Diabetes strengths study: Pilot, feasibility, & preliminary results of a brief, strength based, provider-delivered intervention for teens with type 1 diabetes (T1D)

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ABSTRACT

Objective: Given well-documented challenges achieving optimal T1D outcomes in adolescence, new approaches that build on teens’ positive T1D-related behaviors and attitudes (“strengths”) in order to enhance provider-teen relationships and support self-management may be beneficial. This pilot study tested the feasibility, acceptability, and preliminary outcomes of a brief intervention delivered in routine care, in which providers identified and reinforced teens’ T1D-related strengths. Methods: Teens (ages 12-17) and parents were recruited, consented, and completed questionnaires pre- and post-intervention. At 2 consecutive clinic visits, 4 T1D care providers delivered the intervention and meta-data and A1c values were collected. Results: Of 116 eligible families, 84 consented, 63 completed baseline data and received at least 1 intervention session (M age=15.1±1.7, 64% female, 68% white, M A1c=8.6±1.6%), and 60 completed follow-up data. Pre-post data indicated significant improvements in youth-rated strengths, self-management, and relationships with provider, and in provider-rated relationship with family (p<0.05) and trends of decreased parent- and youth-rated burden (p=0.11 and 0.12). Providers reported the intervention usually (95%) took <10 minutes to deliver and only 1 session was skipped (emergency took priority). Teens, parents, and providers provided largely positive feedback (e.g., benefited from discussing T1D strengths at start of clinic visits) and gave suggestions for improvement (e.g., shortening survey battery). Conclusions: The Diabetes Strengths Study was feasible to conduct and stakeholders were very satisfied. Change in behavioral outcomes suggests this intervention holds promise to enhance patient-provider relationships and positive youth behaviors and attitudes. Lessons were learned to improve implementation and participant experience for a larger study.

BACKGROUND & AIMS

- Adolescence is a challenging period for T1D self-management, glycemic outcomes, and quality of life.
- Efficacious behavioral interventions are often multi-component, multi-session programs delivered by trained interventionists.
- New approaches with high potential for translation to clinical practice are needed.
- Given associations between positive T1D-related behaviors (“diabetes strengths”) and optimal outcomes (e.g., high self-management, in-range A1c, good quality of life), intervention strategies that build on teens’ diabetes strengths may be beneficial.
- This study aimed to test the feasibility, acceptability, and preliminary outcomes of a brief, strengths-based intervention delivered in routine T1D care.

INTERVENTION

- Diabetes care providers (DCP) delivered intervention at start of 2 consecutive routine diabetes care visits.
- “Diabetes Strengths Profile” automatically generated from youth- and parent-reports of the teen’s T1D-related strengths (** in Measures) and given to DCP.
- DCP follows semi-structured guide to:
  - Review Diabetes Strengths Profile with family.
  - Praise adolescent strengths,
  - Model supportive communication.
  - Engage family in strengths-based goal-setting.

- Premediated intervention integration in clinic visits (results averaged across both sessions)
  - Intervention was delivered at all clinic visits, only 1 session skipped due to emergency taking priority.

RESULTS

- Pre-post data indicated significant improvements in youth-rated strengths, self-management, and relationship with provider, and in provider-rated relationship with family.
- Trends of decreased diabetes burden.

- DCP-reported intervention integration in clinic visits (results averaged across both sessions)
  - Intervention was delivered at all clinic visits, only 1 session skipped due to emergency taking priority.
  - Time spent delivering intervention
  - How involved was family in conversations
  - DCP comfort delivering intervention

- Qualitative feedback from teens, parents, and providers
  - Largely positive: beginning clinic visit with T1D strengths enhanced discussion, often referred back to trending strengths at visit later in visit, appreciated structured data-based discussion format, covered similar topics in more positive way, enjoyed follow-up session at second visit.
  - Suggestions for improvement: shortening survey battery, ability to receive intervention from different providers at consecutive visits.

CONCLUSIONS

- Pilot data support preliminary feasibility and acceptability of intervention.
- Recruitment and retention rates ≥70% support study feasibility. Attrition was largely due to changes in DCP clinical schedules limiting opportunities for study visits. We identified strategies to increase full intervention dose delivery for a larger trial.
- DCP enjoyed delivering the intervention and reported that it did not take much time, suggesting it can be integrated into routine care without disrupting clinic flow. Training more providers may enhance feasibility of delivering full intervention dose to all participants.
- Change in behavioral outcomes suggests this strengths-based intervention may hold promise to enhance patient-provider relationships and positive T1D-related youth behaviors and attitudes during the vulnerable teen years.
- This intervention has the potential to enhance DCPs’ skills and confidence to identify and reinforce what teens are doing well for their T1D as part of routine care. Its brevity and integration with existing clinical practices hold promise for high translatability to a busy ambulatory practice.

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