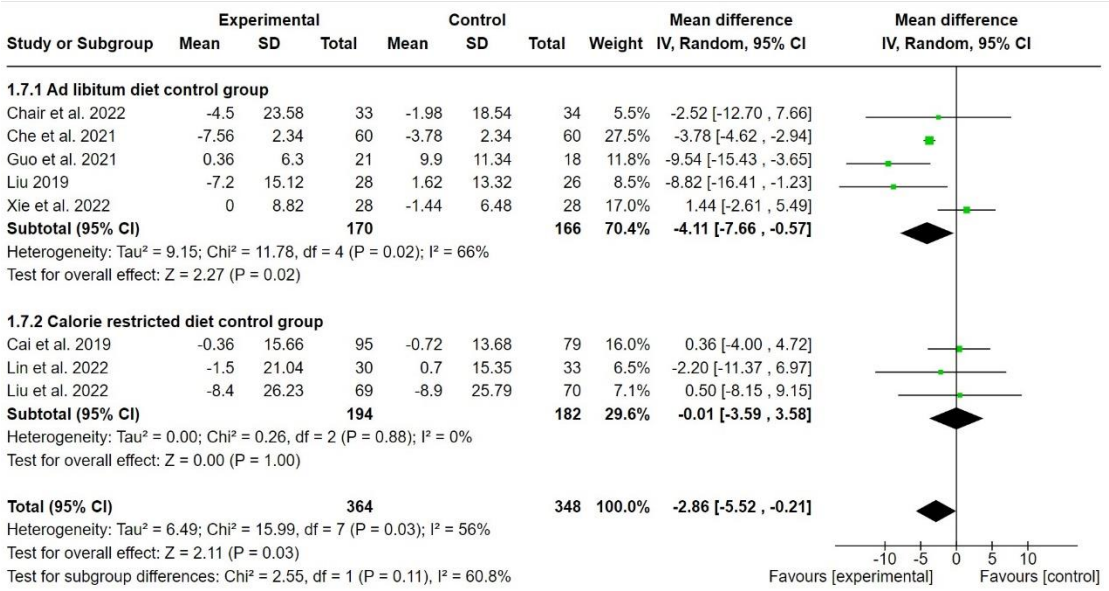

Figure S6. Forest plot for differences in low density lipoprotein cholesterol (in mg/dL) between intermittent fasting and control groups [12,17–23].

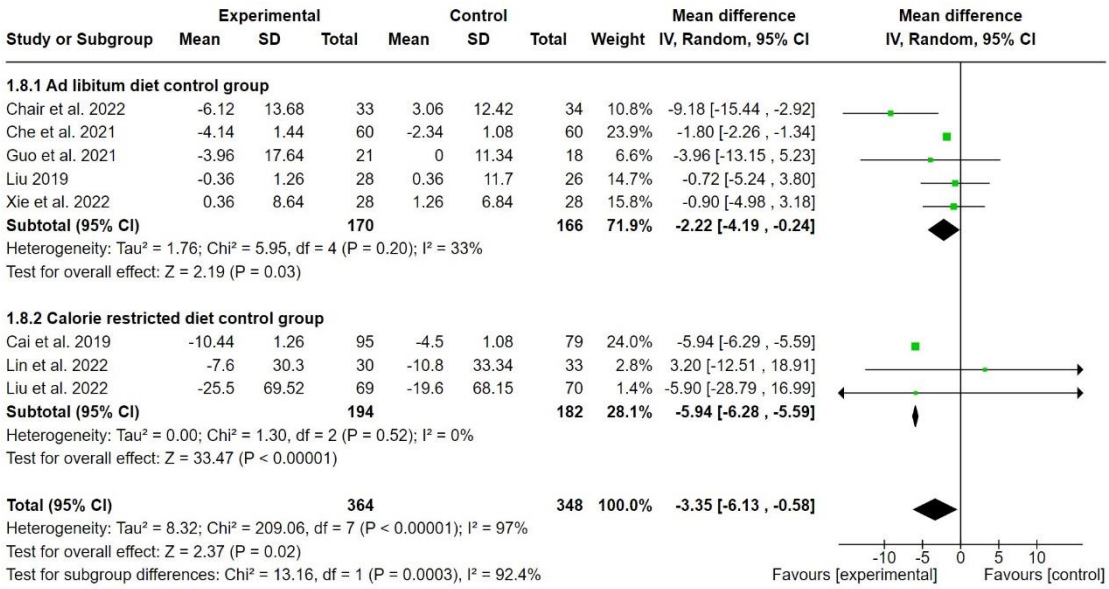

Figure S7. Forest plot for differences in triglycerides (in mg/dL) between intermittent fasting and control groups [12,17–23].

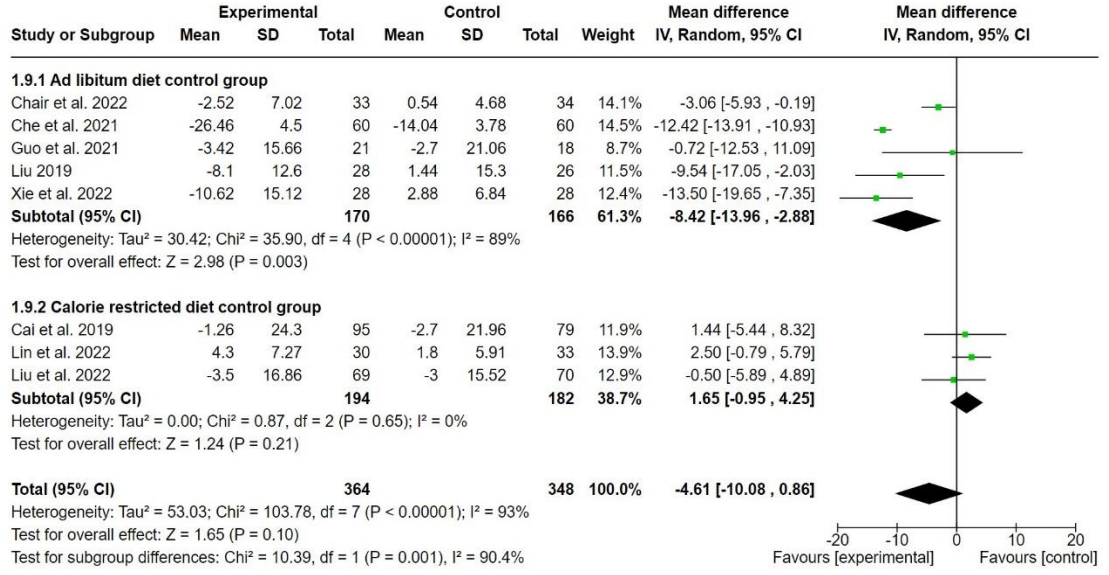

Figure S8. Forest plot for differences in fasting glucose or fasting plasma glucose (in mg/dL) between intermittent fasting and control groups [12,17–24].

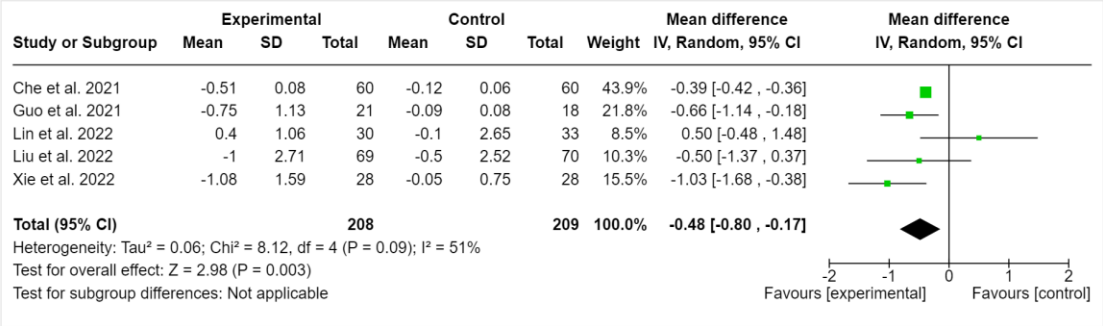

Figure S9. Forest plot for differences in homeostatic model assessment of insulin resistance between intermittent fasting and control groups [12,19–21,23].

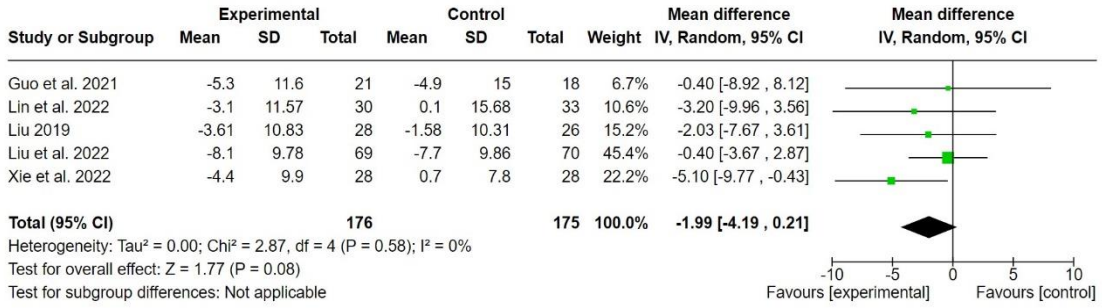

Figure S10. Forest plot for differences in systolic blood pressure (in mmHg) between intermittent fasting and control groups [12,20–23].

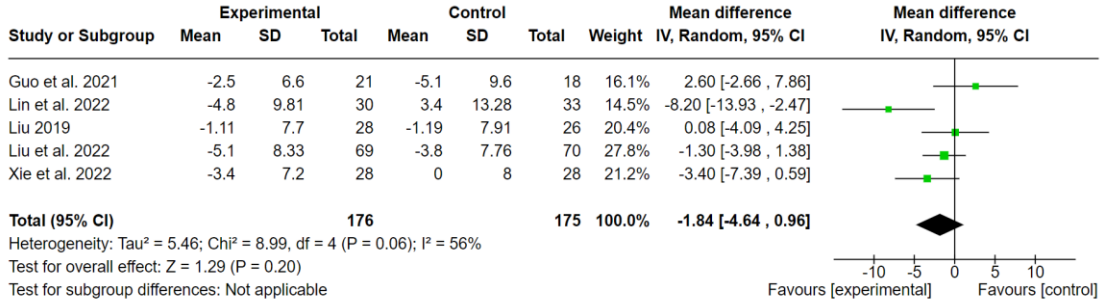

Figure S11. Forest plot for differences in diastolic blood pressure (in mmHg) between intermittent fasting and control groups [12,20–23].

Table S1. Search terms used in the literature review.

Databases	**Search terms used**
Ovid platform: 1. Ovid MEDLINE 2. Embase (via Ovid) 3. Ovid Emcare	(intermittent fasting or time restricted feeding or periodic fasting) AND (randomized controlled trial or clinical trial or controlled clinical trial or randomization or random assignment)
China National Knowledge Infrastructure (CNKI)	(間歇性斷食)
WanFang	(intermittent fasting trial)

Table S2. Reported adverse events of the included studies.

Author, year	Reported adverse events (AEs)	Example of AEs (intervention group % vs control group %) (if applicable)
Cai et al., 2019 [17]	No severe AEs	--
Chair et al., 2022 [18]	No severe AEs	--
Che et al., 2021 [19]	No severe AEs	--
Guo et al., 2021 [20]	No severe AEs	--
Lin et al., 2022 [21]	Did not mention	--
Liu 2019 [22]	Occurrence of mild AEs uncommon in both intervention and control groups Overall (7.33% vs. 3.85%)	Decreased concentration (2.86% vs. 0.38%) Thirsty (1.79% vs. 0.77%) Dizziness (1.07% vs. 0.38%) Low blood sugar level (0.54% vs. 0.19%) Abdominal bloating (0.18% vs. 1.15%) Constipation (0.36% vs. 0.58%) Unstable emotion (0.54% vs. 0.38%)
Liu et al., 2022 [12]	Occurrence of mild AEs were similar in both intervention and control groups	Fatigue, dizziness, headache, decrease appetite, upper abdominal pain, dyspepsia and constipation
Xie et al., 2022 [23]	No severe AEs	--
Zheng et al., 2021 [24]	Some AEs in both intervention and control groups	Hypoglycaemia (5.3% vs. 0%) Hunger (5.3% vs. 0%) Infection (5.3% vs. 5.5%) Irritability (10.5% vs. 11.1%) Nausea (5.3% vs. 0%)

Table S3. Sensitivity analysis summary of the included studies in body weight and BMI.

Study excluded		Body weight			BMI		
		I^2 (%)	P for heterogeneity	Mean Difference [95% CI]	I^2 (%)	P for heterogeneity	Mean Difference [95% CI]
Cai et al., 2019 [17]	Overall	68	0.002	-2.44 [-3.10, -1.77]	90	<0.001	-1.18 [-1.76, -0.60]
	ad libitum diet	--	--	--	--	--	--
	calorie-restricted diet	0	0.71	-1.41 [-2.97, 0.16]	0	0.74	-0.69 [-1.28, -0.10]
Chair et al., 2022 [18]	Overall	83	<0.001	-1.88 [-2.37, -1.39]	93	<0.001	-0.99 [-1.75, -0.23]
	ad libitum diet	0	0.64	-2.15 [-2.28, -2.01]	92	<0.001	-1.29 [-2.25, -0.34]
	calorie-restricted diet	--	--	--	--	--	--
Che et al., 2021 [19]	Overall	82	<0.001	-2.28 [-3.16, -1.41]	70	0.003	-0.88 [-1.33, -0.44]
	ad libitum diet	78	0.001	-2.87 [-4.15, -1.59]	72	0.01	-1.11 [-1.74, -0.49]
	calorie-restricted diet	--	--	--	--	--	--
Guo et al., 2021 [20]	Overall	89	<0.001	-2.19 [-2.79, -1.60]	92	<0.001	-1.10 [-1.75, -0.45]
	ad libitum diet	81	<0.001	-2.73 [-3.71, -1.76]	85	<0.001	-1.55 [-2.16, -0.93]
	calorie-restricted diet	--	--	--	--	--	--
Lin et al., 2022 [21]	Overall	89	<0.001	-2.26 [-2.82, -1.70]	93	<0.001	-1.11 [-1.75, -0.47]
	ad libitum diet	--	--	--	--	--	--
	calorie-restricted diet	0	0.79	-1.40 [-1.60, -1.21]	0	0.77	-0.50 [-0.90, -0.09]
Liu, 2019 [22]	Overall	89	<0.001	-2.17 [-2.71, -1.62]	94	<0.001	-1.00 [-1.62, -0.38]
	ad libitum diet	79	<0.001	-2.55 [-3.30, -1.79]	93	<0.001	-1.30 [-1.97, -0.62]
	calorie-restricted diet	--	--	--	--	--	--
Liu et al., 2022 [12]	Overall	89	<0.001	-2.23 [-2.80, -1.67]	93	<0.001	-1.14 [-1.77, -0.51]
	ad libitum diet	--	--	--	--	--	--
	calorie-restricted diet	0	0.79	-1.40 [-1.59, -1.20]	0	0.5	-0.54 [-0.95, -0.12]
Xie et al., 2022 [23]	Overall	89	<0.001	-2.27 [-2.89, -1.66]	--	--	--
	ad libitum diet	80	<0.001	-2.90 [-4.03, -1.77]	--	--	--
	calorie-restricted diet	--	--	--	--	--	--
Zheng et al., 2021 [24]	Overall	89	<0.001	-2.22 [-2.78, -1.66]	93	<0.001	-1.18 [-1.79, -0.56]
	ad libitum diet	81	<0.001	-2.67 [-3.48, -1.86]	90	<0.001	-1.59 [-2.21, -0.96]
	calorie-restricted diet	--	--	--	--	--	--

Table S4. Pooled MDs when another intervention group in multi-arm studies was included.

Outcomes	MDs when ADF group in multi-arm studies was included	MDs when mTRE group in multi-arm studies was included
Body weight	-2.16 [-2.27, -2.05], I^2 = 0%	-2.03 [-2.62, -1.44], I^2 = 89%
BMI	-0.84 [-1.61, -0.08], I^2 = 94%	--
WC	-0.95 [-1.97, 0.08], I^2 = 7%	--
BFM	-1.69 [-2.56, -0.82], I^2 = 89%	-1.30 [-1.81, -0.78], I^2 = 63%
TC	0.19 [-2.72, 3.11], I^2 = 49%	0.31 [-2.76, 3.38], I^2 = 49%
HDL	-0.52 [-1.55, 0.51], I^2 = 47%	-0.35 [-1.14, 0.43], I^2 = 24%
LDL	-2.59 [-5.29, 0.12], I^2 = 60%	-2.83 [-5.53, -0.13], I^2 = 58%
TG	0.25 [-9.01, 9.50], I^2 = 100%	-3.02 [-5.79, -0.25], I^2 = 97%
FPG	-4.13 [-9.68, 1.41], I^2 = 100%	-4.38 [-9.93, 1.17], I^2 = 93%
HOMA-IR	--	-0.16 [-0.60, 0.28], I^2 = 82%
SBP	--	-2.22 [-4.46, 0.02], I^2 = 2%
DBP	--	-2.16 [-5.16, 0.84], I^2 = 62%

Abbreviations: ADF, alternate-day fasting; BMI, body mass index; BFM, body fat mass; DBP, diastolic blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; HOMA-IR, homeostatic model assessment of insulin resistance; LDL, low-density lipoprotein; MDs, mean differences; mTRE, mid-day time restricted eating; TC, total cholesterol; TG, triglycerides; SBP, systolic blood pressure; WC, waist circumference.