Type 1 Diabetes and Use of a Web-Based Telemedicine Application

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Abstract

Project Purpose: Increase patient compliance, satisfaction and communication between the school nurse, the school-based clinic, type 1 diabetic students and families at a moderate sized public Illinois high school using a web-based application, BlueLoop®.

Methodology: Parents, guardians and students within the selected moderate sized Illinois public high school diagnosed with type 1 diabetes were invited to an informational meeting to discuss the web-based application, BlueLoop®. Education was provided to everyone in attendance along with information on consent, assent and implementation of BlueLoop®. Once required documentation had been obtained, interested parties were educated on BlueLoop® and its use. BlueLoop® use was initiated and continued until the end of the semester; however, parties were able to stop use at any time they desire. Individual interviews were held at the conclusion of the semester to discuss each person’s assessment of BlueLoop®’s ease of use, communication and if they choose to continue use. The interviews were held separately and recorded. The recordings were then transcribed, and common themes were noted along with direct quotes from all parties involved.

Participants: Three of the five diagnosed type 1 diabetic students and families within the moderate sized Illinois public high school elected to participate.

Findings: 100% of the participants reported satisfaction with use of the web-based application, desired to continue its use and felt that communication was increased in comparison to the previous protocol. Two students have chosen to not participate in the project and of those students one continues to use the previous method and the other student, and their family have chosen to not use either method nor do they communicate with the public high school regarding the student’s type 1 diagnosis. Students have continued the use of BlueLoop® throughout the spring semester. Incoming freshmen and students will be given the option of using BlueLoop® and a policy and procedure has been written and accepted by the school administration.

Key Words: Type 1 Diabetes, Web-based application, BlueLoop®

References:

BlueLoop Stay in the Loop. Retrieved from https://blueloop.mycareconnect.com/

Abstract Summary:
This project focuses on the implementation of a web-based application in the type 1 diabetic population within a moderately sized public high school in Southern Illinois. The project was done with three students consisting of male, females, Caucasian, Hispanic, and Mixed descent.

Content Outline:
Type 1 Diabetes and Use of Web-Based Telemedicine Application Content Outline

1. Introduction
   1. Definition of type 1 diabetes
   2. Definition of local problem
   3. Problem significance
   4. Problem Purpose
   5. Definition of terms
2. Theoretical Framework
   1. Definition of Expanded Health Belief Model
   2. Significance of Expanded Health Belief Model to project

- Review of Literature
  1. Type 1 Diabetes
  2. Diabetes in Adolescents
  3. Management and Interventions for Adolescents with Type 1 diabetes
  4. Multidisciplinary Team


5. Adolescent Health and Quality of Life
6. School administration of insulin and monitoring of Type 1 diabetes
7. Use of technology in management of type 1 diabetes

1. Project
   1. Design of project
   2. Sample and stakeholders
   3. Outcome measures
   4. Procedure for project and data collection
   5. Human Subjects
   6. Data analysis/evaluations plan
   7. Timeline and Needed resources

2. Conclusion
   1. Summary of project
   2. Discussion of implementation/findings
   3. Limitations
   4. Conclusions
   5. Recommendations for research, education and/or practice

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Professional Experience: I have worked as a nurse practitioner for over ten years and as a nurse for over 16 years. My most recent work is within a school-based health center in a moderately sized public high school. The position requires that the nurse practitioner work with school administrators, teachers, students, families and the community to increase the health, attendance and health of all parties. This role lead me to see the frustration of type 1 diabetic students along with their parents and teaching staff. Frustration is the often the catalyst for design and innovation.

Author Summary: Felicia Kimbrough is a nurse practitioner within a school based health center. Felicia graduated with a BSN from Murray State University in 2001 and went on to complete her Masters degree in 2007 with a certification for family nurse practitioner. She is a 2018 graduate from Southern Illinois University Edwardsville. She was recently awarded Outstanding Doctoral Student Academic Achievement Award along with Sigma Theta Tau Epsilon Eta "Rising Star" Researcher.