Qigong for type 2 diabetes care: a systematic review

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CRD summary
In this review, the authors concluded that there was insufficient information on the use of qigong for type 2 diabetes mellitus. Despite some omission in reporting of results, the authors' cautious conclusion appears to be an accurate reflection of the evidence presented.

Authors' objectives
To evaluate the evidence for use of qigong for patients with type 2 diabetes.

Searching
MEDLINE, AMED, British Nursing Index, CINAHL, EMBASE, PsycINFO, six Korean Medical databases, Qigong and Energy Medicine database, Chinese Medical Database and The Cochrane Library were searched to March 2009; search terms were reported. The authors searched their personal files and selected journals for relevant dissertations and abstracts. There were no language restrictions.

Study selection
Prospective clinical trials that evaluated patients with type 2 diabetes mellitus who received qigong alone or in combination with other treatments were eligible for inclusion. Studies in which qigong was given as a concomitant treatment with therapies of unproven effectiveness were excluded, as were case series and case reports. Studies that did not allow an evaluation of the effectiveness of the intervention were excluded.

Qigong treatments (defined as integrative mind-body exercise interventions derived from Chinese medicine) were given at a range of durations and frequencies (40 to 120 minutes, once daily to thrice weekly and between 10 weeks and one year). Comparators included Western drug therapy and usual care (not defined). Outcomes evaluated included glycosylated haemoglobin (HbA1c) and other markers of blood glucose levels, including fasting plasma glucose, two-hour plasma glucose and other blood glucose tests.

Three reviewers independently selected studies for inclusion.

Assessment of study quality
Three reviewers independently assessed methodological quality using the Cochrane classification to evaluate randomisation, blinding, withdrawals and allocation concealment. Any disagreements between the reviewers were resolved by discussion.

Data extraction
Data were independently extracted according to predefined criteria by three reviewers. Results were presented in tables.

Methods of synthesis
The reviewers summarised results in a narrative review that was supplemented by tabulated results as there was substantial heterogeneity of study designs, intervention delivery and outcome measures.

Results of the review
Nine studies (n= 405) were included in the review: three randomised controlled trials (RCT); one non-randomised clinical trial; and five uncontrolled observational studies. Study length ranged from 10 weeks to one year. Quality of RCTs was assessed as poor quality.

In two RCTs there were statistically significant reductions in HbA1c observed for groups treated with once-daily qigong and usual care (including drug therapy) compared to groups that received usual care alone (p<0.01 and p<0.05 for each trial). In one of these trials, blood glucose was significantly reduced in both groups after six months and there was a
significant difference favouring the qigong group compared to the group that received Western drug therapy (p<0.01). In a third RCT, blood viscosity was significantly reduced in the qigong treatment group compared with a group that received usual care (p<0.05).

The non-randomised clinical trial showed no significant differences observed between groups receiving qigong treatment or no treatment in fasting plasma glucose, 2-hour fasting plasma glucose HbA1c or Insulin Sensitive Index.

Results from five uncontrolled observational studies showed significant changes from baseline to follow-up found in groups that received qigong treatment in fasting plasma glucose and two-hour plasma glucose.

**Authors’ conclusions**
There was insufficient evidence to support use of qigong for type 2 diabetes. Available evidence was of low methodological quality and further large well-designed trials were required to ascertain effectiveness of qigong for this population.

**CRD commentary**
The review addressed a question that was broad in scope. Inclusion criteria were stipulated. The search was adequate and included searches for unpublished literature. Risk of language biases was minimal. Steps were taken to minimise errors and bias at all stages of the review process. A range of study designs were used and the authors noted that the trials were of limited quality. The authors reported that they assessed methodological quality, but aside from commenting that the studies were of poor quality, the assessment findings were not reported in any detail. The included RCTs were small and were likely to be underpowered to detect any true differences in effectiveness between treatments. In addition, the findings from uncontrolled observational studies were associated with a number of potential biases. There was insufficient information provided on the components of interventions, comparators and results of included studies; the authors commented that no included study described the nature of the intervention in detail. Despite some omissions in the reporting of results, the authors' cautious conclusions appear to be an accurate reflection of the evidence presented.

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

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

**Research**: The authors stated that further large well-designed trials were required to ascertain effectiveness of qigong treatment. Optimum frequency, duration and supervision of qigong treatment had not been determined.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.