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ADMINISTRATIVE INFORMATION**Support** - No.**Review Stage at time of this submission** - Data analysis.**Conflicts of interest** - The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as potential conflicts of interest.**INPLASY registration number:** INPLASY202620021**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 5 February 2026 and was last updated on 5 February 2026.**INTRODUCTION**

Review question / Objective Traditional Chinese medicine (TCM) formulations, founded on the principles of “holistic conceptualization” and “treatment based on syndrome differentiation”, exhibit potential in the management of diabetic cardiomyopathy (DCM). Nevertheless, systematic comparative evidence regarding their relative efficacy across crucial clinical endpoints remains limited. In this study, we undertook a network meta-analysis to determine the efficacy ranking of TCM compounds administered in combination with conventional therapy for DCM, thereby offering targeted evidence to support the implementation of precision medicine.

Condition being studied Diabetic cardiomyopathy (DCM) is a distinct cardiac complication of diabetes mellitus (DM), manifesting independently

of coronary artery disease, hypertension, or valvular heart disease. Clinically, it is characterized by early diastolic dysfunction, myocardial fibrosis, cardiac hypertrophy, and systolic dysfunction. These intricate pathophysiological alterations may progress to heart failure or even sudden cardiac death. Given the global rise in diabetes prevalence, the disease burden attributable to DCM has intensified, presenting a substantial public health challenge.

METHODS

Participant or population Adult patients meeting DCM diagnostic criteria.

Intervention Intervention group receiving TCM (decoctions, patent medicines, granules, etc.) combined with conventional therapy compared to a control group receiving conventional therapy alone.

Comparator Conventional therapy alone.

Study designs to be included RCT design.

Eligibility criteria The inclusion criteria were: (1) RCT design; (2) adult patients meeting DCM diagnostic criteria; (3) intervention group receiving TCM (decoctions, patent medicines, granules, etc.) combined with conventional therapy compared to a control group receiving conventional therapy alone; and (4) the reporting of at least one primary outcome (total effective rate [TER], left ventricular ejection fraction [LVEF], B-type natriuretic peptide [BNP], or left ventricular end-diastolic diameter [LVDD]).

Information sources A comprehensive search was performed across PubMed, Embase, Cochrane Library, Web of Science, CNKI, Wanfang Data, and VIP Journal databases from their inception to December 31, 2025, without language restrictions.

Main outcome(s) The reporting of at least one primary outcome (total effective rate [TER], left ventricular ejection fraction [LVEF], B-type natriuretic peptide [BNP], or left ventricular end-diastolic diameter [LVDD]).

Quality assessment / Risk of bias analysis Methodological quality was assessed using the Cochrane Risk of Bias Tool 2.0 (RoB 2), covering five domains: the randomization process, adherence to interventions, data completeness, outcome measurement, and selective reporting. Each domain was rated as "low risk", "high risk", or "some concerns", with the overall bias risk determined by the highest risk level across domains. Disagreements were resolved via discussion. Data synthesis followed the intention-to-treat principle.

Strategy of data synthesis A network meta-analysis was conducted within a frequentist framework using Stata 15.0 and the "netmeta" package in R (version 4.2.0). For dichotomous variables, risk ratios (RR) with 95% confidence intervals (CI) were computed, while for continuous variables, standardized mean differences (SMD) with 95% CI were calculated. Given the intrinsic heterogeneity across studies, a random-effects model was employed for all analyses. The consistency between direct and indirect evidence was examined through node-splitting, with a P-value of less than 0.05 indicating significant inconsistency. Intervention efficacy was ranked using the Surface Under the Cumulative Ranking (SUCRA) curve (SUCRA values ranging from 0% to

100%, with higher values denoting superior efficacy). Publication bias was assessed using corrected funnel plots.

Subgroup analysis No.

Sensitivity analysis No.

Country(ies) involved China.

Keywords Diabetic Cardiomyopathy; Traditional Chinese Medicine Compounds; Adjunctive Therapy; Network Meta-Analysis; Cardiac Function.

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