A review of treating depression in diabetes: emerging findings
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CRD summary
The review concluded that psychosocial, pharmacologic and collaborative care interventions were effective in treating depression in people with diabetes. Evidence for a benefit on glycaemic control was mixed. Potential for biases within the review and uncertain quality of data means that caution is warranted when interpreting the authors' conclusions.

Authors' objectives
To evaluate treatments for depression in patients with diabetes.

Searching
PubMed, PsycINFO and The Cochrane Library were searched from 1995 to 2008 for articles published in English. Search terms were reported. Reference lists of retrieved articles and reviews were searched.

Study selection
Studies of psychological and/or pharmacological treatments aimed at treating depression in adults, children and adolescents who were diagnosed with depression or depressive symptoms and also had type 1 or 2 diabetes were eligible for inclusion. Studies had to report on depressive symptoms or depression as an outcome measure. Studies of diabetes education or adherence training were excluded.

The included studies considered psychosocial, pharmacological and collaborative care interventions. Collaborative care was defined as antidepressant medication and/or psychosocial intervention, usually in a stepped care or algorithm-based approach. Various depression outcome tools were utilised and included Beck Depression Scale (BDI), Mini International Neuropsychiatric Interview (MINI) and Hamilton Depression Rating Scale (HDRS) in patients with depressive symptoms or diagnosed depression. Depression entry criteria varied across studies. Types of treatment included cognitive-behavioural therapy (CBT), supportive psychotherapy, selective serotonin reuptake inhibitors (SSRIs), nortriptyline, bupropion and collaborative therapy, at various intensities and durations. Some studies also reported diabetes-related outcomes, including glycosylated haemoglobin A1c (HbA1c).

The authors did not state how many reviewers performed study selection.

Assessment of study quality
The authors did not state that they performed formal validity assessment, although they evaluated the methodological characteristics of study design (including follow-up and comparison group), analyses, inclusion criteria (including participant characteristics) and use of HbA1c as an outcome.

Data extraction
Data were extracted on depression outcomes. Data on health outcomes (including HbA1c as a measure of glycaemic control) were extracted, where reported.

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
A narrative synthesis was presented. Studies were grouped by type of intervention.

Results of the review
Seventeen studies were included in the review (2,059 participants): 13 RCTs, and four open-label uncontrolled studies.

Psychosocial interventions (six studies), especially CBT, were effective in improving depression in patients with diabetes. Data for glucose control were limited; two studies showed no benefit.

Pharmacologic interventions (eight studies). SSRIs (six studies) were effective in reducing depressive symptoms and
preventing relapse in patients with diabetes; data for glucose control were limited but generally showed a benefit. Nortriptyline (one trial) was effective in reducing depressive outcomes; data for glucose control showed no difference. Bupropion (one study) was effective in reducing depressive outcomes; data for glucose control showed a small benefit.

Collaborative care interventions (three studies) were effective in improving depression in patients with diabetes. Data for glucose control were limited; two studies showed no benefit.

**Authors' conclusions**
Psychosocial, pharmacologic and collaborative care interventions were effective in treating depression. Evidence for a benefit on glycaemic control was mixed.

**CRD commentary**
Inclusion criteria for the review were reasonably clearly defined and several relevant data sources were searched. However, it was not entirely clear which Cochrane resource was searched. There was potential for language bias as only articles published in English were included. Publication bias was not assessed and cannot be ruled out. It was unclear whether any attempts were made to reduce reviewer error and bias throughout the review. The authors did not state whether they undertook formal quality assessment and this made assessing the quality of the evidence base difficult.

Trials were synthesised narratively, which appeared appropriate given the type of data. Given the risk of biases within the review and uncertain quality of data, caution is warranted when interpreting the authors' conclusions.

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

**Practice**: The authors stated that the literature supported use of psychosocial and pharmacologic interventions for depression in patients with diabetes.

**Research**: The authors stated that further research was needed to maximise the efficacy of interventions to treat depression in diabetes and specifically on combined treatments. More powerful treatments that can take patients to remission needed to be developed and studied. Further research was needed to establish the causal relationship between diabetes and depression. Research on glycaemic control using measures beyond HBA1c was needed. The relationship between hyperglycaemia and depression needed to be explored.

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