



Developing a Patient-Centered mHealth App for Diabetes

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Intro

- Type 1 diabetes (T1D) afflicts approximately 154,000 people under the age of 20
- The transition between parent management to teen self-management is difficult

Goal: to determine the perceptions of adolescents with T1D and their parents regarding how best to aid in the transition to diabetes self-management

Methods

- 2 sets of focus groups
- Code analysis
- Intercoder reliability achieved
- Themes developed

Four Key Themes Emerged

- 1. Diabetes is unpredictable**
 - Successful strategies that worked one day did not necessarily work well later
 - Parents constantly worry about their child
- 2. Negative and frustrated communication**
 - Frustration occurs because management is very complex
 - Kids do not want to be different than their peers
 - Age of diagnosis impacts parents willingness to “let go” and kids confidence in self-management
 - Nagging from parents
 - Kids want more positive communication from their parents
 - Intentions to communicate effectively exist, however the frustration often prevails
- 3. Motivations to use an app**
 - Customization, interactivity and rewards
 - Tangible rewards were stated as the biggest motivator for app use
- 4. Feedback specific to our app**
 - Both kids and parents believe an app might aid in this transition

Focus Group A



Adolescents (n=12)

- Age: x = 18 (13-22)
- Duration of diagnosis: 8.4 years (2-15 years)
- Treatment: 8 = pump; 4 = insulin injections
- Sex: 8 females

Parents (n=9)

- Age: x= 47 (37-59)
- Sex: 8 females
- Treatment: 8=pump; 1=insulin

Focus Group B



Adolescents (n=5)

- Age: x = 11.5 (10-13)
- Duration of diagnosis: 4-6 years
- Treatment: 4 = pump; 1 = insulin injections
- Sex: 1 female; 4 males

Parents (n=7)

- Sex: 6 females; 1 male
- Treatment: 6= pump; 1= insulin

Demographics

Results

Adolescents

“It is so annoying. I hated it then. But now I am out of the house, I kinda wish that there was someone to nag me more.”

“The thing was, I would sort of get ashamed of doing my care especially in front of others or letting my friends know that I was diabetic every time we hung out.”

Parents

“I’m just trying to confirm that she’s doing what we agreed to, it seems like I don’t trust her. You know, so for her it’s kind of offensive when I’m looking up her history.”

“I try to be cognizant of the fact she is more than just a number. It’s not all about diabetes. She’s just a kid. But you need to know that to keep her healthy and safe.”

Adolescents

“It [managing T1D] is hard to do and I don’t know what to do.”

“I like to take care of my diabetes on my own because I’m kind of independent.”

“I don’t know how to do like the insulin and stuff. Like, I don’t know the division and I don’t know all the crazy like numbers and so they [parents] have to do the – so I think it’s really helpful that they know how to do it.”

Parents

“If you’re not going to take care of it, I have to. It’s not really threatening but it is what it is. It’s your decision. You take care of it, or I do. And you know what it means when I have to take care of it. It’s a lot more nagging.”

“[They lie] because they don’t want you to be disappointed, they don’t want you to be mad, they don’t want you yelling at them. So I think this [app] would take that whole scenario out of it.”

Quotes

Implications

- Parents should be educated on normal cognitive development and communication strategies
- Parental support is key throughout the transition process
- Social support tools for both parents and kids should be developed
- Customization, interactivity and rewards will encourage long-term use of an app for T1D