

Defining Features of Diabetes Resilience in Young Adults with Type 1 Diabetes

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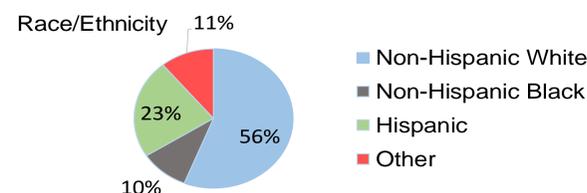
BACKGROUND & AIMS

- Emerging adulthood presents unique challenges for T1D management in the context of normative development.
 - Frequent blood glucose monitoring, administering insulin, and nutritional monitoring while attending school, working, spending time socializing with friends, and living away from home.
- Barriers to achieving optimal diabetes outcomes during this distinct developmental stage have been well characterized:
 - Inadequate transition preparation during adolescence
 - Low understanding of medical regimen
 - Inconsistent schedules
 - Low social support
- Diabetes resilience is the achievement of good quality of life, high treatment adherence, and close to target glycemic control despite the challenges of diabetes management.
- Identifying protective factors may help guide strengths-based interventions to promote resilience during the vulnerable young adult period.
- Hypothesis:** We anticipated protective factors in social, cognitive, and behavioral domains.

METHODS

- Part of a larger study to validate a new measure of diabetes-specific resilience.
- 62 young adults aged 18-24 years with T1D were interviewed.
- Interviews asked:
 - What does "diabetes resilience" mean to you and how have you experienced it?
 - What are your biggest challenges managing T1D as a young adult?
 - What has worked for you to handle those challenges?
 - Who supports you in managing your diabetes?
- Interviews were audio-recorded and transcribed verbatim.
- One psychology intern, one research staff, and one pediatric psychologist used a hybrid thematic analysis approach to identify core themes in the qualitative interview transcripts.
- Research team applied coding schemes using Nvivo software (16% double-coded).

Characteristics (n=62)	Percent (n)	Mean ± SD
Age		19.6 ± 1.3 years
Gender, Female	47% (29)	
Hemoglobin A1C		8.2 ± 1.4%
Diabetes Duration		8.3 ± 4.2 years
Continuous Glucose Monitor - Yes	33% (20)	



RESULTS

CODING SCHEMES

- Upon review of the transcripts, emergent themes aligned with Social Cognitive Theory (SCT):
 - An observational learning framework that emphasizes the **actions of others**, the environment, and **individual expectations** as key components to achieving **goal-directed behavior**.
- Interpersonal, cognitive, and behavioral protective factors were identified.

Interpersonal: Sources or types of support young adults receive that help them manage diabetes challenges.

Tangible Support: Receives hands-on help from others regarding diabetes management tasks such as someone else checking their BGs, giving them insulin injections, etc.

Emotional Support: Receives a listening ear and words of encouragement from others regarding diabetes management.

Social Support: Has family members, friends, and/or health care providers who offer help regarding diabetes management.

Cognitive: Thoughts and/or feelings young adults have about living with T1D that help them manage diabetes challenges.

Normalcy: Attempts to view and incorporate T1D management as a part of every day, not as a major disruption to daily activities.

Balance: Attends to T1D management and quality of life; makes time to engage in non-diabetes-related activities and opportunities, which helps them to better manage their diabetes.

Behavioral: Behaviors and/or actions young adults engage in that help them manage diabetes challenges.

Technology: Uses diabetes-specific devices (e.g., CGM, pump) and general technology (e.g., phones, alarm clocks, apps) to reduce challenges and make diabetes management easier.

Preparedness: Remains aware of and ready for diabetes emergencies to help them reduce challenges and make diabetes management easier (e.g. carrying insulin and/or glucagon, knowing correct dosages).

PARTICIPANT QUOTES

Interpersonal

"Having a really good care team you see on a regular basis is very helpful."
Female – 24 years old
Social Support

"My mom is actively involved in ordering my prescriptions. She comes to my appointments most of the time."
Male – 20 years old
Tangible & Social Support

"When I feel sick or I don't feel like waking up, my mom will check my blood sugar in the middle of the night like she did when I was little."
Female – 19 years old
Tangible & Social Support

"Family and friends are my biggest supporters... They care for you and want you to be healthy and grow up and do the stuff you want to do."
Male – 18 years old
Emotional & Social Support

Cognitive

"You can still live the life you would live without diabetes."
Male – 22 years old
Balance

"I think diabetes has helped me learn how to take care of myself."
Male – 19 years old
Normalcy

"If you were low 2 days in a row, it doesn't make you a failure... You can treat it and you can take steps to make it better."
Female – 20 years old
Normalcy

"Not letting it hold you back from every day activities... Like if you play sports, still managing to take care of your diabetes but not letting it get in the way of you having fun."
Male – 18 years old
Balance

Behavioral

"Putting reminders in my phone has worked to check my blood sugar."
Male – 20 years old
Technology

"You need to read the food label. You have to make sure to portion."
Female – 18 years old
Preparedness

"Always remembering to have a fast acting carb in case I have a low blood sugar when I'm not at home."
Female – 20 years old
Preparedness

"Wearing the Dexcom has been life changing... I love how it alerts me when I'm low or high. I don't have to always be focused on how I feel."
Female – 18 years old
Technology

CONCLUSIONS

- Interpersonal, cognitive, and behavioral protective factors align with SCT and may help young adults achieve diabetes resilience.
- Tangible parental support for T1D management was noted as important more than may be expected, but aligns conceptually with the theory of Emerging Adulthood:
 - Distinct developmental stage encompassing late adolescence to early adulthood (ages 18-25 years).
 - Society emphasizes the transition towards independence yet research suggests family support plays an important role during the post-adolescent period.
- The belief one can attain a normal life with T1D and participate in both diabetes- and non-diabetes related activities aligns with previous literature that highlights the need for healthcare providers to help patients attend to the importance of diabetes management while also preventing patients from feeling overwhelmed or burdened with diabetes care.
- Young adults, who are often technologically savvy, may increase their self-efficacy by finding creative technology-based solutions to T1D challenges and preparing ahead of time for diabetes emergencies.
 - It may not appear nuanced to carry insulin, glucagon, or fast acting carbohydrates to prevent diabetes management challenges, but for young adults, knowing to do this and planning ahead to do this may represent an important developmental milestone.
- Pediatric psychologists may contribute to multidisciplinary care of young adults with T1D by identifying and building on patients' protective factors across these 3 domains.
 - Reconsider expectations about self-management and acknowledge the benefits of ongoing family support during the vulnerable young adult period.
 - Promote problem solving skills and positive cognitive restructuring in response to T1D management challenges.
 - Encourage creative use of technology to address T1D management challenges.
- Strengths-based approaches to care may enhance disease management and quality of life for young adults with chronic illness.

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