Developing a targeted, mobile-health technology (e-book) to promote self-care during diabetes transition

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Background

• For young adults with type 1 diabetes, transition from a pediatric to an adult care setting is a vulnerable period with risks for gaps in care.

• These emerging adults need to develop skills for managing their diabetes yet it is often challenging to cover all anticipatory guidance topics related to type 1 diabetes when they need it.

• Mobile health technologies such as smart-phones and tablets could potentially be an effective means for extending the reach of care for adolescents and young adults.

Aims & Objectives

In the context of a structured transition clinic, we hypothesized that by leveraging emerging adults’ facility with technology and marketing/design we could develop a user-friendly mobile health application facilitating diabetes self-care.

Aim: to develop a mobile health application (e-book) to promote self-care for emerging adults with type 1 diabetes and assess its acceptability.

Methods

• Development of the e-book was loosely structured on McGuire’s communication-persuasion matrix → factors that impact consumer behavior in response to messages.

• Chapters (i.e. 1-2 page lay texts) were developed by an interdisciplinary team (both pediatric/adult) focusing on young adult and self-care topics (not intended for the period of initial diagnosis) related to type 1 diabetes.

• A design team was involved to develop graphics and branding.

• Healthcare providers and transition patients were surveyed on acceptability.

Results

• We identified 28 topics (e-book chapters) spanning type 1 diabetes knowledge, self-management, nutrition & sport, and anticipatory guidance for young adults.

• The persuading factors include: source (expert stakeholders), message (diabetes education via stylized e-book), channel (private, tablet/smart-phone), and destination (effective health promotion communication), receiver (16-25 years, tech savvy).

Summary & next steps

✓ We successfully developed a novel e-book specifically targeted to the needs of young adults with type 1 diabetes.

✓ This project underscores the utility of a mobile health intervention that can be used privately as a real-time health promotion resource for facilitating self-care as well as an interactive tool to facilitate discussions with the health-care team.

✓ Formal patient acceptability study is ongoing

• ↑ initial acceptability ratings from providers (interdisciplinary team)

• Informal patient feedback → overwhelmingly positive during development