

Supplementary Table 3. Characteristics of randomized controlled trials included in the meta-analysis to evaluate the effects of carbohydrate-restricted diets

Study	Population	Nationality	Duration of study	Control	Intervention	Follow-up loss rate (control: intervention), %	Subject number	Asian, %	FPG, mg/dL	TC, mg/dL	TG, mg/dL	LDL-C, mg/dL	HDL-C, mg/dL	BW, kg	BMI, kg/m ²	HbA1c, %	SBP, mm Hg	DBP, mm Hg
Aronica et al. (2021) [16]	Ob	US	1 yr	LFD	LCD	21.0:21.1	609	9.9	98.6	NA	128.4	112.9	49.9	96.9	33.4	NA	122.9	81.1
Bazzano et al. (2014) [17,18]	Ob	US	1 yr	LFD	VLCD	17.8:21.3	148	0.7	94.0	201.5	119.0	122.6	55.1	97.1	35.4	NA	122.6	78.4
Bhattacharyya et al. (2012) [19]	Ob	India	6 mo	SD	VLCD	NA	150	NA	NA	NA	NA	NA	NA	NA	27.1	NA	NA	NA
Brinkworth et al. (2004) [20]	Ob	Australia	1 yr	SD	MCD	24.1:27.6	43	NA	96.3	NA	NA	NA	NA	94.0	34.1	NA	NA	NA
Brinkworth et al. (2009) [21], Brinkworth et al. (2010) [22], Brinkworth et al. (2011) [23], Wycherley et al. (2011) [24], Tay et al. (2008) [25], Wycherley et al. (2010) [26]	Ob, HTN	Australia	1 yr	LFD	VLCD	40.9:42.1	118	NA	101.8	210.8	153.9	127.7	54.3	95.3	33.7	NA	134.0	74.8
Cardillo et al. (2006) [27]	Ob	US	3 yr	LFD	VLCD	NA	53	NA	116.5	NA	NA	NA	NA	NA	43.3	NA	NA	NA
Zinn et al. (2017) [28]	Ob	New Zealand	3 mo	LFD	MCD	40:33	41	0	92.7	NA	128.4	112.1	44.5	91.8	31.1	5.4	NA	NA
Chen et al. (2020) [29]	Ob, T2DM, HTN	Taiwan	18 mo	SD	LCD	6.7:8.5	85	100	160.3	177.6	170.7	103.4	45.4	69.0	26.9	8.6	130.4	75.4
Daly et al. (2006) [30]	Ob, T2DM, HTN	UK	3 mo	LFD	LCD	27.5:27.5	102	NA	209.7	189.5	224.1	NA	46.8	102.0	36.1	9.1	142.2	79.5
Davis et al. (2009) [31]	Ob, T2DM	US	1 yr	LFD	LCD	12:14.6	105	2.9	NA	168.3	124.0	94.8	48.4	97.1	36.0	7.5	127.4	74.9
de Jonge et al. (2012) [32]	Ob	US	2 yr	NCD	MCD	39:39	811	NA	NA	NA	NA	NA	NA	92.9	32.7	NA	NA	NA
de Luis et al. (2007) [33]	Ob	Spain	3 mo	LFD	MCD	NA	90	NA	NA	NA	NA	NA	NA	93.4	35.7	NA	NA	NA
de Luis et al. (2015) [34]	Ob	Spain	9 mo	CRD	MCD	NA	193	NA	102.0	207.2	127.6	125.8	54.5	93.7	36.2	NA	129.0	81.2
de Luis et al. (2015) [35]	Ob	Spain	9 mo	CRD	MCD	NA	195	0	101.0	209.4	124.5	128.5	54.6	93.7	35.7	NA	129.5	82.1
de Luis et al. (2016) [36]	Ob	Spain	9 mo	CRD	MCD	NA	283	NA	102.6	206.0	123.0	126.1	55.9	91.1	35.1	NA	127.3	81.1
de Luis et al. (2019) [37]	Ob	Spain	9 mo	CRD	LCD	NA	270	0	103.0	208.5	123.7	127.7	55.6	92.0	34.5	NA	127.0	82.3
Dyson et al. (2007) [38]	Ob, T2DM	UK	3 mo	CRD	VLCD	28:60	26	NA	NA	197.2	131.1	119.9	51.0	96.3	35.1	6.6	NA	NA
Foraker et al. (2014) [39]	Ob	US	1 yr	LFD	MCD	0	79	NA	NA	194.2	NA	123.1	53.0	NA	30.3	NA	121.8	74.5

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Forsythe et al. (2008) [40,41]	Ob	US	3 mo	LFD	LCD	0	40	NA	NA	206.0	199.0	129.2	37.3	NA	NA	NA	NA	NA
Foster et al. (2010) [42]	Ob	US	2 yr	CRD	LCD	32:42	307	<1	NA	190.5	118.7	122.1	45.8	103.4	36.1	NA	124.5	95.0
Foster et al. (2003) [43]	Ob	US	1 yr	CRD	VLCD	39:43	63	0	NA	197.3	127.1	124.9	48.0	98.5	34.1	NA	121.8	76.0
Frisch et al. (2009) [44]	Ob	Germany	1 yr	LFD	MCD	20:15	200	0	1.0	213.5	119.6	137.3	57.2	99.6	33.7	5.6	127.0	86.0
Gardner et al. (2007) [45]	Ob	US	1 yr	NCD	MCD/VLCD	2.6:22.8:11.7	311	10.0	94.0	NA	121.0	110.0	52.0	85.0	32.0	NA	116.0	75.0
Goday et al. (2016) [46]	Ob, T2DM	Spain	4 mo	CRD	VLCD	18.2:11.1	89	NA	139.8	190.8	155.2	106.3	53.0	90.5	33.1	6.9	NA	NA
Goldstein et al. (2011) [47]	Ob, T2DM	Israel	1 yr	CRD	VLCD	38.5:46.2	52	NA	188.5	197.0	200.5	NA	44.0	92.0	33.2	8.9	138.0	79.5
Gulbrand et al. (2012) [48], Jonasson et al. (2014) [49]	Ob, T2DM	Sweden	2 yr	LFD	LCD	10:13	61	NA	NA	168.7	155.3	97.7	42.6	95.2	32.7	7.3	135.5	76.5
Haufe et al. (2011,2012) [50,51]	Ob	Germany	6 mo	LFD	LCD	40:35	102	NA	94.5	87.8	103.6	117.6	53.4	92.6	33.0	NA	NA	NA
Iqbal et al. (2010) [52]	Ob, T2DM, HTN	US	2 yr	LFD	VLCD	43:60	144	0.0	151.4	180.4	161.1	107.7	40.7	116.9	37.5	7.7	139.9	79.4
Jabekk et al. (2010) [53]	Ob	Norway	10 wk	SD	VLCD	11:11	16	NA	NA	NA	NA	NA	NA	90.9	32.3	NA	NA	NA
Jenkins et al. (2014) [54]	Ob	Canada	7 mo	NCD	MCD	32:50	39	4.5	88.2	263.0	194.9	174.0	50.3	84.5	31.1	5.3	125.1	76.0
Keogh et al. (2007) [55]	Ob	Australia	1 yr	CRD	LCD	NA	25	NA	106.2	5.5	1.6	3.7	1.3	94.2	32.9	NA	122.0	75.0
Kimura et al. (2018) [56]	T2DM	Japan	3 mo	CRD	MCD	4.3:4	48	100	NA	NA	140.3	114.4	60.5	62.8	24.8	7.0	NA	NA
Kreider et al. (2011) [57]	Ob	US	10 wk	SD	LCD	NA	221	NA	99.8	199.6	136.3	120.2	52.8	90.3	33.8	NA	124.6	81.8
Larsen et al. (2011) [58]	Ob, T2DM	Australia	1 yr	NCD	MCD	2.2:9.4	99	NA	NA	182.5	210.8	95.1	46.2	95.0	NA	7.8	129.8	81.5
Liu et al. (2018) [59]	T2DM	China	3 mo	SD	MCD	16.3:16.3	122	100	150.6	153.9	116.9	79.9	56.7	58.5	21.4	7.1	105.0	76.6
Liu et al. (2013) [60]	Ob	China	3 mo	LFD	LCD	4:4	50	100	109.4	197.2	133.8	130.3	51.8	65.9	26.7	NA	132.7	86.0
Meckling et al. (2004) [61]	Ob	Canada	10 wk	CRD	LCD	20:25	40	0	105.5	229.0	135.0	167.0	50.5	91.7	32.2	NA	123.1	77.8
Morris et al. (2020) [62]	Ob, T2DM	UK	3 mo	SD	LCD	8.3:0	33	0	168.8	166.7	172.7	NA	45.2	101.0	35.4	7.7	140.0	82.0
Noakes et al. (2006,2010) [63,64]	Ob	Australia	15 mo	VLFD	VLCD	0	67	NA	95.9	227.4	145.4	149.3	49.5	NA	32.8	NA	NA	NA
Perna et al. (2019) [65]	Ob, T2DM	Bahrain	3 mo	CRD	LCD	0	17	100	108.5	178.9	156.5	100.2	47.4	85.3	31.4	6.0	NA	NA
Ruth et al. (2013) [66]	Ob	US	3 mo	LFD	VLCD	37.9:42.3	55	NA	84.0	182.3	106.5	109.4	51.6	99.9	36.5	5.7	119.9	76.6

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Saslow et al. (2017) [67]	Ob, T2DM	US	1 yr	LFD	VLCD	16.7:12.5	34	14.7	NA	NA	132.4	93.7	47.0	98.6	36.4	6.8	128.2	79.2
Sato et al. (2017) [68]	Ob, T2DM	Japan	6 mo	CRD	LCD	3:9	66	100	126.1	NA	145.5	99.3	45.3	73.8	26.6	8.2	NA	NA
Shai et al. (2008) [69], Yokose et al. (2020) [70]	Ob	Israel	2 yr	LFD	LCD	9.6:22.0	213	NA	91.3	NA	170.8	119.0	38.5	91.4	30.9	NA	131.3	79.7
Soenen et al. (2012) [71]	Ob	Netherlands	1 yr	CRD	LCD	4.3:5.7	132	NA	97.7	191.4	143.9	112.1	52.2	106.7	36.8	NA	130.5	82.3
Stern et al. (2004) [72], Samaha et al. (2003) [73]	Ob, HTN	US	1 yr	LFD	VLCD	36.8:31.3	132	0	126.1	186.3	182.2	115.9	41.0	130.9	42.9	NA	134.0	79.0
Struik et al. (2020) [74], Wycherley et al. (2016) [75], Tay et al. (2015) [76], Tay et al. (2018) [77], Tay et al. (2014) [78]	Ob, T2DM, HTN	Australia	2 yr	LFD	LCD	18:21	115	NA	145.8	166.3	132.9	92.8	51.0	101.6	34.6	7.3	131.4	80.7
Tsai et al. (2005) [79]	Ob	US	1 yr	SD	VLCD	4:4.0	129	0	125.9	NA	NA	115.0	NA	NA	42.9	NA	134.0	NA
Wang et al. (2018) [80]	T2DM	China	3 mo	LFD	MCD	4:3:4	48	100	NA	NA	140.3	114.4	60.5	62.8	24.8	7.0	NA	NA
Yancy et al. (2004) [81]	Ob	US	6 mo	LFD	VLCD	43.3:23.7	119	NA	NA	242.2	174.4	152.6	54.7	97.3	34.3	NA	NA	NA

FPG, fasting plasma glucose; TC, total cholesterol; TG, triglyceride; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; BW, body weight; BMI, body mass index; HbA1c, glycosylated hemoglobin; SBP, systolic blood pressure; DBP, diastolic blood pressure; Ob, obesity or overweight; LFD, low fat diet; LCD, low carbohydrate diet; NA, not available; VLCD, very-low carbohydrate diet; SD, standard diet; MCD, moderately-low carbohydrate diet; HTN, hypertension; T2DM, type 2 diabetes mellitus; NCD, normal carbohydrate diet; CRD, calorie-restricted diet; VLFD, very-low fat diet.