

No. of study	Study design	Certainty assessment					No. of patients		Effect		Certainty
		Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Alpha lipolic acid	Placebo	Relative (95% CI)	Absolute (95% CI)	
Body mass index											
5	Randomised trials	Seriousa	Not serious	Not serious	Seriousb	None	139	118	-	0 (0 to 0)	⊕⊕○○ Low
Estrogen											
4	Randomised trials	Seriousa	Not serious	Not serious	Seriousb	None	113	98	-	0 (0 to 0)	⊕⊕○○ Low
FSH											
5	Randomised trials	Seriousa	Seriousc	Not serious	Seriousb	None	132	117	-	0 (0 to 0)	⊕○○○ Very low
LH											
5	Randomised trials	Seriousa	Seriousc	Not serious	Seriousb	None	132	117	-	0 (0 to 0)	⊕○○○ Very low
Testosterone											
3	Randomised trials	Seriousa	Not serious	Not serious	Seriousb	None	83	68	-	0 (0 to 0)	⊕⊕○○ Low
FBS											
4	Randomised trials	Seriousa	Not serious	Not serious	Not serious	None	89	89	-	0 (0 to 0)	⊕⊕⊕○ Moderate
Insulin											
7	Randomised trials	Seriousa	Seriousc	Not serious	Seriousb	None	183	157	-	0 (0 to 0)	⊕○○○ Very low
HOMA-IR											
4	Randomised trials	Seriousa	Seriousc	Not serious	Not serious	None	113	87	-	0 (0 to 0)	⊕⊕○○ Low

Explanations

- a. Serious risk of bias since more than 50% of participants were from studies with a high risk of bias. Downgraded.
- b. Serious imprecision since the meta-analysis result was not statistically significant. Downgraded.
- c. Serious inconsistency since I²>60%. Downgraded.

Supplementary Fig. 3. Certainty of evidence according to the grading of recommendations, assessment, development, and evaluations guidelines. CI, confidence interval; FSH, follicle-stimulating hormone; LH, luteinizing hormone; FBS, fasting blood sugar; HOMA-IR, homeostatic model assessment for insulin resistance.