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Effect of mindfulness-based meditation on glycemic control in type 2 Diabetes: A systematic review

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Introduction and objectives

Management of psychological stress is considered beneficial in management of diabetes mellitus. Effects of meditation which relieves stress have been studied in clinical trials on metabolic control. A systematic review of experimental studies involving patients with type 2 diabetes, was performed looking at glycaemic control with mindfulness meditation.

Methods

Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) guidelines were followed. Risk of bias was assessed using the Cochrane risk of bias tool. Comprehensive literature search was conducted in PubMed· (U.S. National Library of Medicine,USA), Web of Science· (Thomson Reuters, USA) Cochrane library, Google scholar and Mendeley until 01.05.2020. Thirty full text articles were assessed for eligibility and 10 were included. Eight articles were from 7 randomized controlled trials (2 from the same trial). Two were pilot interventional studies.

Results

Majority (60%) have used 8 weeks of mindfulness meditation intervention. Five out of 7 randomized controlled trials showed significant HbA1C reduction ($p<0.05$). Range of reduction from baseline to post intervention values was 0.43-1.1%. Two pilot interventional studies also showed significant HbA1C reduction ($p<0.05$). One study showed significant reduction in cortisol and two studies showed significant reduction in mean arterial blood pressure ($p<0.05$). Methodological quality was judged as good in 2, moderate in 4, poor in 2.

Conclusions

Published interventional studies indicate beneficial effects of mindfulness meditation on glycaemic control. Different