Family focused teamwork prevented deterioration in diabetes control in children and adolescents


In children and adolescents with recently diagnosed type 1 diabetes mellitus, does a family focused teamwork intervention improve glycaemic control and minimise diabetes related family conflict?

METHODS

Design: randomised controlled trial.
Allocation: (concealed)*.
Blinding: blinded (healthcare providers, outcome assessors, and data analysts)*.
Follow up period: 1 year.
Setting: Joslin Diabetes Center in Boston, Massachusetts, USA.

Patients: 105 children 8-17 years of age (mean age 12 y, 53% boys) who were diagnosed with type 1 diabetes within the previous 6 years but without concurrent serious illness, had ≥1 visit to the Joslin Diabetes Center in the past year, and intended to have routine follow up diabetes care at the centre.

Interventions: stratification by age and duration of diabetes and allocation to a family focused teamwork intervention (n = 50) or standard care (n = 50). The teamwork intervention involved provision of written materials on each of 4 modules (communication around diabetes and blood glucose results, the meaning of haemoglobin A1c [HbA1c] and need for parent and child teamwork, response to blood sugars and avoiding blame/shame, and sharing the burden of diabetes tasks and using a logbook to problem solve abnormal test values). The child, parent, and research assistant negotiated a responsibility sharing plan after each session.

Outcomes: glycaemic control, parental involvement in diabetes tasks (Diabetes Family Responsibility questionnaire), adherence to diabetes management tasks, child quality of life (PedsQL), and diabetes related family conflict (Diabetes Family Conflict scale).

Patient follow up: 95%.

*Information provided by author.

MAIN RESULTS

Analysis was by intention to treat. At 1 year, HbA1c concentrations were lower in the teamwork group than in the standard care group (table). There were no within group or between group differences in child quality of life, diabetes related family conflict, or family involvement from baseline to 1 year follow up. In a composite measure of change in family involvement with diabetes management tasks, more families in the teamwork group increased or maintained family involvement than in the standard care group (30% v 14%, p = 0.05).

CONCLUSION

In children and adolescents with recently diagnosed type 1 diabetes mellitus, a family focused teamwork intervention prevented deterioration of glycaemic control and maintained family involvement without negatively affecting quality of life.

Commentary

Deterioration of glycaemic control is a common problem in adolescents with diabetes.1 Laffel et al studied the parent-adolescent “team” using a short, office based intervention, unlike many studies that focus on either adolescents or parents.

The inability to detect within or between group differences in adolescent quality of life, family conflict, and family involvement might have resulted from an insufficient number of participants or inadequate time to observe such changes. The findings that a teamwork approach prevented deterioration of glycaemic control and increased, by more than twofold, the number of families that maintained or increased family involvement in diabetes tasks are striking. However, increasing parental involvement with older adolescents might threaten the normal developmental tasks necessary for autonomy and responsibility for self care. Although a positive relation between adherence and glycaemic control has long been assumed, there is some evidence to the contrary.2

Clinician ratings of patient adherence to diabetes tasks was not reported despite the authors’ hypothesis that improvement in glycaemia would be achieved through increased adherence. Further investigation of the adherence-glycaemia relationship is warranted.

This study is particularly relevant to health professionals who work with adolescents and their families. The finding that deterioration of glycaemic control can be prevented by using a short intervention delivered at the usual frequency of healthcare appointments, without increasing family conflict, is encouraging. The promise of a minimal cost intervention has long been assumed, there is some evidence to the contrary.3 Clinician ratings of patient adherence to diabetes tasks was not reported despite the authors’ hypothesis that improvement in glycaemia would be achieved through increased adherence. Further investigation of the adherence-glycaemia relationship is warranted.

Cheri Ann Hernandez, RN, PhD, CDE
Faculty of Nursing, University of Windsor
Windsor, Ontario, Canada


Family focused teamwork standard care for children and adolescents with type 1 diabetes mellitus†

<table>
<thead>
<tr>
<th>Outcome at 1 year</th>
<th>Teamwork (baseline)</th>
<th>Standard care (baseline)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemoglobin A1c</td>
<td>8.2% (8.4%)</td>
<td>8.7% (8.3%)</td>
<td>&lt;0.05</td>
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</tbody>
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†Adjusted for age, duration of diabetes, sex, and daily insulin dose.

For correspondence: Dr L Laffel, Joslin Diabetes Center, Boston, MA, USA.
Lori.Laffel@joslin.harvard.edu

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