Additional file 7. Syntheses of results and summary of findings table (SoF)

We present the effects of interventions per comparison and their corresponding follow-up periods (any aerobic training vs control, walking vs control, aerobic training vs yoga, aerobic training vs salt restriction, aerobic training vs tai chi, aerobic training vs aerobic training plus Dietary Approaches to Stop Hypertension (DASH), high-intensity interval training vs moderate-intensity aerobic training, home-based vs supervised center-based cardiac rehabilitation, combined training vs control, exercise training (ET) vs no intervention, exercise training vs no intervention, exercise training vs diet, exercise training vs diet plus exercise training, isometric resistance training vs control, dynamic resistance training vs control, dynamic resistance training vs aerobic training, dynamic resistance training vs yoga). Comparisons are numbered according to Figure 3, shown in the main text. Tables 1-14 depict further details.

Primary outcomes: SBP, DBP, and MBP

Comparison 1: Any aerobic training versus Control

Five reviews studied the effects of any aerobic training on SBP and DBP compared to control groups in adults (37–40,45) whit different diagnoses such as normotensive, high blood pressure (38), moderate kidney failure, dialysis treatment, kidney transplantation (37), polycystic ovary syndrome (40), intermittent claudication (39), high blood pressure, overweight, obesity, or non-insulin-dependent type II diabetes adults (45). Participants' age ranged from 21 to 74 years (37–40,45). See Table 1.

Systolic blood pressure: short term follow-up

Herrod et al., 2018 reported evidence of a clinically relevant difference in SBP between any AET and control in normotensive or high blood pressure adults (12 RCTs; N=no reported; MD -6.06 mm Hg, 95% CI -9.08 to -3.05) at 12 to 48 weeks follow-up (38). Data from Heiwe et al., 2011 (37) suggest that any AET compared to control leads to no effect on SBP in adults with either moderate kidney failure, or kidney transplantation up to 12 weeks follow-up (3 RCTs; N=144; MD -6.38 mm Hg, 95% CI –13.84 to 1.08). These findings were further confirmed by Kite et al., 2019 (40) in the subgroup of adults with polycystic ovary syndrome (3 RCTs; N=128; MD -3.71 mm Hg, 95% CI -8.88 to 1.47). Besides, Jansen et al., 2019 reported evidence of a clinically relevant difference in SBP between any AET and control in adults with intermittent claudication (3 RCTs; N=113; MD -7.79 mm Hg, 95%CI -10.84 to -4.73) (39). Very low quality of evidence suggests that there is uncertainty whether any AET compared to control may reduce SBP in adults with either high blood pressure, moderate kidney failure, kidney transplantation, polycystic ovary syndrome, intermittent claudication, high blood pressure, overweight, obesity, or non-insulin-dependent type II diabetes as well as normotensive at short-term follow-up. See table 1.

Systolic blood pressure: short to middle term follow-up

Herrod et al., 2018 reported evidence of a difference between any AET and control in SBP in normotensive or high blood pressure adults at short to middle-term follow-up (9 RCTs; N=no reported; MD -4.37 mm Hg, 95% CI -7.28 to -1.45) (38). Besides, Heiwe et al. 2011 (37), who reported narrative data of a clinically important difference between groups in SBP from one RCT (3 RCTs; N=62; MD -23.00 mm Hg; no precision measures reported), the remaining two RCTs found evidence of no difference between any AET and control on SBP in adults with either moderate kidney failure, or kidney transplantation (37). It is uncertain whether any AET compared to control may reduce SBP in adults with either high blood pressure, moderate kidney failure, kidney transplantation as well as normotensive at short to middle-term follow-up because the quality of evidence is very low (Table 1).

Systolic blood pressure: middle to long term follow-up

Data from Herrod et al., 2018 suggest that any AET compared to control leads to no effect on SBP in normotensive and high blood pressure adults (2 RCTs; N=no reported; MD -5.97 mm Hg, 95% CI -21.40 to 9.47) (38). Similar evidence was reported by Jansen et al., 2019 on SBP in adults with intermittent claudication at 24 to 48 weeks follow-up (4 RCTs; N=291; MD -3.14 mm Hg, 95% CI -8.31 to 2.03) (39). No differences between any AET and control were observed for SBP in adults with High blood pressure, overweight, obese, non-insulin-dependent type II diabetes at middle to long-term follow-up (2 RCTs; N=259; MD -0.59 mm Hg, 95% CI -2.66 to 1.49) (45). Besides, Heiwe et al. 2011 (37), who reported narrative evidence of no effect between groups in SBP from two RCT in adults with either moderate kidney failure, or kidney transplantation (2 RCTs; N=121; no precision measures reported) (37). Very low quality of evidence suggests that there is uncertainty whether any AET may reduce SBP compared to control in adults with either high blood pressure, moderate kidney failure, kidney transplantation, intermittent claudication as well as normotensive at middle to long-term follow-up. See table 1.

Diastolic blood pressure: short to term follow-up

Herrod et al., 2018 reported evidence of a clinically relevant difference in DBP between any AET and control in normotensive or high blood pressure adults (12 RCTs; N=no reported; MD -2.60 mm Hg, 95% CI -3.89 to -1.31) at 12 to 48 weeks follow-up (38). Data from Heiwe et al., 2011 (37) suggest that any AET compared to control leads to no effect on DBP in adults with either moderate kidney failure or kidney transplantation up to 12 weeks follow-up (1 RCTs; N=19; MD 4.40 mm Hg, 95% CI –2.51 to 11.31). These findings were further confirmed by Kite et al., 2019 (40) on DBP in the subgroup of adults with polycystic ovary syndrome (3 RCTs; N=128; MD -2.67 mm Hg, 95% CI -6.50 to 1.17) for this follow-up. Besides, Jansen et al., 2019 reported narrative evidence of no effect in DBP between any AET and control in adults with intermittent claudication (1 RCTs; N=42; no precision measures reported) (39). It is uncertain whether any AET compared to control may reduce DBP in adults with either high blood pressure, moderate kidney failure, kidney transplantation, polycystic ovary syndrome, intermittent claudication, high blood pressure, overweight, obesity, or non-insulin-dependent type II diabetes as well as normotensive at short-term follow-up because the quality of evidence is very low (Table 1).

Diastolic blood pressure: short to middle term follow-up

Herrod et al., 2018 reported evidence of a difference between any AET and control in DBP in normotensive or high blood pressure adults at short to middle-term follow-up (10 RCTs; N=no reported; MD -2.08 mm Hg, 95% CI -3.54 to -0.62) (38). Besides, Heiwe et al., 2011 suggest that any AET compared to control leads to no effect on DBP in adults with either moderate kidney failure, or kidney transplantation for this follow-up (3 RCTs; N=62; MD -0.12 MM Hg, 95% CI -4.35 to 4.11) (37). Very low quality of evidence suggests that there is uncertainty whether any AET may reduce DBP compared to control in adults with either high blood pressure, moderate kidney failure, kidney transplantation as well as normotensive at short to middle-term follow-up. See table 1.

Diastolic blood pressure: middle to long term follow-up

Data from Herrod et al., 2018 suggest that any AET compared to control leads to no effect on DBP in normotensive and high blood pressure adults (2 RCTs; N=no reported; MD -0.95 mm Hg, 95% CI -2.28 to 0.37) (38). Similar narrative evidence was reported by Jansen et al., 2019 on DBP in adults with intermittent claudication at 24 to 48 weeks follow-up (1 RCTs; N=51; no precision measures reported) (39). Differences between any AET and control were observed for Shaw et al., 2006 on DBP in adults with High blood pressure, overweight, obese, non-insulin-dependent type II diabetes at middle to long-term follow-up (2 RCTs; N=259; MD -2.09 mm Hg, 95% CI -3.68 to -0.51) (45). Finally, Heiwe et al., 2011 found evidence of no effect between groups on DBP in adults with either moderate kidney failure, or kidney transplantation for this follow-up (2 RCTs; N=121; MD -1.58 mm Hg, 95% CI -5.90 to 2.75) (37). It is uncertain whether any AET compared to control may reduce DBP in adults with either high blood pressure, moderate kidney failure, kidney transplantation, intermittent claudication as well as normotensive at middle to long-term follow-up because the quality of evidence is very low (Table 1).

Table 1. Summary of findings for the comparison: Any aerobic training vs Control for systolic, diastolic, and mean blood pressure.

Any aerobic training vs Control						
Intervention: Any aerobic training **Comparison:** Control **Setting:** mixed (Center, home, hospital, community-based, rehabilitation)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of Participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure – short term follow-up (up to 16 weeks)						
Systolic blood pressure (short term up to 12 weeks)	Normotensive High blood pressure	MD -6.06 (-9.08 to -3.05)	Not estimable	Mean SBP (mm Hg) was 6.06 lower (9.08 lower to 3.05 lower)	NR (12)[a]	⊕⊖⊖⊖ Very Low[1,2]
Systolic blood pressure (short term 8-16 weeks)	Polycystic ovary syndrome	MD -3.71 (-8.88 to 1.47)	Not estimable	Mean SBP (mm Hg) was 3.71 lower (8.88 lower to 1.47 higher)	128 (3)[b]	
Systolic blood pressure (short term up to 12 weeks)	Intermittent claudication	MD -7.79 (-10.84 to -4.73)	The mean SBP (mm Hg) range was from 0 to 5.12	Mean SBP (mm Hg) was 7.79 lower (10.84 lower to 4.73 lower)	113 (3)[c]	
Systolic blood pressure (short term 4 - 12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	Not estimable	-	-	19 (1)[d]	
Systolic blood pressure – short to middle term follow-up (12 to 24 weeks)						
Systolic blood pressure (short to middle term >12-24 weeks)	Normotensive High blood pressure	MD -4.37 (-7.28 to -1.45)	Not estimable	Mean SBP (mm Hg) was 4.37 lower (7.28 lower to 1.45 lower)	NR (9)[a]	⊕⊖⊖⊖ Very Low[1,2]
Systolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment	Not estimable	-	-	62 (3)[d]	

	Kidney transplantation					
Systolic blood pressure – middle to long term follow-up (24 to 52 weeks)						
Systolic blood pressure (middle to long term 24-48 weeks)	Intermittent Claudication	MD -3.14 (-8.31 to 2.03)	The mean SBP (mm Hg) range was from 0 to 5.12	Mean SBP (mm Hg) was 3.14 lower (8.31 lower to 2.03 higher)	291 (4)[c]	⊕⊖⊖⊖ Very Low[1,3]
Systolic blood pressure (middle to long term 26-52 weeks)	High blood pressure Overweight Obese Non-insulin-dependent type II diabetes	MD -0.59 (-2.66 to 1.49)	The mean SBP (mm Hg) range was from -1 to 0	Mean SBP (mm Hg) was 0.59 lower (2.66 lower to 1.49 higher)	259 (2)[e]	
Systolic blood pressure (middle to long term follow-up 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	Not estimable	-	-	121 (2)[d]	
Systolic blood pressure (middle to long term >24 weeks)	Normotensive High blood pressure	MD -5.97 (-21.40 to 9.47)	Not estimable	Mean SBP (mm Hg) was 5.97 lower (21.40 lower to 9.47 higher)	NR (2)[a]	
Diastolic blood pressure – short term follow-up (up to 16 weeks)						
Diastolic blood pressure (short term up to 12 weeks)	Normotensive High blood pressure	MD -2.60 (-3.89 to -1.31)	Not estimable	Mean DBP (mm Hg) was 2.60 lower (3.89 lower to 1.31 lower)	NR (12)[a]	⊕⊖⊖⊖ Very Low[3,4]
Diastolic blood pressure (short term 8-16 weeks)	Polycystic ovary syndrome	MD -2.67 (-6.50 to 1.17)	Not estimable	Mean DBP (mm Hg) was2.67 lower (6.50 lower to 1.17 higher)	128 (3)[b]	
Diastolic blood pressure (short term up to 12 weeks)	Intermittent Claudication	Not estimable	-	-	42 (1)[c]	
Diastolic blood pressure (short term follow-up 4 -12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -4.40 (-11.31 to 2.51)	Not estimable	Mean DBP (mm Hg) was 4.40 lower (2.51 lower to 11.31 higher)	19 (1)[d]	
Diastolic blood pressure – short to middle term follow-up (12 to 24 weeks)						
Diastolic blood pressure	Normotensive High blood pressure	MD -2.08 (-3.54 to -0.62)	Not estimable*	Mean DBP (mm Hg) was 2.08 lower (3.54 lower to 0.62 lower)	NR (10)[a]	⊕⊖⊖⊖ Very Low[1,2]

(short to middle term >12-24 weeks)						
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -0.12 (-4.35 to 4.11)	The mean DBP (mm Hg) range was from 82 to 79	Mean DBP (mm Hg) was 0.12 lower (4.35lower to 4.11 higher)	62 (3)[d]	
Diastolic blood pressure – middle to long term follow-up (24 to 52 weeks)						
Diastolic blood pressure (middle to long term 26-52 weeks)	High blood pressure Overweight Obese Non-insulin-dependent type II diabetes	MD -2.09 (-3.68 to -0.51)	The mean DBP (mm Hg) range was from -1 to 0.6	Mean DBP (mm Hg) was 2.09 lower (3.68 lower to 0.51 lower)	259 (2)[e]	⊕⊖⊖⊖ Very Low[1,5]
Diastolic blood pressure (middle to long term follow-up 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -1.58 (-5.90 to 2.75)	The mean DBP (mm Hg) range was from 86 to 90.6	Mean DBP (mm Hg) was 1.58 lower (5.90 lower to 2.75 higher)	121 (2)[d]	
Diastolic blood pressure (middle to long term 24-48 weeks)	Intermittent Claudication	Not estimable	-	-	51 (1)[c]	
Diastolic blood pressure (middle to long term >24 weeks)	Normotensive High blood pressure	MD -0.95 (-2.28 to 0.37)	Not estimable*	Mean DBP (mm Hg) was 0.95 lower (2.28 lower to 0.37 higher)	NR (2)[a]	

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a] Herrod et al., 2018; [b]Kite et al., 2019; [c]Jansen et al., 2019; [d]Heiwe et al., 2011; ; [e]Shaw et al., 2006.

[1] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), incomplete outcome data (attrition bias), and selective reporting (reporting bias).
[2] Downgraded by one level due to inconsistency (there was statistically significant heterogeneity).
[3] Downgraded by one level due to inconsistency (there was statistically significant heterogeneity) and wide confidence intervals (imprecision).
[4] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), incomplete outcome data (attrition bias)
[5] Downgraded by one level due to wide confidence intervals (imprecision).

Comparison 2: Walking aerobic training versus Control.

One review assessed the effects of walking aerobic training on SBP and DBP compared to control at short to long-term follow-up (41) in adults with different diagnoses such as high blood pressure as well as normotensive, Participants' age ranged from 16 to 84 years (41).

Systolic blood pressure: short to long term follow-up by age

Lee et al 2021, reported evidence of a difference in effect between walking AET and control on SBP in normotensive or high blood pressure adults with ≤40 years (14 RCTs; N=491; MD -4.41 mm Hg, 95% CI -6.17 to -2.65) at short to long follow-up. These findings were further confirmed by the same review in adults with 41 to 60 years for this follow-up (35 RCTs; N=1959; MD -3.79 mm Hg, 95% CI -5.64 to -1.94). Similar evidence was reported by this review on SBP adults with >60 years at 4 to 64 weeks follow-up (24 RCTs; N=2610; MD -4.30 mm Hg, 95% CI -6.17 to -2.44) (41). Moderate quality evidence indicates that walking AET compared to control probably reduces SBP in adults who wither are normotensive, or have high blood pressure with ≤40 years at short to long-term follow-up. Low certainty of evidence suggests that walking AET may reduce SBP compared to control in normotensive or high blood pressure adults with 41 to 60 years or higher than 60 years at short to long-term follow-up (Table 2).

Systolic blood pressure: short to long term follow-up by sex

Data from Lee et al., 2021 (41) suggest that walking AET compared to control leads to an effect on SBP in normotensive or high blood pressure males at 4 to 64 weeks follow-up (6 RCTs; N=203; MD -4.64 mm Hg, 95% CI -8.69 to -0.59). Similar findings were reported on SBP in females (22 RCTs; N=1149; MD -5.65 mm Hg, 95% CI -7.89 to -3.41) (41). Low certainty of evidence suggests that walking AET compared to control may reduce SBP in females and males who either are normotensive or have high blood pressure at short to long-term follow-up. See table 2

Systolic blood pressure: short to long term follow-up by different levels of blood pressure

Lee et al., 2021 reported evidence of a difference in effect between walking AET and control on SBP in normotensive adults at 4 to 64 weeks follow-up (33 RCTs; N=2057; MD -3.68 mm Hg, 95% CI -5.12 to -2.24) (41). Similar results were found on SBP in high normal and high blood pressure adults (39 RCTs; N=2991; MD -5.54 mm Hg, 95% CI -6.23 to -2.85). Equally, evidence reports similar findings on SBP in adults with high blood pressure (21 RCTs; N=1573; MD -5.21 mm Hg, 95% CI -7.66 to -2.76) (41). Moderate quality evidence indicates that walking AET compared to control probably reduces SBP in normotensive adults at short to long-term follow-up. However, compared to control, low quality of evidence indicates that walking AET may reduce SBP in adults with high normal and high blood pressure levels at short to long-term follow-up (Table 2).

Diastolic blood pressure: short to long term follow-up by age

Lee et al 2021, reported evidence of a clinically relevant difference in DBP between walking AET and control in normotensive or high blood pressure adults with ≤40 years at short to long follow-up (14 RCTs; N=491; MD -3.01 mm Hg, 95% CI -4.44 to -1.58) (41). Data from the same review (41) found little effect on DBP in adults with 41 to 60 years (32 RCTs; N=1730; MD -1.74 mm Hg, 95% CI –2.95 to -0.52). Similar results were reported on DBP in adults with >60 years (23 RCTs; N=2410; MD -1.33 mm Hg, 95% CI –2.40 to -0.26) (41). Moderate quality evidence indicates that walking AET compared to control probably reduces DBP in normotensive, or high blood pressure adults with ≤40 years at short to long-term follow-up. Low certainty of evidence suggests that walking AET compared to control may reduce DBP in normotensive or high blood pressure adults with 41 to 60 years or higher than 60 years at short to long-term follow-up (Table 2).

Diastolic blood pressure: short to long term follow-up by sex

Data from Lee et al., 2021 (41) suggest that walking AET compared to control leads to a clinically important difference in DBP in normotensive or high blood pressure males at 4 to 64 weeks follow-up (6 RCTs; N=203; MD -2.54 mm Hg, 95% CI -4.84 to -0.24). Similarly, findings were found on DBP in females (20 RCTs; N=100; -2.69 mm Hg, 95% CI -4.16 to -1.23) (41). Low certainty of evidence suggests that walking AET may reduce SBP compared to control in normotensive or high blood pressure female and male adults at short to long-term follow-up (Table 2).

Diastolic blood pressure: short to long term follow-up by levels of blood pressure

Lee et al., 2021 reported evidence of a clinically relevant difference in DBP between walking AET and control in normotensive adults at 4 to 64 weeks follow-up (53 RCTs; N=3920; MD -3.91 mm Hg, 95% CI -5.26 to -2.55) (41). Similar results were reported on DBP in high normal and high blood pressure adults (15 RCTs; N=779; MD -5.54 mm Hg, 95% CI -6.23 to -2.85). Equally, evidence found similar findings in adults with high blood pressure levels (7 RCTs; N=303; MD -7.82 mm Hg, 95% CI -11.16 to -4.47) (41). Moderate quality evidence indicates that walking AET compared to control probably reduces DBP in adults with high blood pressure levels at short to long-term follow-up. However, compared to control, low-quality evidence indicates that walking AET may reduce DBP in normotensive, high normal, or high blood pressure adults at short to long-term follow-up (Table 2).

Table 2. Summary of findings for the comparison: Walking aerobic training versus control for systolic and diastolic blood pressure

Walking aerobic training versus Control						
Intervention: walking aerobic training **Comparison:** control **Setting:** mixed (home and laboratory)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of Participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure – short to long term follow-up (4 to 64 weeks)						
Systolic blood pressure (short long term 4 to 64 weeks)	≤ 40 years	MD -4.41 (-6.17 to -2.65)	The MD SBP (mm Hg) range was from -4.67 to 7.27	Mean SBP (mm Hg) was 4.41 lower (6.17 lower to 2.65 lower)	491 (14)[a]	⊕⊕⊕⊖ Moderate[1]
	41-60 years	MD -3.79 (-5.64 to -1.94)	The MD SBP (mm Hg) range was from -6.2 to 7	Mean SBP (mm Hg) was 3.79 lower (5.64 lower to 1.94 lower)	1959 (35)[a]	⊕⊕⊖⊖ Low[2,3]
	>60 years	MD -4.30 (-6.17 to -2.44)	The MD SBP (mm Hg) range was from -13.1 to 2	Mean SBP (mm Hg) was 4.30 lower (6.17 lower to 2.44 lower)	2610 (24)[a]	⊕⊕⊖⊖ Low[2,3]
	Female	MD -5.65 (-7.89 to -3.41)	The MD SBP (mm Hg) range was from -4.58 to 7.27	Mean SBP (mm Hg) was 5.65 lower (7.89 lower to 3.41 lower)	1149 (22)[a]	⊕⊕⊖⊖ Low[1,3]
	Male	MD -4.64 (-8.69 to -0.59)	The MD SBP (mm Hg) range was from -7 to 5	Mean SBP (mm Hg) was 4.64 lower (8.69 lower to 0.59 lower)	203 (6)[a]	⊕⊕⊖⊖ Low[1,4]
	Normotensive <130 mm Hg	MD -3.68 (-5.12 to -2.24)	The MD SBP (mm Hg) range was from -9 to 7.27	Mean SBP (mm Hg) was 3.68lower (5.12 lower to 2.24 lower)	2057 (33)[a]	⊕⊕⊕⊖ Moderate[1]
	High normal and high blood pressure ≥130 mm Hg	MD -4.54 (-6.23 to -2.85)	The MD SBP (mm Hg) range was from -13.1 to 7	Mean SBP (mm Hg) was 4.54 lower (6.23 lower to 2.85 lower)	2991 (39)[a]	⊕⊕⊖⊖ Low[1,3]
	High blood pressure ≥140 mm Hg	MD -5.21 (-7.66 to -2.76)	The MD SBP (mm Hg) range was from -13.1 to 2	Mean SBP (mm Hg) was 5.21 lower (7.66 lower to 2.76 lower)	1573 (21)[a]	⊕⊕⊖⊖ Low[1,3]
Diastolic blood pressure – short to long term follow-up (4 to 64 weeks)						
Diastolic blood pressure (short long term 4 to 64 weeks)	≤ 40 years	MD -3.01 (-4.44 to -1.58)	The MD DBP (mm Hg) range was from -4.6 to 4.82	Mean DBP (mm Hg) was 3.01 lower (4.44 lower to 1.58 lower)	491 (14)[a]	⊕⊕⊕⊖ Moderate[1]
	41-60 years	MD -1.74 (-2.95 to -0.52)	The MD DBP (mm Hg) range was from -5 to 3.6	Mean DBP (mm Hg) was 1.74 lower (2.75 lower to 0.52 lower)	1730 (32)[a]	⊕⊕⊖⊖ Low[2,3]

	>60 years	MD -1.33 (-2.40, -0.26)	The MD DBP (mm Hg) range was from -8 to 3.9	Mean DBP (mm Hg) was 1.33 lower (2.40 lower to 0.26 lower)	2490 (23)[a]	⊕⊕⊖⊖ Low[2,3]
	Female	MD -2.69 (-4.16 to -1.23)	The MD DBP (mm Hg) range was from -3.2 to 4.82	Mean DBP (mm Hg) was 2.69 lower (4.16 lower to 1.23 lower)	1000 (20)[a]	⊕⊕⊖⊖ Low[5]
	Male	MD -2.54 (-4.84 to -0.24)	The MD DBP (mm Hg) range was from -4 to -0.67	Mean DBP (mm Hg) was 2.54 lower (4.84 lower to 0.24 lower)	203 (6)[a]	⊕⊕⊖⊖ Low[1,4]
	Normotensive <85 mm Hg	MD -3.91 (-5.26 to -2.55)	The MD DBP (mm Hg) range was from -11.4 to 7	Mean DBP (mm Hg) was 3.91 lower (5.26 lower to 2.55 lower)	3920 (53)[a]	⊕⊕⊖⊖ Low[2,3]
	High normal and high blood pressure ≥85 mm Hg	MD -4.57 (-7.07, -2.07)	The MD DBP (mm Hg) range was from -9 to 1.6	Mean DBP (mm Hg) was 4.57 lower (7.07 lower to 2.07 lower)	779 (15)[a]	⊕⊕⊖⊖ Low[1,3]
	high blood pressure ≥90 mm Hg	MD -7.82 (-11.16, -4.47)	The MD DBP (mm Hg) range was from -9 to 1.66	Mean DBP (mm Hg) was 7.82 lower (11.16 lower to 4.47 lower)	303 (7) [a]	⊕⊕⊕⊖ Moderate[3]

*__The risk in the intervention group__ (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure.

[a]Lee et al., 2021

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by one level due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor) and incomplete outcome data (attrition bias)
[3] Downgraded by one level due to inconsistency (there was statistically significant heterogeneity)
[4] Downgraded by one level due to small sample size (imprecision).
[5] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor) and incomplete outcome data (attrition bias)

Comparison 5: Combined training versus Control

Five reviews assessed the effects of CT compared to control on SBP and DBP in adults with different diagnoses, such as (35–38,40). moderate kidney failure, kidney transplantation (37), polycystic ovary syndrome (40), high blood pressure (38), end-stage renal disease (35), as well as normotensive or prehypertensive adults (36,38). Participants' age ranged from 21 to 71 years (35–38,40)

Systolic blood pressure: short term follow-up

Herrod et al., 2018 reported evidence of a clinically relevant difference in SBP between CT and control in normotensive or high blood pressure adults at short-term follow-up (4 RCTs; N=no reported; MD -5.47 mm Hg, 95% CI -7.56 to -3.38) (38). Data from Heiwe et al., 2011 (37) reported no difference in effects between groups on SBP in adults with either moderate kidney failure, or kidney transplantation (2 RCTs; N=125; MD -6.38 mm Hg, 95% CI -14.74 to 1.99). Very low quality of evidence suggests that there is uncertainty whether CT compared with control may reduce SBP in adults who either are high blood pressure, have moderate kidney failure, or have kidney transplantation as well as normotensive adults at short-term follow-up (Table 3).

Systolic blood pressure: short to middle term follow-up

Kite et al., 2019 reported evidence of no difference in effects between CT and control on SBP in women with polycystic ovary syndrome (1 RCTs; N=30; MD -0.20 mm Hg, 95% CI -6.51 to 6.11) at short to middle term follow-up (40). Herrod et al., 2018 (38) found similar results on SBP in normotensive and high blood pressure adults (5 RCTs; N=not reported; MD -4.48 mm Hg, 95% CI -6.81 to -2.15). Similar findings were reported by Heiwe (37) et al., 2011 on SBP in adults with either moderate kidney failure, or kidney transplantation (1 RCTs; N=28; MD -8.00 mm Hg, 95% CI -16.89 to 0.89). It is uncertain whether CT compared to control may reduce SBP in adults who either are high blood pressure, have moderate kidney failure, or have kidney transplantation, or have polycystic ovary syndrome as well as normotensive adults at short to middle-term follow-up because the quality of evidence is very low (Table 3).

Systolic and diastolic blood pressure: middle-term follow-up

Fu et al., 2020 reported evidence of no difference in effect between CT and control on SBP in prehypertensive adults (2 RCTs; N=169; MD -2.72 mm Hg, 95% CI -8.21 to 2.75) at middle-term follow-up (36). Similar findings were reported for DBP (2 RCTs; N=169; MD -3.15 mm Hg, 95%CI -6.75 to 0.44) (36). Compared to control, low-quality evidence indicates that CT may reduce SBP and DBP in prehypertensive adults at middle-term follow-up.

Systolic blood pressure: middle to long term follow-up

Herrod et al., 2018 reported evidence of no difference in effect between CT and control on SBP in normotensive or high blood pressure adults at middle to long-term follow-up (3 RCTs; N=not reported; MD -9.93 mm Hg, 95% CI -24.85 to 4.99) (38). Ferrari et al., 2019, reported similar findings for SBP in adults with end-stage renal disease (2 RCTs; N=76; MD -4.33 mm Hg, 95% CI -9.75 to 1.08) (35). Heiwe et al., 2011 (37) not reported a difference in effects between groups in adults with either moderate kidney failure, or kidney transplantation (1 RCTs; N=33; MD -4.00 mm Hg, 95% CI -11.07 to 3.07). Very low quality of evidence suggests that there is uncertainty whether CT compared to control may reduce SBP in adults who either are high blood pressure, have end-stage renal disease, or have moderate kidney failure, or have kidney transplantation as well normotensive adults at middle to long-term follow-up. See table 3.

Diastolic blood pressure: short to term follow-up

Herrod et al., 2018 reported evidence of a clinically relevant difference between CT and control on DBP in normotensive or high blood pressure adults at short-term follow-up (4 RCTs; N=no reported; MD -2.67 mm Hg, 95% CI -3.73 to -1.61) (38). In contrast, Heiwe et al., 2011 (37) suggest that CT compared to control leads to no effect on DBP in adults with either moderate kidney failure, or kidney transplantation (2 RCTs; N=125; MD -0.52 mm Hg, 95% CI -4.90 to 3.85). It is uncertain whether CT compared to control may reduce DBP in adults who either are high blood pressure, have moderate kidney failure, or have kidney transplantation as well as normotensive adults at short-term follow-up (Table 3).

Diastolic blood pressure: short to middle term follow-up

Kite et al., 2019 reported evidence of no difference in effects between CT and control on DBP in women with polycystic ovary syndrome (1 RCTs; N=30; MD -0.20 mm Hg, 95%CI -7.23 to 6.83) at short to middle term follow-up (40). Similar findings were reported by Heiwe et al., 2011 (37) for DBP in adults with either moderate kidney failure, or kidney transplantation (1 RCTs; N=28; MD -3.00 mm Hg, 95%CI -7.27 to 1.27). Herrod et al., 2018 (38) suggest that any AET compared to control leads to clinically important differences in DBP in normotensive or high blood pressure adults (5 RCTs; N=not reported; MD -3.80 mm Hg, 95%CI -5.16 to -2.44). Very low quality of evidence suggests that there is uncertainty whether CT compared to control may reduce DBP compared in adults who either are high blood pressure, have moderate kidney failure, or have kidney transplantation, or have polycystic ovary syndrome as well as normotensive adults at short to middle-term follow-up (Table 3).

Diastolic blood pressure: middle to long term follow-up

Herrod et al., 2018 reported evidence of a clinically relevant difference between CT and control on DBP in normotensive or high blood pressure adults at middle to long-term follow-up (3 RCTs; N=not reported; MD -5.10 mm Hg, 95% CI -9.06 to -1.14) (38). Similar results were reported by Ferrari et al., 2019 on DBP in adults with end-stage renal disease (2 RCTs;

N=76; MD -5.76 mm Hg, 95% CI -8.83 to -2.70) (35). Heiwe et al., 2011 (37) found similar findings on DBP in adults with either moderate kidney failure, or kidney transplantation (1 RCTs; N=33; MD -5.76 mm Hg, 95% CI -8.83 to -2.70). Compared to control, low-quality evidence indicates that CT may reduce DBP in adults who either are high blood pressure, have end-stage renal disease, have moderate kidney failure, or have kidney transplantation as well as normotensive adults at middle to long-term follow-up. See table 3.

Table 3. Summary of findings for the comparison: Combined training versus control for systolic and diastolic blood pressure

Combined training vs Control						
Intervention: combined training **Comparison:** control **Setting:** mixed (Center, home, hospital, community-based, rehabilitation)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure – short term follow-up (up to 12 weeks)						
Systolic blood pressure (short term 0-12 weeks)	Normotensive High blood pressure	MD -5.47 (-7.56 to -3.38)	Not estimable	Mean SBP (mm Hg) was 5.47 lower (7.56 lower to 3.38 lower)	NR (4)[a]	⊕⊕⊖⊖ Low[1,2]
Systolic blood pressure (short term 4 -12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -6.38 (-14.74 to 1.99)	The mean SBP (mm Hg) range was from 146 to 153.1	Mean SBP (mm Hg) was 6.38 lower (14.74 lower to 1.99 higher)	125 (2)[b]	
Systolic blood pressure – short to middle term follow-up (12 to 24 weeks)						
Systolic blood pressure (short to middle term 10 to 20 weeks)	Polycystic ovary syndrome	MD -0.20 (-6.51 to 6.11)	Not estimable	Mean SBP (mm Hg) was 0.20 lower (6.51 lower to 6.11 higher)	30 (1)[c]	⊕⊖⊖⊖ Very Low[3,4]
Systolic blood pressure (short to middle term >12-24 weeks)	Normotensive High blood pressure	MD -4.48 (-6.81 to -2.15)	Not estimable	Mean SBP (mm Hg) was 4.48 lower (6.81 lower to 2.15 lower)	NR (5)[a]	

Systolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -8.00 (-16.89 to 0.89)	Not estimable	Mean SBP (mm Hg) was 8.00 lower (16.89 lower to 0.89 higher)	28 (1)[b]	
Systolic blood pressure – middle-term follow-up (up to 24-25 weeks)						
Systolic blood pressure (middle term 24-25 weeks)	Prehypertensive	WMD -2.72 (-8.21 to 2.75)	Not estimable	Mean SBP (mm Hg) was 2.72 Lower (8.21 higher to 2.75 higher)	169 (2)[d]	⊕⊕⊝⊝ Low[2,5]
Systolic blood pressure – middle to long term follow-up (>24 to 48 weeks)						
Systolic blood pressure (middle to long term >24 weeks)	Normotensive High blood pressure	MD -9.93 (-24.85 to 4.99)	Not estimable	Mean SBP (mm Hg) was 9.93 lower (24.85 lower to 4.99 higher)	NR (3)[a]	
Systolic blood pressure (middle to long term 28 to 40 weeks)	End-stage renal disease	MD -4.33 (-9.75 to 1.08)	The mean SBP (mm Hg) range was from 133.7 to 139.3	Mean SBP (mm Hg) was 4.33 lower (9.75 lower to 1.08 higher)	76 (2)[e]	⊕⊝⊝⊝ Very Low[1,4]
Systolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -4.00 (-11.07 to 3.07)	Not estimable	Mean SBP (mm Hg) was 4.00 lower (11.07 lower to 3.07 higher)	33 (1)[b]	
Diastolic blood pressure – short term follow-up (up to 12 weeks)						
Diastolic blood pressure (short term 0-12 weeks)	Normotensive High blood pressure	MD -2.67 (-3.73 to -1.61)	Not estimable	Mean DBP (mm Hg) was 2.67 lower (3.73 lower to 1.61 lower)	NR (4)[a]	⊕⊝⊝⊝ Very Low[2,3]
Diastolic blood pressure (short term follow-up 4 - 12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -0.52 (-4.90 to 3.85)	The mean DBP (mm Hg) range was from 80 to 81.7	Mean DBP (mm Hg) was 0.52 lower (4.90 lower to 3.85 higher)	125 (2)[b]	
Diastolic blood pressure – short to middle term follow-up (12 to 24 weeks)						
Diastolic blood pressure (short to middle term 10 to 20 weeks)	Polycystic ovary syndrome	MD -0.20 (-7.23 to 6.83)	Not estimable	Mean DBP (mm Hg) was 0.20 lower (7.23 lower to 6.83 higher)	30 (1)[c]	
Diastolic blood pressure (short to middle term >12-24 weeks)	Normotensive High blood pressure	MD -3.80 (-5.16 to -2.44)	Not estimable	Mean DBP (mm Hg) was 3.80 lower (5.16 lower to 2.44 lower)	NR (5)[a]	⊕⊝⊝⊝ Very Low[3,4]
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment	MD -3.00 (-7.27 to 1.27)	Not estimable	Mean DBP (mm Hg) was 3.00 lower (7.27 lower to 1.27 higher)	28 (1)[b]	

	Kidney transplantation					
Diastolic blood pressure – middle-term follow-up (up to 24-25 weeks)						
Diastolic blood pressure (middle term 24-25 week)	Prehypertensive	WMD -3.15 (-6.75 to 0.44)	Not estimable	Mean DBP (mm Hg) was 3.15 Lower (6.75lower to 0.44 higher)	169 (2)[d]	⊕⊕⊖⊖ Low [2,5]
Diastolic blood pressure – middle to long term follow-up (>24 to 48 weeks)						
Diastolic blood pressure (middle to long term >24 weeks)	Normotensive High blood pressure	MD -5.10 (-9.06 to -1.14)	Not estimable	Mean DBP (mm Hg) was 5.10 lower (9.06 lower to 1.14 lower)	NR (3)[a]	
Diastolic blood pressure (middle to long term 28 to 40 weeks)	End-stage renal disease	MD -5.76 (-8.83 to -2.70)	The mean DBP (mm Hg) range was from 82.4 to 85.2	Mean DBP (mm Hg) was 5.76 lower (8.83 lower to 2.70 lower)	76 (2)[g]	⊕⊕⊖⊖ Low [1,2]
Diastolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -5.76 (-8.83 to -2.70)	The mean DBP (mm Hg) range was from 76.9 to 79.2	Mean DBP (mm Hg) was 5.76 lower (8.83 lower to 2.70 lower)	76 (2)[b]	

*****The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; CT: combined training; DBP: diastolic blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a]Herrod et al., 2018; [b]Heiwe et al., 2011; [c]Kite et al., 2019; [d]fu et al., 2020; [e]Ferrari et al., 2019.

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by one level due to small sample size (imprecision).
[3] Downgraded by one level due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), and incomplete outcome data (attrition bias).
[4] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).
[5] Downgraded by one level due to publication bias, as reported by the review authors.

Comparison 6: Exercise training versus Control

Five reviews assessed the effects of ET compared to control on SBP and DBP (36,37,40,44,48) in adults with different diagnoses, such as. moderate kidney failure, kidney transplantation (37), polycystic ovary syndrome (40), cardiovascular risk factors adults (44), prehypertension (36), chronic kidney disease, cardiovascular disease, or type II diabetes (48), Participants' age ranged from 21 to 71 years (36,37,40,44,48).

Systolic blood pressure: short term follow-up

Thompson et al., 2019 reported evidence of a difference in effect between ET compared to control on SBP in adults with chronic kidney disease, cardiovascular disease, or type II diabetes (8 RCTs; N=296; MD -4.93 mm Hg, 95% CI -8.83 to -1.03) at short-term follow-up (48). Data from Heiwe et al., 2011 (37) suggest that any AET compared to control leads to no effect on SBP in adults with either moderate kidney failure, or kidney transplantation (3 RCTs; N=144; MD -6.38 mm Hg, 95% CI -13.84 to 1.08). Similar evidence was reported by the same review in SBP when ET was performed with high intensity (≥ 60%) (1 RCTs; N=29; MD -7.10 mm Hg, 95% CI -21.40 to 7.20; low quality of evidence) and low intensity (< 60%) (1 RCTs; N=96; MD -6.00 mm Hg, 95%CI -16.31 to 4.31; very low quality of evidence) at short-term follow-up (37). These findings were further confirmed by Kite et al., 2019 (40) in women with polycystic ovary syndrome (4 RCTs; N=158; MD -2.93 mm Hg, 95%CI -7.06 to 1.20). Very low quality of evidence suggests that there is uncertainty whether ET compared to control may reduce SBP in adults who either are moderate kidney failure, have kidney transplantation, or have chronic kidney disease, or have cardiovascular disease, or have type II diabetes, or have with polycystic ovary syndrome at short-term follow-up (Table 4).

Systolic blood pressure: short to middle term follow-up

Heiwe et al., 2011 reported evidence of a clinically relevant difference in SBP between ET and control in adults with either moderate kidney failure, or kidney transplantation at short to middle-term follow-up (2 RCTs; N=49; MD -10.46 mm Hg, 95%CI -17.40 to -3.53) (37). In contrast to the same review, no observed differences between groups in SBP when ET was performed with high intensity (≥ 60%) (1 RCTs; N=28; MD -8.00 mm Hg, 95%CI -16.89 to 0.89; very low quality of evidence) and low intensity (< 60%) (2 RCTs; N=51; MD 3.43 mm Hg, 95%CI -5.99 to 12.86; very low quality of evidence) (37). Besides, Seron et al., 2014 who reported narrative data (3 RCTs; N=719; no precision measures reported) of a difference in effects between groups in SBP from two RCTs and the remaining no found difference between the study groups (44). It is uncertain whether ET compared to control may reduce SBP in adults who either are moderate kidney failure, have kidney transplantation, or have cardiovascular risk factors at short to middle-term follow-up because the quality of evidence is very low (Table 4).

Systolic and diastolic blood pressure: middle-term follow-up

Thompson et al., 2019 reported evidence of a clinically relevant difference between ET and control for SBP in adults with chronic kidney disease, cardiovascular disease, or type II diabetes at the middle-term follow-up (4 RCTs; N=79; MD -10.94 mm Hg, 95% CI -15.83 to -6.05) (48). Similar findings were found in DBP (4 RCTs; N=79; MD -6.21 mm Hg, 95% CI -10.93 to –1.49 (48). Compared to control, low-quality evidence indicates that ET may reduce SBP in adults who either are chronic kidney disease, have cardiovascular disease, or have type II diabetes at the middle-term follow-up (Table 4).

Systolic blood pressure: middle to long term follow-up

Fu et al., 2020 found evidence of no effect between ET and control on SBP in prehypertensive adults at middle to long-term follow-up (3 RCTs; N=148; WMD -1.14 mm Hg, 95% CI -5.35 to 3.04) (36). Similar findings were reported by Heiwe et al., 2011 (37) on SBP in adults with either moderate kidney failure or kidney transplantation (3 RCTs; N=154; MD -3.16 mm Hg, 95% CI -8.27 to 1.94), even if ET was performed with high intensity (≥ 60%) this review were found evidence of no effect between groups (3 RCTs; N=154; MD -3.16 mm Hg, 95% CI -8.27 to 1.94; very low quality of evidence) (37). Particularly, the effect estimates are equal because the same three RCTs reported evidence for this follow-up and this intensity category (37). Very low quality of evidence suggests that there is uncertainty whether ET compared to control may reduce SBP in adults who either are moderate kidney failure, have kidney transplantation, or have prehypertensive at middle to long-term follow-up (Table 4).

Systolic and diastolic blood pressure: long term follow-up

Thompson et al., 2019 found evidence of no effect between ET and control on SBP in adults with chronic kidney disease, cardiovascular disease, or type II diabetes at long-term follow-up (3 RCTs; N=71; MD 1.07 mm Hg, 95% CI -6.62 to 8.77) (48). Similar results were reported in DBP (2 RCTs; N=39; MD 2.71 mm Hg, 95%CI -4.44 to 9.84) (48). It is uncertain whether ET compared to control may reduce SBP and DBP in adults who either are chronic kidney disease, have cardiovascular disease, or have type II diabetes at long-term follow-up because the quality of evidence is very low. See table 4.

Diastolic blood pressure: short to term follow-up

Thompson et al., 2019 reported evidence of a difference in effect between ET and control on DBP in adults with chronic kidney disease, cardiovascular disease, or type II diabetes (6

RCTs; N=264 mm Hg; MD -1.46 95 % CI -4.60 to 1.69) at short-term follow-up (48). In contrast, Heiwe et al., 2011 (37) did not report differences between groups in adults with either moderate kidney failure, or kidney transplantation (3 RCTs; N=144; MD -0.88 mm Hg, 95% CI -4.58 to 2.81), even if, ET was performed with high intensity (≥ 60%) (1 RCTs; N=29; MD -3.50 mm Hg, 95% CI -11.02 to 4.02; low quality of evidence) or low intensity (< 60%) (1 RCTs; N=96; MD 1.00 mm Hg, 95% CI -4.38 to 6.38; low quality of evidence) (37). These findings were further confirmed by Kite et al., 2019 (40) on DBP women with polycystic ovary syndrome (4 RCTs; N=158; MD -2.19 mm Hg, 95% CI -5.23 to 0.85). Very low quality of evidence suggests that there is uncertainty whether ET may reduce DBP compared to control in adults who either are moderate kidney failure, have kidney transplantation, or have chronic kidney disease, or have cardiovascular disease, or have type II diabetes or have polycystic ovary syndrome at short-term follow-up (Table 4).

Diastolic blood pressure: short to middle term follow-up

Heiwe et al., 2011 found evidence of no effect between ET and control on DBP in adults with moderate kidney failure, or kidney transplantation at short to middle-term follow-up (2 RCTs; N=49; MD -1.39 mm Hg, 95% CI -4.56 to 1.78) (37), even if, ET was performed with high intensity (≥ 60%) (1 RCTs; N=28; MD -3.00 mm Hg, 95% CI -7.27 to 1.27; very low quality of evidence) or low intensity (< 60%) (2 RCTs; N=51; MD 2.33 mm Hg, 95% CI -2.27 to 6.93; very low quality of evidence) (37). Besides, Seron et al., 2014 who reported narrative data (3 RCTs; N=719; no precision measures reported) of a difference in effects between groups in DBP from two RCTs and the remaining no found difference between the study groups at short to middle term follow-up (44). It is uncertain whether ET compared to control may reduce DBP in adults who either are moderate kidney failure, have kidney transplantation, or have cardiovascular risk factors at short to middle-term follow-up (Table 4).

Diastolic blood pressure: middle to long term follow-up

Fu et al., 2020 found evidence of no effect between ET and control on DBP in prehypertensive adults at middle to long-term follow-up (3 RCTs; N=148; WMD -2.75 mm Hg, 95%CI -5.54 to 0.01) (36). Heiwe et al., 2011 reported similar findings on DBP in adults in adults with either moderate kidney failure, or kidney transplantation (3 RCTs; N=154; MD -4.37 mm Hg, 95%CI -6.87 to 1.87) (37). In contrast, This review reported evidence of a clinically important difference between ET and control in DBP for this follow-up when ET was performed with high intensity (≥ 60%) (3 RCTs; N=154; MD -4.37 mm Hg, 95%CI -6.87 to -1.87; low quality of evidence) (37). Particularly, the effect estimates are equal because the same three RCTs reported evidence for this follow-up and this intensity category. Compared to control, low-quality evidence indicates that ET may reduce DBP in adults who either are moderate kidney failure, have kidney transplantation, or have prehypertension at middle to long-term follow-up. See Table 4.

Table 4. Summary of findings for the comparison: Exercise training versus control for systolic and diastolic blood pressure

Exercise training versus control						
Intervention: exercise training **Comparison:** control **Setting:** mixed (home, clinic, and community setting)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		

Systolic blood pressure – short term follow-up (4 to 16 weeks)						
Systolic blood pressure (short term 12-16 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD -4.93 (-8.83 to -1.03)	Not estimable	Mean SBP (mm Hg) was4.93 lower (8.83 lower to 1.03 lower)	296 (8)[a]	
Systolic blood pressure (short term 8-16 weeks)	Polycystic ovary syndrome	MD -2.93 (-7.06 to 1.20)	The MD SBP (mm Hg) range was from -2.5 to 1.1	Mean SBP (mm Hg) was 2.93 lower (7.06 lower to 1.20 higher)	158 (4)[b]	⊕⊖⊖⊖ Very Low[1,2]
Systolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -6.38 (-13.84 to 1.08)	The mean SBP (mm Hg) range was from 146 to 153.1	Mean SBP (mm Hg) was 6.38 lower (13.84 lower to 1.08 higher)	144 (3)[c]	
Systolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -7.10 (-21.40 to 7.20)	Not estimable	Mean SBP (mm Hg) was 7.10 lower (21.40 lower to 7.20 higher)	29 (1)[c#]	⊕⊕⊖⊖ Low[3]
Systolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -6.00 (-16.31 to 4.31)	Not estimable	Mean SBP (mm Hg) was 6.00 lower (16.31 lower to 4.31 higher)	96 (1)[c¶]	⊕⊖⊖⊖ Very Low[3,4]
Systolic blood pressure – short to middle term follow-up (16 to 24 weeks)						
Systolic blood pressure (short to middle term 16-24 weeks)	Cardiovascular risk factors	Not estimable	-	-	719 (3)[d]	⊕⊖⊖⊖ Very Low[5,6,7]
Systolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -10.46 (-17.40 to -3.53)	The mean SBP (mm Hg) range was from 136 to 144	Mean SBP (mm Hg) was 10.46 lower (17.40 lower to 3.53 lower)	49 (2)[c]	
Systolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -8.00 (-16.89 to 0.89)	Not estimable	Mean SBP (mm Hg) was 8.00 lower (16.89 lower to 0.89 higher)	28 (1)[c#]	⊕⊖⊖⊖ Very Low[3,6]
Systolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD 3.43 (-5.99 to 12.86)	The mean SBP (mm Hg) range was from 130.8 to 144	Mean SBP (mm Hg) was 3.43 higher (5.99 lower to 12.86 higher)	51 (2)[c¶]	⊕⊖⊖⊖ Very Low[5,6,8]
Systolic blood pressure – middle-term follow-up (24-26 weeks)						

Systolic blood pressure (middle term 24-26 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD -10.94 (-15.83 to -6.05)	Not estimable	Mean SBP (mm Hg) was 10.94 lower (15.83 lower to 6.05 lower)	79 (3)[a]	⊕⊖⊖⊖ Very Low[7,9]
Systolic blood pressure – middle to long term follow-up (24 to 52 weeks)						
Systolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -3.16 (-8.27 to 1.94)	The mean SBP (mm Hg) range was from 132.9 to 149	Mean SBP (mm Hg) was 3.16 lower (8.27 lower to 1.94 higher)	154 (3)[c]	⊕⊖⊖⊖ Very Low[3,6]
Systolic blood pressure (middle to long term 24-52 weeks)	Prehypertensive	WMD -1.14 (-5.35 to 3.04)	Not estimable	Mean SBP (mm Hg) was 1.14 lower (5.35 lower to 3.04 higher)	148 (3)[e]	
Systolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -3.16 (-8.27 to 1.94)	The mean SBP (mm Hg) range was from 132.9 to 149	Mean SBP (mm Hg) was 3.16 lower (8.27 lower to 1.94 higher)	154 (3)[c#]	⊕⊖⊖⊖ Very Low[3,6]
Systolic blood pressure – long term follow-up (48-52 weeks)						
Systolic blood pressure (long term 48-52 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD 1.07 (-6.62 to 8.77)	Not estimable	Mean SBP (mm Hg) was 1.07 higher (6.62 lower to 8.77 higher)	71 (3)[a]	⊕⊖⊖⊖ Very Low[1,2]
Diastolic blood pressure – short term follow-up (4 to 16 weeks)						
Diastolic blood pressure (short term 12-16 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD -1.46 (-4.60 to 1.69)	Not estimable	Mean DBP (mm Hg) was 1.46 Lower (4.60 lower to 1.69 higher)	264 (6)[a]	⊕⊖⊖⊖ Very Low[3,6]
Diastolic blood pressure (short term 8-16 weeks)	Polycystic ovary syndrome	MD -2.19 (-5.23 to 0.85)	The MD DBP (mm Hg) range was from -3.1 to 2.9	Mean DBP (mm Hg) was 2.19 lower (5.23 lower to 0.25 higher)	158 (4)[b]	
Diastolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -0.88 (-4.58 to 2.81)	The mean DBP (mm Hg) range was from 72.8 to 85.2	Mean DBP (mm Hg) was 0.88 lower (4.58 lower to 2.81 higher)	144 (3)[c]	
Diastolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -3.50 (-11.02 to 4.02)	Not estimable	Mean DBP (mm Hg) was 3.50 lower (11.02 lower to 4.02 higher)	29 (1)[c#]	⊕⊕⊖⊖ Low[3]

Diastolic blood pressure (short term 4-12 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD 1.00 (-4.38 to 6.38)	Not estimable	Mean DBP (mm Hg) was1.00 higher (4.38 lower to 6.38 higher)	96 (1)[c¶]	⊕⊕⊖⊖ Low[3]
Diastolic blood pressure – short to middle term follow-up (16 to 24 weeks)						
Diastolic blood pressure (short to middle term 16-24 weeks)	Cardiovascular risk factors	Not estimable	-	-	719 (3)[d]	⊕⊖⊖⊖ Very Low[2,5,9]
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -1.39 (-4.56 to 1.78)	The mean DBP (mm Hg) range was from 82 to 79	Mean DBP (mm Hg) was 1.39 lower (4.56 lower to 1.78 higher)	49 (2)[c]	
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD 1.77 (-1.73 to 5.26)	The mean DBP (mm Hg) range was from 79 to 82	Mean DBP (mm Hg) was 1.77 higher (1.73 lower to 5.26 higher)	147 (3)[c]	⊕⊖⊖⊖ Very Low[3,6]
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -3.00 (-7.27 to 1.27)	Not estimable	Mean DBP (mm Hg) was 3.00 lower (7.27 lower to 1.27 higher)	28 (1)[c#]	⊕⊖⊖⊖ Very Low[3,6]
Diastolic blood pressure (short to middle term 16-24 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD 2.33 (-2.27 to 6.93)	The mean DBP (mm Hg) range was from 79 to 82	Mean DBP (mm Hg) was 2.33 higher (2.27 lower to 6.93 higher)	51 (2)[c¶]	⊕⊖⊖⊖ Very Low[3,6]
Diastolic blood pressure – middle-term follow-up (24-26 weeks)						
Diastolic blood pressure (middle term 24-26 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD -6.21 (-10.93 to -1.49)	Not estimable	Mean DBP (mm Hg) was 6.21 lower (10.93 lower to 1.49 lower)	79 (4)[a]	⊕⊕⊖⊖ Low[7,9]
Diastolic blood pressure – middle to long term follow-up (24 to 52 weeks)						
Diastolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -4.37 (-6.87 to -1.87)	The mean DBP (mm Hg) range was from 82.4 to 90.6	Mean DBP (mm Hg) was 3.16 lower (6.87 higher to 1.87 lower)	197 (4)[c]	⊕⊕⊖⊖ Low[6,7]
Diastolic blood pressure (middle to long term 24-52 weeks)	Prehypertensive	WMD -2.75 (-5.54 to 0.01)	Not estimable	Mean DBP (mm Hg) was 2.75 higher (5.54 lower to 0.01 higher)	148 (3)[e]	

Diastolic blood pressure (middle to long term 28-48 weeks)	Moderate kidney failure Dialysis treatment Kidney transplantation	MD -4.37 (-6.87 to -1.87)	The mean DBP (mm Hg) range was from 82.4 to 90.6	Mean DBP (mm Hg) was 4.37 lower (6.87 lower to 1.87 lower)	197 (4)[c#]	⊕⊕⊖⊖ Low[6,7]
Diastolic blood pressure – long term follow-up (48-52 weeks)						
Diastolic blood pressure (long term 48-52 weeks)	Chronic kidney disease Cardiovascular disease type II Diabetes	MD 2.71 (-4.44 to 9.84)	Not estimable	Mean DBP (mm Hg) was 2.71 higher (4.44 lower to 9.84 higher)	39 (2)[a]	⊕⊖⊖⊖ Very Low[3,9]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; ET: exercise training; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a]Thompson et al., 2019; [b]Kite et al., 2019; [c]Heiwe et al., 2011; [d]Seron et al., 2014; [e]fu et al., 2020

[c#]Heiwe et al., 2011, high intensity (≥ 60%) ET
[c¶]Heiwe et al., 2011, low intensity (< 60%) ET

[1] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), and selective reporting (reporting bias).
[2] Downgraded by one level due to wide confidence intervals (imprecision).
[3] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).
[4] Downgraded by one level due to selection bias (random sequence generations and allocation concealment)
[5] Downgraded by one level due to inconsistency (there was statistically significant heterogeneity)
[6] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[7] Downgraded by one level due to small sample size (imprecision).
[8]Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), incomplete outcome data (attrition bias), and selective reporting (reporting bias).
[9] Downgraded by one level due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), incomplete outcome data (attrition bias)

Comparison 8: Dynamic Resistance training versus Control

Two reviews studied the effects of DRT compared to control on SBP and DBP (36,38) in adults with different diagnoses, such as prehypertensive, high blood pressure adults (36), high blood pressure levels as well as normotensive adults (38). Participants' age ranged from 51 to 70 years (36,38).

Systolic and diastolic blood pressure: short term follow-up

Herrod et al., 2018 reported evidence of no difference effect between DRT and control on SBP in normotensive or high blood pressure adults at short-term follow-up (5 RCTs; N=not reported; MD -3.50 mm Hg, 95%CI -10.53 to 3.53) (38). In contrast, this review found a clinically important difference between groups in DBP for this population (5 RCTs; N=not reported; MD -2.54 mm Hg, 95%CI -4.25 to -0.82) (38). Very low quality of evidence suggests that there is uncertainty whether any DRT compared to control may reduce SBP and DBP in normotensive or high blood pressure adults at short-term follow-up (Table 5).

Systolic blood pressure: short to middle term follow-up

Fu et al., 2020 found evidence of no effect between DRT and control on SBP in prehypertensive adults at short to middle-term follow-up (2 RCTs; N=64; WMD -2.32 mm Hg, 95%CI -6.71 to 2.09) (36). In contrast, Herrod et al., 2018 reported evidence of a clinically important difference between any DRT and control on SBP in normotensive or high blood pressure adults (6 RCTs; N=not reported; MD -6.65 mm Hg, 95%CI -10.65 to -2.64) for this follow-up (38). It is uncertain whether DRT compared to control may reduce SBP in adults who either are high blood pressure, have prehypertensive, or have normotensive at short to middle-term follow-up because the quality of evidence is very low (Table 5).

Systolic and diastolic blood pressure: middle to long term follow-up

Herrod et al., 2018 reported evidence of no difference effect between DRT and control on SBP in normotensive or high blood pressure adults at middle to long-term follow-up (1 RCTs; N=not reported; MD -4.90 mm Hg, 95%CI -10.76 to 0.96) (38). Similar findings were found on DBP in the same population (5 RCTs; N=not reported; MD -1.20 mm Hg, 95%CI

-4.04 to 1.64) (38). Very low quality of evidence suggests that there is uncertainty whether any DRT may reduce SBP and DBP compared to control in normotensive and high blood pressure adults at middle to long-term follow-up (Table 5).

Diastolic blood pressure: short to middle term follow-up

Fu et al., 2020 found evidence of no effect between DRT and control on DBP in adults with prehypertensive at short to middle-term follow-up (2 RCTs; N=64; WMD -1.84 mm Hg, 95%CI -4.83 to 1.16) and high blood pressure adults (2 RCTs; N=64; WMD -0.83 mm Hg, 95%CI -4.95 to 3.35) (36). In contrast, Herrod et al., 2018 reported evidence of a clinically important difference between DRT and control on DBP in normotensive or high blood pressure adults (6 RCTs; N=not reported; MD -2.00 mm Hg, 95%CI -3.87 to -12) for this follow-up (38). It is uncertain whether DRT compared to control may reduce DBP in adults who either are high blood pressure, have prehypertensive, or have normotensive at short to middle-term follow-up because the quality of evidence is very low (Table 5).

Table 5. Summary of findings for the comparison: Dynamic Resistance training versus control for systolic and diastolic blood pressure

Dynamic Resistance training versus control						
Intervention: dynamic Resistance training **Comparison:** control **Setting:** mixed (clinic and home)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure – short term follow-up (up to 12 weeks)						
Systolic blood pressure (short term up to 12 weeks)	Normotensive High blood pressure	MD -3.50 (-10.53 to 3.53)	Not estimable	Mean SBP (mm Hg) was 3.50 lower (10.53 lower to 3.53 higher)	NR (5)[a]	⊕⊖⊖⊖ Very Low[1,2]

Systolic blood pressure – short to middle term follow-up (>12 to 24 weeks)						
Systolic blood pressure (short to middle term 16-24 weeks)	Prehypertensive	WMD -2.32 (-6.71 to 2.09)	Not estimable	Mean SBP (mm Hg) was 2.32 lower (6.71 lower to 2.09 higher)	64 (2)[b]	⊕⊖⊖⊖ Very Low[3,4]
	High blood pressure	WMD -1.74 (-6.98 to 3.56)	Not estimable	Mean SBP (mm Hg) was 1.74 lower (6.98 lower to 3.56 higher)	64 (2)[b]	
Systolic blood pressure (short to middle term >12-24 weeks)	Normotensive High blood pressure	MD -6.65 (-10.65 to -2.64)	Not estimable	Mean SBP (mm Hg) was 6.65 lower (10.65 lower to 2.64 lower)	NR (6)[a]	
Systolic blood pressure – middle to long term follow-up (>24 to 48 weeks)						
Systolic blood pressure (middle to long term >24 to 48 weeks)	Normotensive High blood pressure	MD -4.90 (-10.76 to 0.96)	Not estimable	Mean SBP (mm Hg) was 4.90 lower (10.76 lower to 0.96 higher)	NR (1)[a]	⊕⊖⊖⊖ Very Low [2,7]
Diastolic blood pressure – short term follow-up (up to 12 weeks)						
Diastolic blood pressure (short term up to 12 weeks)	Normotensive High blood pressure	MD -2.54 (-4.25 to -0.82)	Not estimable	Mean DBP (mm Hg) was2.54 lower (4.25 lower to 0.82 lower)	NR (5)[a]	⊕⊕⊖⊖ Low[5]
Diastolic blood pressure – short to middle term follow-up (>12 to 24 weeks)						
Diastolic blood pressure (short to middle term 16-24 weeks)	Prehypertensive	WMD -1.84 (-4.83 to 1.16)	Not estimable	Mean DBP (mm Hg) was1.84 lower (4.83 lower to 1.16 higher)	64 (2)[b]	⊕⊖⊖⊖ Very Low[3,4]
	High blood pressure	WMD -0.83 (-4.95 to 3.35)	Not estimable	Mean DBP (mm Hg) was0.83 lower (4.95 lower to 3.35 higher)	64 (2)[b]	
Diastolic blood pressure (short to middle term >12-24 weeks)	Normotensive High blood pressure	MD -2.00 (-3.87 to -0.12)	Not estimable	Mean DBP (mm Hg) was2.00 lower (3.87 lower to 0.12 lower)	NR (6)[a]	
Diastolic blood pressure – middle to long term follow-up (>24 to 48 weeks)						
Diastolic blood pressure (middle to long term >24 weeks)	Normotensive High blood pressure	MD -1.20 (-4.04 to 1.64)	Not estimable	Mean DBP (mm Hg) was1.20 lower (4.04 lower to 1.64 higher)	NR (1)[a]	⊕⊖⊖⊖ Very Low [2,7]

*__The risk in the intervention group__ (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a]Herrod et al., 2018; [b]Fu et al., 2020

[1] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), attrition bias, and inconsistency (there was statistically significant heterogeneity).
[2] Downgraded by one level due to wide confidence intervals (imprecision).
[3] Downgraded by one level due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), attrition bias, and reporting bias.
[4] Downgraded by two levels due to inconsistency (there was statistically significant heterogeneity), small sample size and wide confidence intervals (imprecision)
[5] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), attrition bias, and reporting bias.
[6] Downgraded by one level due to inconsistency (there was statistically significant heterogeneity).
[7] Downgraded by two levels due to selection bias (allocation concealment), detection bias (unblinded outcome assessor), and reporting bias.

Comparison 9: Aerobic training versus Yoga

One review assessed the effects of AET on SBP and DBP compared to yoga on SBP and DBP at short-term follow-up in prehypertensive adults (participants' mean age 23.5 years) (36).

Systolic and diastolic blood pressure: short term follow-up

There was no clear evidence of a difference for SBP between AET and yoga in prehypertensive adults at short-term follow-up (1 RCTs; N=48; WMD 5.06 mm Hg, 95% CI -3.33 to 13.48) (36). Similar findings were found for DBP 1 RCTs; N=48; WMD 3.65 mm Hg, 95% CI -1.92 to 9.23) (36). Very low quality of evidence suggests that there is uncertainty whether AET or yoga may reduce SBP and DBP in prehypertensive adults at short-term follow-up (Table 6).

Table 6. Summary of findings for the comparison: Aerobic training vs yoga for systolic and diastolic blood pressure.

Aerobic training vs Yoga

Intervention: aerobic training
Comparison: yoga
Setting: mixed (clinic and home)

Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure (short term up to 8 weeks)	Prehypertensive	WMD 5.06 (-3.33 to 13.48)	Not estimable	Mean SBP (mm Hg) was 5.06 higher (3.33 lower to 13.48 higher)	48 (1)[a]	⊕⊖⊖⊖ Very low[1,2]
Diastolic blood pressure (short term up to 8 weeks)	Prehypertensive	WMD 3.65 (-1.92 to 9.23)	Not estimable	Mean DBP (mm Hg) was 3.65 lower (1.92 lower to 9.23 higher)	48 (1)[a]	⊕⊖⊖⊖ Very low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: Weighted mean difference.

[a] fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 10: Aerobic training versus salt restriction

One review assessed the effects of AET compared with salt restriction on SBP and DBP at short-term follow-up (36). in prehypertensive adults (participants' mean age 23,5 years) (36).

Systolic and diastolic blood pressure: short term follow-up

Fu et al., 2020 found evidence of no effect in SBP between AET and salt restriction in prehypertensive adults at short-term follow-up (1 RCTs; N=44; WMD 2.85 mm Hg, 95% CI -6.21 to 11.88) (36). Similar findings were reported for DBP (1 RCTs; N=44; WMD 4.11 mm Hg, 95% CI -2.18 to 10.34) (36). It is uncertain whether AET or salt restriction may reduce SBP and DBP in prehypertensive adults at short-term follow-up because the quality of evidence is very low (Table 7).

Table 7. Summary of findings for the comparison: Aerobic training versus salt restriction for systolic and diastolic blood pressure

Aerobic training vs Salt restriction

Intervention: aerobic training
Comparison: salt restriction
Setting: mixed (clinic and home)

Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure short term (up to 8 weeks)	Prehypertensive	WMD 2.85 (-6.21 to 11.88)	Not estimable	Mean SBP (mm Hg) was 2.85 higher (6.21 lower to 11.88 higher)	44 (1)[a]	⊕⊖⊖⊖ Very low[1,2]
Diastolic blood pressure short term (up to 8 weeks)	Prehypertensive	WMD 4.11 (-2.18 to 10.34)	Not estimable	Mean DBP (mm Hg) was 4.11 higher (2.18 lower to 10.34 higher)	44 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: Weighted mean difference.

[a]Fu et al., 2020.

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 11: Aerobic training versus Tai chi

One review studied the effects of AET compared to Tai Chi on SBP and DBP at short-term follow-up (36) in prehypertensive adults (participants' mean age 66.7 years) (36).

Systolic and diastolic blood pressure: short term follow-up

Fu et al., 2020 found a lack of evidence of an effect between groups on SBP in prehypertensive adults at short-term follow-up (1 RCTs; N=62; WMD 1.40 mm Hg, 95% CI -6.06 to 8.91) (36). Similar findings were reported for DBP (1 RCTs; N=62; WMD 0.82 mm Hg, 95% CI -4.39 to 5.97) (36). It is uncertain whether AET or Tai Chi may reduce SBP and DBP in prehypertensive adults at short-term follow-up because the quality of the evidence is very low (Table 8).

Table 8. Summary of findings for the comparison: Aerobic training versus Tai Chi for systolic and diastolic blood pressure

Aerobic training versus Tai chi						
Intervention: aerobic training **Comparison:** Tai Chi **Setting:** mixed (clinic and home)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure (short term up to 12 weeks)	Prehypertensive	WMD 1.40 (-6.06 to 8.91)	Not estimable	Mean SBP (mm Hg) was 1.40 higher (6.06 lower to 8.91 higher)	62 (1)[a]	⊕⊖⊖⊖ Very low[1,2]
Diastolic blood pressure (short term up to 12 weeks)	Prehypertensive	WMD 0.82 (-4.39 to 5.97)	Not estimable	Mean DBP (mm Hg) was 0.82 higher (4.39 lower to 5.97 higher)	62 (1)[a]	⊕⊖⊖⊖ Very low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: Weighted mean difference.

[a]Fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 12: Aerobic training versus aerobic training plus DASH

One review assessed the effects of AET on SBP and DBP compared to aerobic training plus Dietary Approaches to Stop Hypertension (DASH) in prehypertensive adults (36). (participants' mean age 46.4 years) (36).

Systolic and diastolic blood pressure: short term follow-up

There was no clear evidence of a difference between AET and aerobic training plus DASH for SBP in prehypertensive adults at short-term follow-up (1 RCTs; N=37; WMD 5.37 mm Hg, 95% CI -4.56 to 15.28) (36). Similar findings were reported in DBP up (1 RCTs; N=37; WMD 2.90 mm Hg, 95% CI -6.14 to 11.95) (36). Very low quality of evidence suggests that there is uncertainty whether AET or aerobic training plus DASH may reduce SBP in prehypertensive adults at short-term follow-up (Table 9).

Table 9. Summary of findings for the comparison: Aerobic training versus aerobic training plus DASH for systolic and diastolic blood pressure

Aerobic training versus aerobic exercise plus DASH
Intervention: aerobic training
Comparison: aerobic training plus DASH
Setting: mixed (clinic and home)

Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure (short term up to 12 weeks)	Prehypertensive	WMD 5.37 (-4.56 to 15.28)	Not estimable	Mean SBP (mm Hg) was 5.37 higher (4.56 lower to 15.28 higher)	37 (1)[a]	⊕⊖⊖⊖ Very low [1,2]
Diastolic blood pressure (short term up to 12 weeks)	Prehypertensive	WMD 2.90 (-6.14 to 11.95)	Not estimable	Mean DBP (mm Hg) was 2.90 higher (6.14 lower to 11.95 higher)	37 (1)[a]	⊕⊖⊖⊖ Very low [1,2]

*__The risk in the intervention group__ (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). AET: aerobic training; CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: Weighted mean difference.

[a] Fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 13: Exercise training versus no intervention for ambulatory SBP, DBP, and MBP

One review assessed the effects of exercise training compared to no intervention for ambulatory SBP, ambulatory DBP, and ambulatory MBP (48) in Adults with different diagnoses, such as chronic kidney disease, cardiovascular disease, and type II diabetes. Participants’ age ranged from 52 to 69 years (48).

Ambulatory systolic blood pressure: short term follow-up

Thompson et al., 2019 found evidence of no effects between AET and no intervention in 24h ambulatory SBP (1 RCTs; N=46; MD -4.38 mm Hg, 95%CI -13.25 to 4.49), day ambulatory SBP (1 RCTs; N=46; MD -3.80 mm Hg, 95% CI -11.98 to 4.38) and night ambulatory SBP (1 RCTs; N=46; MD -6.30 mm Hg, 95% CI -16.35 to 3.75) at short-term follow-up in adults with chronic kidney disease, cardiovascular disease, and type II diabetes (48). Very low quality of evidence suggests that there is uncertainty whether ET compared to no intervention may reduce 24h ambulatory SBP, day ambulatory SBP and night ambulatory SBP in adults with either chronic kidney disease, cardiovascular disease, or type II diabetes at short-term follow-up (Table10).

Ambulatory diastolic blood pressure: short-term follow-up

Thompson et al., 2019 found evidence of no effects between ET and no intervention in 24h ambulatory DBP (1 RCTs; N=46; MD 3.40 mm Hg, 95% CI -27.13 to 33.93), day ambulatory DBP (1 RCTs; N=46; MD 3.30 mm Hg, 95% CI -2.78 to 9.38) and night ambulatory DBP (1 RCTs; N=46; MD 1.80 mm Hg, 95% CI -4.42 to 8.02) in adults with chronic kidney disease, cardiovascular disease, and type II diabetes (48). Very low quality of evidence suggests that there is uncertainty whether ET compared to no intervention may reduce 24h ambulatory DBP, day ambulatory DBP, and night ambulatory DBP in adults who either chronic kidney disease, have cardiovascular disease or have type II diabetes at short-term follow-up (Table10).

Ambulatory mean blood pressure: short-term follow-up

Thompson et al., 2019 found evidence of no effects between ET and no intervention in 24h ambulatory MBP (1 RCTs; N=46; MD 0.30 mm Hg, 95%CI -6.29 to 6.89), day ambulatory MBP (1 RCTs; N=46; MD 0.40 mm Hg, 95%CI -5.87 to 6.67) and night ambulatory MBP (1 RCTs; N=46; MD -1.20 mm Hg, 95%CI -7.97 to 5.57) in adults with chronic kidney disease, cardiovascular disease, and type II diabetes (48). It is uncertain whether ET compared to no intervention may reduce 24h ambulatory MBP, day ambulatory MBP and night ambulatory MBP in adults who either are chronic kidney disease, have cardiovascular disease, or have type II diabetes at short-term follow-up because the quality of evidence is very low (Table 10).

Ambulatory systolic and diastolic blood pressure: short to long-term follow-up

There was no clear evidence of a difference for 24h ambulatory SBP between AET and no intervention in adults with chronic kidney disease, cardiovascular disease, and type II diabetes at short to long-term follow-up (2 RCTs; N=67; MD -5.40 mm Hg, 95% CI -12.68 to 1.87) (48). Similar findings were reported for DBP 2 RCTs; N=67; MD 1.61 mm Hg, 95%CI -10.10 to 13.32) (48). It is uncertain whether ET compared to no intervention may reduce SBP and DBP in adults who either are chronic kidney disease, have cardiovascular disease, or have type II diabetes at short to long-term follow-up because the quality of evidence is very low (Table 10).

Ambulatory systolic blood pressure: middle-term follow-up

Thompson et al., 2019 reported evidence of a clinically important difference in 24h ambulatory SBP between ET and no intervention in adults with chronic kidney disease, cardiovascular disease, and type II diabetes at middle-term follow-up (1 RCTs; N=21; MD -18.00 mm Hg, 95% CI -29.92 to -6.05) (48). Similar findings were reported for 24h ambulatory DBP (1 RCTs; N=21; MD -9.00 mm Hg, 95%CI -17.71 to -0.29) (48). Very low quality of evidence suggests that there is uncertainty whether ET compared to no intervention may reduce 24h ambulatory SBP and 24h ambulatory DBP in adults who either are chronic kidney disease, have cardiovascular disease or have type II diabetes at middle-term follow-up (Table 10).

Ambulatory systolic and diastolic blood pressure: long term follow-up

Data from Thompson et al., 2019 suggest that ET compared to no intervention leads to no effect on 24h ambulatory SBP in adults with chronic kidney disease, cardiovascular disease, and type II diabetes at long-term follow-up (1 RCTs; N=21; MD -7.50 mm Hg, 95% CI -20.21 to 5.21) (48). Similar results were found in DBP (1 RCTs; N=21; MD 1.30 mm Hg, 95%CI -11.38 to 13.98) (48). It is uncertain whether ET compared to no intervention may reduce 24h ambulatory SBP and 24h ambulatory DBP in adults who either are chronic kidney disease, have cardiovascular disease or have type II diabetes at long-term follow-up because the quality of evidence is very low (Table 10).

Table 10. Summary of findings for the comparison: Exercise training versus no intervention for ambulatory SBP, DBP, and MBP

Exercise training versus control						
Intervention: exercise training **Comparison:** control **Setting:** mixed (center and home)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
24h ambulatory systolic blood pressure – short term follow-up (up to 16 weeks)						
24h ambulatory systolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -4.38 (-13.25 to 4.49)	Not estimable	Mean 24h ambulatory SBP (mm Hg) was 4.38 lower 13.25 lower to 4.49 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Day ambulatory systolic blood pressure – short term follow-up (up to 16 weeks)						
Day ambulatory systolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -3.80 (-11.98 to 4.38)	Not estimable	Mean day ambulatory SBP (mm Hg) was 3.80 lower 11.98 lower to 4.38 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Night ambulatory systolic blood pressure – short term follow-up (up to 16 weeks)						
Night ambulatory systolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -6.30 (-16.35 to 3.75)	Not estimable	Mean night ambulatory SBP (mm Hg) was 6.30 lower (16.35 lower to 3.75 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
24h ambulatory systolic blood pressure – short to long term follow-up (16 to 48 weeks)						
24h ambulatory systolic blood pressure (short to long term 16-48 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -5.40 (-12.67 to 1.87)	Not estimable	Mean 24h ambulatory SBP (mm Hg) was 5.40 lower (12.67 lower to 1.87 higher)	67 (2)[a]	⊕⊖⊖⊖ Very Low[1,2]
24h ambulatory systolic blood pressure – middle-term follow-up (up to 24 weeks)						

24h ambulatory systolic blood pressure (middle term up to 24 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -18.00 (-29.92 to -6.08)	Not estimable	Mean 24h ambulatory SBP (mm Hg) was 18 lower (29.92 lower to 6.08 lower)	21 (1)[a]	⊕⊖⊖⊖ Very Low[3,4]
24h ambulatory systolic blood pressure – long term follow-up (up to 48 weeks						
24h ambulatory systolic blood pressure (long term up to 48 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -7.50 (-20.21 to 5.21)	Not estimable	Mean 24h ambulatory SBP (mm Hg) was 7.50 lower (20.21 lower to 5.21 higher)	21 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
24h ambulatory diastolic blood pressure – short term follow-up (up to 16 weeks)						
24h ambulatory diastolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 3.40 (-27.13 to 33.93)	Not estimable	Mean 24h ambulatory DBP (mm Hg) was 3.40 higher (27.13 lower to 33.93 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Day ambulatory diastolic blood pressure – short term follow-up (up to 16 weeks)						
Day ambulatory diastolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 3.30 (-2.78 to 9.38)	Not estimable	Mean day ambulatory DBP (mm Hg) was 3.30 higher (2.78 lower to 9.38 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Night ambulatory diastolic blood pressure – short term follow-up (up to 16 weeks)						
Night ambulatory diastolic blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 1.80 (-4.42 to 8.02)	Not estimable	Mean night ambulatory DBP (mm Hg) was 1.80 higher (4.42 lower to 8.02 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
24h ambulatory diastolic blood pressure – short to long term follow-up (16 to 48 weeks)						
24h ambulatory diastolic blood pressure (short to long term 16-48 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 1.61 (-10.10 to 13.32)	Not estimable	Mean 24h ambulatory DBP (mm Hg) was 1.61 higher (10.10 lower to 13.32 higher)	67 (2)[a]	⊕⊖⊖⊖ Very Low[1,2]
24h ambulatory diastolic blood pressure – middle-term follow-up (up to 24 weeks)						
24h ambulatory diastolic blood pressure (middle term up to 24 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -9.00 (-17.71 to -0.29)	Not estimable	Mean 24h ambulatory DBP (mm Hg) was 9.00 lower (17.71 lower to 0.29 lower)	21 (1)[a]	⊕⊖⊖⊖ Very Low[3,4]
24h ambulatory diastolic blood pressure – long term follow-up (up to 48 weeks						
24h ambulatory diastolic blood pressure (long term up to 48 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 1.30 (-11.38 to 13.98)	Not estimable	Mean 24h ambulatory DBP (mm Hg) was 1.30 higher (11.38 lower to 13.98 higher)	21 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]

24h ambulatory mean blood pressure – short term follow-up (up to 16 weeks)						
24h ambulatory mean blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 0.30 (-6.29 to 6.89)	Not estimable	Mean 24h ambulatory MBP (mm Hg) was 0.30 higher (6.29 lower to 6.89 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Day ambulatory mean blood pressure – short term follow-up (up to 16 weeks)						
Day ambulatory mean blood pressure (short term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD 0.40 (-5.87 to 6.67)	Not estimable	Mean day ambulatory MBP (mm Hg) was 0.40 higher (5.87 lower to 6.67 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Night ambulatory mean blood pressure – short term follow-up (up to 16 weeks)						
Night ambulatory mean blood pressure (middle to long term up to 16 weeks)	Chronic kidney disease Cardiovascular disease Diabetes type 2	MD -1.20 (-7.97 to 5.57)	Not estimable	Mean night ambulatory MBP (mm Hg) was 1.20 lower (7.97 lower to 5.57 higher)	46 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]

*__The risk in the intervention group__ (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; MBP: mean blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure.

[a]Thompson et al., 2019

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), and incomplete outcome data (attrition bias).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).
[3] Downgraded by two levels due to selection bias (random sequence generations and allocation concealment), detection bias (unblinded outcome assessor), and incomplete outcome data (attrition bias).
[4] Downgraded by one level due to small sample size (imprecision).

Comparison 14: Exercise training versus Diet

Two reviews assessed the effects of exercise training on SBP and DBP compared with diet in adults (36,45). The reviews included adults with different diagnoses and risk factors, such as high blood pressure, overweight, obese, type II diabetes non-insulin-dependent (45), as well as prehypertension (36). Participants' age ranged from 30 to 64 years (36,45).

Systolic and diastolic blood pressure: short to long term follow-up

Data from Fu et al., 2020 suggest that ET compared to diet leads to no effect on SBP in prehypertensive adults at short to long-term follow-up (2 RCTs; N=65; WMD -2.85 mm Hg, 95% CI -11.04 to 5.32) (36). Similar findings were reported for DBP (2 RCTs; N=65; WMD -1.59 mm Hg, 95% CI -6.48 to 3.19) (36). Very low quality of evidence suggests that there is uncertainty whether ET or diet may reduce SBP and DBP in prehypertensive adults at short to long-term follow-up (36) (Table 11).

Systolic and diastolic blood pressure: middle to long term follow-up

Shaw et al., 2006 reported evidence of a difference in SBP between diet compared to ET in adults with high blood pressure, overweight, obese, or non-insulin-dependent type II diabetes at middle to long-term follow-up (4 RCTs; N=361; MD 2.24 mm Hg, 95% CI 0.29 to 4.20) (45). In contrast, no differences were found between groups in DBP for this follow-up (4 RCTs; N=361; WMD 0.87 mm Hg, 95% CI -0.44 to 2.18) (45). It is uncertain whether ET or diet may reduce SBP and DBP in adults who either arehigh blood pressure, have overweight, have obese, or have non-insulin-dependent type II diabetes at middle to long-term follow-up because the quality of evidence is very low (Table 11).

Table 11. Summary of findings for the comparison: Exercise training versus diet for systolic and diastolic blood pressure

Exercise training vs Diet						
Intervention: exercise training **Comparison:** diet **Setting:** mixed (home, clinic, university campuses, and workplace)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure – short to long term follow-up (12 to 52 weeks)						
Systolic blood pressure (short to long term 12-52 weeks)	Prehypertensive	WMD -2.85 (-11.04 to 5.32)	Not estimable	Mean SBP (mm Hg) was2.85 lower (11.04 lower to 5.32 higher)	65 (2)[a]	⊕⊖⊖⊖ Very Low [1,2]
Systolic blood pressure – middle to long term follow-up (26 to 52 weeks)						
Systolic blood pressure (middle to long term 26-52 weeks)	High blood pressure Overweight Obese Non-insulin-dependent type II diabetes	MD 2.24 (0.29 to 4.20)	The mean SBP (mm Hg) range was from -2.6 to -11.3	Mean SBP (mm Hg) was2.24 higher (0.29 higher to 4.20 higher)	361 (4)[b]	⊕⊖⊖⊖ Very Low [2,3]
Diastolic blood pressure – short to long term follow-up (12 to 52 weeks)						
Diastolic blood pressure (short to long term 12-52 week)	Prehypertensive	WMD -1.59 (-6.48 to 3.19)	Not estimable	Mean DBP (mm Hg) was1.59 lower (6.48 lower to 3.19 higher)	65 (2)[a]	⊕⊖⊖⊖ Very Low [1,2]
Diastolic blood pressure – middle to long term follow-up (26 to 52 weeks)						
Diastolic blood pressure (middle to long term 26-52 weeks)	High blood pressure Overweight Obese Non-insulin-dependent type II diabetes	MD 0.87 (-0.44 to 2.18)	The mean DBP (mm Hg) range was from -1.1 to -7.5	Mean DBP (mm Hg) was0.87 higher (0.44 lower to 2.18 higher)	361 (4)[b]	⊕⊖⊖⊖ Very Low [3,4]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; MD: mean difference; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: Weighted mean difference.

[a]fu et al., 2020; [b]Shaw et al., 2006

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).

[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).
[3] Downgraded by one level due to selection bias (allocation concealment).
[4] Downgraded by two levels due to wide confidence intervals (imprecision).

Comparison 15: Exercise training versus exercise training plus diet

One review assessed the effects of ET compared to ET plus diet on SBP and DBP at short to long-term follow-up in prehypertensive adults (participants' mean age 45 years) (36).

Systolic and diastolic blood pressure: short to long term follow-up

There was no clear evidence of a difference between ET and ET plus diet for SBP in prehypertensive adults at short to long-term follow-up (4 RCTs; N=244; WMD 4.16 mm Hg, 95% CI -0.19 to 8.52) (36). Similar results were found for DBP (4 RCTs; N=244; WMD 1.59 mm Hg, 95% CI -1.35 to 4.57) (36). Very low quality of evidence suggests that there is uncertainty whether ET or ET plus diet may reduce SBP and DBP in prehypertensive adults at short to long-term follow-up (Table 12).

Table 12. Summary of findings for the comparison: Exercise training versus diet plus systolic and diastolic blood pressure

Exercise training versus diet plus exercise training

Intervention: exercise training
Comparison: diet plus exercise training
Setting: mixed (clinic and home)

Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure (short to long term 12-52 weeks)	Prehypertensive	WMD 4.16 (-0.19 to 8.52)	Not estimable	Mean SBP (mm Hg) was4.16 higher (0.19 lower to 8.52 higher)	244 (4)[a]	⊕⊖⊖⊖ Very Low[1,2]

Diastolic blood pressure (short to long term 12-52 weeks)	Prehypertensive	WMD 1.59 (-1.35 to 4.57)	Not estimable	Mean DBP (mm Hg) was 1.59 higher (1.35 lower to 4.57 higher)	244 (4)[a]	⊕⊖⊖⊖ Very Low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a] Fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 16: Dynamic Resistance training versus aerobic training

One review assessed the effects of DRT on SBP and DBP compared with aerobic training in adults (36) in prehypertensive adults (participants' mean age was 61 years).

Systolic and diastolic blood pressure: short to middle follow-up

Fu et al 2020 found a lack of evidence of an effect between groups on SBP in prehypertensive adults at 16 to 24 weeks follow-up (2 RCTs; N=100; WMD -2.41 mm Hg, 95% CI -8.89 to 4.05). Similar findings were reported for DBP (2 RCTs; N=100; WMD -2.18 mm Hg, 95%CI -7.13 to 2.70) (36). It is uncertain whether DRT may reduce SBP and DBP in prehypertensive adults at short to middle-term follow-up because the quality of evidence is very low (Table 13).

Table 13. Summary of findings for the comparison: Dynamic Resistance training versus aerobic training for systolic and diastolic blood pressure

Dynamic Resistance training versus aerobic training						
Intervention: dynamic resistance training **Comparison:** aerobic training **Setting:** mixed (clinic and home)						
Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure (short to middle term 16-24 weeks)	High blood pressure	WMD -2.41 (-8.89 to 4.05)	Not estimable	Mean SBP (mm Hg) was2.41 lower (8.89 lower to 4.05 higher)	100 (2)[a]	⊕⊖⊖⊖ Very Low[1,2]
Diastolic blood pressure (short to middle term 16-24 weeks)	High blood pressure	WMD -2.18 (-7.13 to 2.70)	Not estimable	Mean DBP (mm Hg) was2.18 lower (7.13 lower to 2.70 higher)	100 (2)[a]	⊕⊖⊖⊖ Very Low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference

[a] Fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

Comparison 17: Dynamic resistance training versus Yoga

One review assessed the effects of DRT on SBP and DBP compared with yoga at short-term follow-up (36) in prehypertensive adults (participants' mean age 54.5 years).

Systolic and diastolic blood pressure: short term follow-up

Fu et al 2020 found evidence of no effect between groups in prehypertensive adults up to 12 weeks follow-up (1 RCTs; N=68; WMD -4.41 mm Hg, 95%CI -13.75 to 4.97). Similar findings were reported for DBP (2 RCTs; N=100; WMD -4.41 mm Hg, 95%CI -13.75 to

4.97). It is uncertain whether DRT or yoga may reduce SBP and DBP in prehypertensive adults at short-term follow-up because the quality of evidence is very low (Table 14) (36).

Table 14. Summary of findings for the comparison: Dynamic resistance training vs Yoga for systolic and diastolic blood pressure

Resistance training vs Yoga

Intervention: dynamic resistance training
Comparison: yoga
Setting: mixed (clinic and home)

Outcomes	Population	Relative effect (95% CI)	**Anticipated absolute effect* (95% CI)**		Nº of participants (studies)	Certainty of the evidence (GRADE)
			Assumed risk with control	Assumed risk with intervention		
Systolic blood pressure short term (up to 12 weeks)	Prehypertensive	WMD -4.41 (-13.75 to 4.97)	Not estimable	Mean SBP (mm Hg) was 4.41 lower (13.71 lower to 4.97 higher)	68 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]
Diastolic blood pressure short term (up to 12 weeks)	Prehypertensive	WMD -3.53 (-9.38 to 2.27)	Not estimable	Mean DBP (mm Hg) was 3.53 lower (9.38 lower to 2.27 higher)	68 (1)[a]	⊕⊖⊖⊖ Very Low[1,2]

***The risk in the intervention group** (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI). CI: Confidence interval; DBP: diastolic blood pressure; RCT: randomized controlled trial; SBP: systolic blood pressure; WMD: weighted mean difference.

[a] fu et al., 2020

[1] Downgraded by one level due to selection bias (random sequence generations and allocation concealment) and detection bias (unblinded outcome assessor).
[2] Downgraded by two levels due to small sample size and wide confidence intervals (imprecision).

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