Addressing Barriers to Self-Management in Pediatric Type 1 Diabetes

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Overview

• Introduction
• Intervention Methods
• Results
• Conclusions
• Discussion & Future Implications
Type 1 Diabetes

• Autoimmune disease affecting 150,000 children in the U.S.
• Good glycemic control is essential to prevent complications.
• Over half of children and adolescents with type 1 diabetes do not achieve adequate glycemic control.
Self-Management

- Involves blood glucose testing, carbohydrate counting, and insulin administration
- Multidisciplinary teams address self-management barriers.
- Self-management barriers are unique to each child and family.
Aim

• To evaluate the feasibility, acceptability, and potential impact of delivering interventions targeted to a child and family’s unique self-management barriers
Intervention Overview

- 2 interventions targeted to self-management barriers

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Intervention</th>
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</thead>
<tbody>
<tr>
<td>Understanding and Organizing Care</td>
<td>Tips &amp; Tools</td>
</tr>
<tr>
<td>Family Interactions</td>
<td>Family Teamwork</td>
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</tbody>
</table>

- 4 group sessions over 1 year
- Coordinated with routine diabetes visits
- Follow-up phone call for intensification
Eligibility Criteria

• Age ≥ 8 years

• Uncontrolled diabetes
  – 6-12 years old: A1c > 8.0%
  – 13-17 years old: A1c > 7.5%

• Endorsement of specific self-management barriers on survey
Overarching Intervention Structure

• Didactic
• Interactive
  – Computer-based games
  – Role playing
• Handouts
• Homework
Results: Participants

- Participants:  
  - 25 intervention  
  - 40 controls  

- Of 25 families initially enrolled, 18 (72%) remained for all four sessions.
## Results: Acceptability

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Mean (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The facilitator provided useful information today as related to diabetes care.</td>
<td>4.29 (4.18-4.40)</td>
</tr>
<tr>
<td>I felt comfortable participating in today’s session.</td>
<td>4.43 (4.29-4.57)</td>
</tr>
<tr>
<td>The facilitator explained how our family could use the information presented in today’s session at home.</td>
<td>4.36 (4.24-4.47)</td>
</tr>
<tr>
<td>The facilitator was supportive and understood our feelings throughout today’s session.</td>
<td>4.46 (4.34-4.58)</td>
</tr>
<tr>
<td>I look forward to my next session.</td>
<td>4.17 (4.01-4.33)</td>
</tr>
</tbody>
</table>

5-Point Scale from Strongly Disagree (1) to Strongly Agree (5)
Results: Impact on Mean A1c

- **Session 1**: Mean A1c (%) around 10.5
- **Session 2**: Mean A1c (%) around 9.5
- **Session 3**: Mean A1c (%) around 9.0

The intervention shows a decrease in Mean A1c over the sessions.
Results: Impact on Mean A1c
Conclusions

• Group interventions targeted to specific barriers to self-management are feasible and acceptable to families.

• No significant difference in A1c
Discussion & Future Implications

• Importance of social support

• Limitations:
  – Small sample size
  – Self-report

• The model may be applicable to chronic disease in pediatric and adult populations.
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