Supplementary material 1: Search strategy

PubMed

(((((("Sodium-Glucose Transporter 2 Inhibitors"[Mesh]) OR ((((((((((((Sodium-Glucose Transporter 2 Inhibitors[Title/Abstract]) OR (Sodium Glucose Transporter 2 Inhibitors[Title/Abstract])) OR (SGLT-2 Inhibitors[Title/Abstract])) OR (SGLT 2 Inhibitors[Title/Abstract])) OR (SGLT2 Inhibitors[Title/Abstract])) OR (Sodium-Glucose Transporter 2 Inhibitor[Title/Abstract])) OR (Sodium Glucose Transporter 2 Inhibitor[Title/Abstract])) OR (SGLT2 Inhibitor[Title/Abstract])) OR (Inhibitor, SGLT2[Title/Abstract])) OR (Gliflozins[Title/Abstract])) OR (Gliflozin[Title/Abstract])) OR (SGLT-2 Inhibitor[Title/Abstract])) OR (Inhibitor, SGLT-2[Title/Abstract])) OR (SGLT 2 Inhibitor[Title/Abstract]))) OR ("Canagliflozin"[Mesh])) OR ((((((((((((((((((Canagliflozin[Title/Abstract]) OR (Invokana[Title/Abstract])) OR (Canagliflozin Hemihydrate[Title/Abstract])) OR (Canagliflozin, Anhydrous[Title/Abstract])) OR (Empagliflozin[Title/Abstract])) OR (BI 10773[Title/Abstract])) OR (BI10773[Title/Abstract])) OR (BI-10773[Title/Abstract])) OR (Jardiance[Title/Abstract])) OR (Dapagliflozin[Title/Abstract])) OR (Farxiga[Title/Abstract])) OR (Forxiga[Title/Abstract])) OR (BMS 512148[Title/Abstract])) OR (BMS512148[Title/Abstract])) OR (BMS-512148[Title/Abstract])) OR (sotagliflozin[Title/Abstract])) OR (LX4211[Title/Abstract])) OR (LX-4211[Title/Abstract])) OR (Epagliflozin[Title/Abstract]))) AND

(“Polycystic ovary syndrome”[Mesh]) OR (((Polycystic ovarian syndrome[Title/Abstract]) OR (PCOS[Title/Abstract])) OR OR (PCOD[Title/Abstract])))

Supplementary material 2. Supplementary Table S1: Risk of bias assessment

Cai 2022	**Risk of bias**	**Author Judgement**
Random sequence generation (selection bias)	Low risk	Randomized controlled trial. Randomization done using blocked randomization system.
Allocation concealment (selection bias)	Low risk	Sequentially numbered, sealed, opaque envelopes were used for allocation concealment.
Blinding of participants & personnel (performance bias)	High risk	Open-label study.
Blinding of outcome assessment (detection bias)	High risk	Open-label study.
Incomplete outcome data (attrition bias)	Low risk	The dropout rate was 17.1 % (6/35) for the metformin group and 9.09% (3/33) for the canagliflozin group. Missing outcome data balanced in numbers across the two groups, with similar reasons for missing data across groups.
Selective reporting (reporting bias)	Low risk	All pre-specified outcomes are reported.
Other biases	Low risk	Not funded by pharmaceutical industries. The study was supported by grants from the National Key R&D Program of China and the National Nature Science Foundation.
Elkind-Hirsch 2021	**Risk of bias**	**Author Judgement**
Random sequence generation (selection bias)	Low risk	Randomized, parallel, prospective study trial. Randomization was done using a block randomization method.

Allocation concealment (selection bias)	Low risk	All participants were assigned to 1 of these 5 groups based on computer-generated random numbers using a block randomization method.
Blinding of participants & personnel (performance bias)	High risk	Single-blind study, all investigators were blinded to drug treatment.
Blinding of outcome assessment (detection bias)	High risk	Single-blind study, the blinding of outcome assessment was not described.
Incomplete outcome data (attrition bias)	High risk	77% participants completed the study per protocol. Missing outcome data were not balanced in numbers across intervention groups.
Selective reporting (reporting bias)	Low risk	All pre-specified outcomes are reported.
Other biases	High risk	This work was supported by an investigator-initiated research grant from Astra Zeneca Pharmaceuticals. The authors reported receiving grant support from various pharmaceutical companies. No other potential conflict of interest relevant to this article exists.
Tan 2021	**Risk of bias**	**Author Judgement**
Random sequence generation (selection bias)	Low risk	Randomized, placebo-controlled, trial. Randomization was done using a centralized randomization process.
Allocation concealment (selection bias)	Low risk	The identity of the treatments were concealed by the use of study drugs that were all identical in packaging, labeling, and schedule of administration, appearance, and odor.
Blinding of participants & personnel (performance bias)	Low risk	Double-blind trial.

Blinding of outcome assessment (detection bias)	Low risk	Double-blind trial.
Incomplete outcome data (attrition bias)	Low risk	All randomized patients completed the study.
Selective reporting (reporting bias)	Low risk	All pre-specified outcomes are reported.
Other biases	High risk	The trial was sponsored by Novartis. Open access funding enabled and organized by Projekt DEAL.
Zaved 2019	**Risk of bias**	**Author Judgement**
Random sequence generation (selection bias)	Low risk	Randomized controlled trial. Subjects were randomized by using an online web-based randomization service.
Allocation concealment (selection bias)	Low risk	Subjects were randomized to receive either empagliflozin or metformin on a 1:1 ratio using an online web-based randomization service.
Blinding of participants & personnel (performance bias)	High risk	Open-label study.
Blinding of outcome assessment (detection bias)	High risk	Open-label study.
Incomplete outcome data (attrition bias)	Low risk	39 of 40 subjects randomized completed the study.
Selective reporting (reporting bias)	Low risk	All pre-specified outcomes are reported.
Other biases	Low risk	The study was not industry-funded. Authors declared that they had no conflicts of interest.

Zhang 2022	**Risk of bias**	**Author Judgement**
Random sequence generation (selection bias)	Low risk	Randomized controlled trial. Randomization was performed using a computer-generated random number sequence.
Allocation concealment (selection bias)	Low risk	Cohort allocations were performed by random assignment through a computer-generated random number sequence.
Blinding of participants & personnel (performance bias)	High risk	Open-label study.
Blinding of outcome assessment (detection bias)	High risk	Open-label study.
Incomplete outcome data (attrition bias)	Low risk	80.76% (21/26) in the CANA/MET group and 80.00% (20/25) in the MET group completed the study. Missing outcome data balanced in numbers across intervention groups.
Selective reporting (reporting bias)	Low risk	All pre-specified outcomes are reported.
Other biases	Low risk	The study was not industry-funded. Authors declared that they had no conflicts of interest.