A collaborative care intervention improved depression outcomes, but not glycaemic control, in diabetes and comorbid depression


**Q** In patients with diabetes mellitus and comorbid major depression or dysthymia, does a pathways collaborative care intervention (PCCI) for depression improve both depression and glycaemic control outcomes?

**METHODS**

- **Design:** Randomised controlled trial.
- **Allocation:** Concealed.
- **Blinding:** Blinded (outcome assessors).
- **Follow up period:** 12 months
- **Setting:** 9 Group Health Cooperative primary care clinics in western Washington, USA.
- **Patients:** 329 ambulatory patients (mean age 58.6; 65% women) with diabetes mellitus and comorbid major depression or dysthymia. Exclusion criteria included care from a psychiatrist, confusion suggestive of dementia, or a diagnosis of bipolar disorder or schizophrenia.
- **Intervention:** A PCCI (n = 164) or usual care (UC) (n = 165). The PCCI was an individualised, stepped care depression treatment programme delivered by a depression clinical specialist nurse in collaboration with a primary care physician. Components of PCCI included antidepressant medication, problem solving treatment, and psychiatric consultation.
- **Outcomes:** Change in depression (20 depression items from the Hopkins Symptom Checklist-90 [SCL-90] and Patient Global Impression scores) and haemoglobin A1c concentration measured at 3, 6, and 12 months.
- **Patient follow up:** 88% at 12 months.

*Information provided by author.

**MAIN RESULTS**

Improvement in depression (reduction in SCL-90 scores) from baseline was greater in the PCCI group than in the UC group (p = 0.004). More patients in the PCCI group than in the UC group had a >40% decrease from baseline in SCL-90 scores at 12 months (table) or improvement on Global Impression scores at 6 months (p = 0.05). For correspondence: Dr W J Katon, University of Washington School of Medicine, Seattle, WA, USA. wkaton@u.washington.edu

**CONCLUSION**

In patients with diabetes mellitus and comorbid major depression or dysthymia, an enhanced process of care for depression improved depression related outcomes but not glycaemic control.

**Commentary**

Depression, a common comorbid condition with diabetes, has been found to be associated with hyperglycaemia. However, the mechanisms linking depression to glycaemic control are not well understood. The study by Katon et al adds to our knowledge of whether interventions for depression improve both depression and glycaemic control. In 4 previous studies examining these relations, only one showed reductions in both glycaemic control and depressive symptoms.

The PCCI involved trained specialty nurses as the centrepiece of the intervention, in collaboration with a primary care physician, to deliver individualised stepped care for depression. Multifaceted interventions, especially those that include a nurse case manager and/or patient education, have shown improvements in process outcomes and patient outcomes such as glycaemic control. Two areas related to this collaborative intervention are noteworthy. Firstly, although the authors generally described the duration of each of the 3 steps and the percentage of patients who used the different intervention components (ie, medication, problem solving, or a combination of both), the percentages of patients who received step 1 and those who eventually progressed to step 2 and beyond were not clearly identified. Secondly, the intervention was service intensive, with the PCCI group being 29 times more likely to have additional specialty mental health visits.

The study by Katon et al adds to the body of evidence showing that enhanced depression care improves depression but not glycaemic control. These findings highlight the need for greater integration of biopsychosocial models by clinicians and researchers to advance our understanding of the important associations between depression and hyperglycaemia.

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**A pathways collaborative care intervention (PCCI) v usual care (UC) in patients with diabetes mellitus and comorbid major depression or dysthymia**

<table>
<thead>
<tr>
<th>Outcomes at 12 months</th>
<th>PCCI</th>
<th>UC</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;40% decrease in SCL-90 from baseline</td>
<td>54%</td>
<td>38%</td>
<td>42% (10 to 85)</td>
<td>7 (4 to 22)</td>
</tr>
<tr>
<td>Improved patient Global Impression scores (change from baseline)</td>
<td>72%</td>
<td>42%</td>
<td>70% (38 to 113)</td>
<td>4 (3 to 6)</td>
</tr>
</tbody>
</table>

*SCL = Hopkins Symptom Checklist; other abbreviations defined in glossary. RBI, NNT, and CI calculated from data in article.