Integration of traditional Chinese medicines and Western medicines for treating diabetes mellitus with coronary heart disease: a systematic review

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CRD summary
The review concluded that a prevalence of poor-quality trials made it difficult to draw any conclusions about the efficacy of integrated strategies incorporating both traditional Chinese medicine and Western medicine in patients with both diabetes mellitus and coronary heart disease. The review had some limitations but the conclusions appear to fairly reflect the limited evidence available.

Authors' objectives
To evaluate the efficacy of integrated strategies incorporating both traditional Chinese medicine and Western medicine for treating patients with both diabetes mellitus and coronary heart disease.

Searching
PubMed, Cochrane CENTRAL, EMBASE, Chinese Biomedical Database, Chinese Journal Database, VIP Chinese periodicals database and Wangfang were searched to November 2011 for studies published in English or Chinese; search terms were reported.

Study selection
Randomised or quasi-randomised trials of integrated strategies that incorporated both traditional Chinese medicine and Western medicine for treating adults with both diabetes mellitus and coronary heart disease were eligible. Any kind of Chinese herbal or Chinese patent drug was eligible. Studies of acupuncture were excluded. Control groups had to receive Western medicine alone or with routine care.

All of the included studies were performed in China between 1999 and 2009. Patient ages ranged from 34 to 80 years. Types of intervention varied widely but broadly included Chinese patent medicines (injections, pills and capsules) and herbal prescriptions. Durations of treatment ranged from 15 days to four months.

Two reviewers independently selected studies; disagreements were resolved by discussion.

Assessment of study quality
Study quality was assessed using criteria from the Cochrane Handbook. Trials were also awarded a score (up to a maximum of 5) based on the Jadad scale.

Two reviewers independently assessed study quality; disagreements were resolved by discussion.

Data extraction
Data were extracted to calculate risk ratios or mean differences, with 95% confidence intervals.

Two reviewers independently extracted data; disagreements were resolved by discussion.

Methods of synthesis
Data were summarised using a narrative synthesis. Individual trial results were presented in forest plots. Funnel plots were used to assess publication bias.

Results of the review
Twenty-one randomised trials (2,006 participants, range 45 to 260) were included. All trials were described as being randomised; only seven reported their sequence generation methods. No trials described methods of allocation concealment. Four trials were single-blinded and one was double-blinded. No studies described using intention-to-treat analyses. Most studies had a Jadad score of 1 or 2 (one scored 3).

Statistically significant results favouring integrated strategies incorporating both traditional Chinese medicine and
Western medicine were reported in: 12 out of 15 trials that assessed a coronary heart disease outcome (such as improvement in ECG or rate of heart attacks); eight out of 16 trials that assessed fasting blood glucose; five out of 10 trials that assessed triglycerides; and nine out of 11 trials that assessed total cholesterol. Results for less commonly studied outcomes were reported.

The value of the funnel plots was very limited since no pooled estimates were calculated for use as a reference point.

**Authors' conclusions**
The current state of the literature regarding the utility of integrated strategies incorporating both traditional Chinese medicine and Western medicine for the treatment of diabetes mellitus with coronary heart disease is inadequate. The poor quality of the available trials makes it difficult to draw any conclusions on efficacy.

**CRD commentary**
The review question and eligibility criteria were clear and reproducible. The restriction to published studies in English or Chinese meant that relevant studies may have been missed. Suitable methods (such as independent duplicate processes) were used to reduce risks of reviewer error and bias throughout the review.

A basic quality assessment was performed and indicated that all the included trials were poorly reported. Use of a narrative synthesis appeared appropriate given the heterogeneity across interventions but heterogeneity was not formally assessed. Only very limited population details were provided.

Despite the limitations, the authors' conclusions appear to fairly reflect the limited evidence available.

**Implications of the review for practice and research**

**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that small-scale, poor quality studies should be avoided and more attention paid to large double-blinded multicentre randomised controlled trials.

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