DIABETES MELLITUS, TYPE 2 SELF EFFICACY EDUCATION

Kathryn M. Rikard, RN, BSN
Sinclair School of Nursing
University of Missouri-Columbia

INTRODUCTION

Diabetes effects millions around the world and is responsible for 73,000 deaths per year. (CDC, 2015). Without proper management, diabetics are at risk for heart disease, strokes, amputations, kidney failure, blindness and death. The American Diabetes Association sets recommendations for providers and diabetics to manage the disease, however some diabetics do not have the self-efficacy to follow these recommendations daily.

Improved self-efficacy is associated with improved self-care and better controlled diabetes (King et al., 2010).

Effective strategies for improving self-efficacy among diabetics:

- Individualized education can improve self-efficacy and self-care (Ludman et al., 2014; Cinar & Schou, 2014)
- Barrier identification and problem solving can improve self-efficacy, self-care and lower HgbA1c levels (Tang et al., 2014; Shi Outwald, & Wang, 2010; Shi et al., 2009; Lorig et al., 2010)

PURPOSE

The purpose of this project is to implement a diabetic education program aimed to improve self-efficacy among type 2 diabetics in a primary care office. The program includes individual barrier identification and problem solving activities to increase self-efficacy among the diabetic.

PICO: Among adults ages 18 years and older diagnosed with diabetes mellitus, type 2 (T2), how does an individualized self-efficacy education program provided by primary care providers (I) affect self-efficacy (O) after two weeks (T)?

OBJECTIVES

Primary Objective

In improvement in overall self-efficacy as shown by increased scores on Self-Efficacy for Diabetes questionnaire.

Secondary Objectives

Improvements in self-efficacy among subcategories including diet, exercise, and disease management.

MATERIALS AND METHODS

- **Pre-Intervention:**
  - Program occurred at a primary care office in the St. Louis metropolitan area
  - Thirty participants were recruited using the convenience sample method during their regularly scheduled office visit.
  - Participants completed a baseline Self-Efficacy for Diabetes questionnaire

- **Intervention:**
  - Participants received a 20 minute self-efficacy education guided by a power-point presentation
  - ADA (2014) self-care recommendations were reviewed
  - Identification of barriers to diabetic self-efficacy occurred
  - The DNP student and participants problem solved to find solutions to identified barriers.

- **Post-Intervention:**
  - Participants were mailed a post-intervention Self-Efficacy for Diabetes questionnaire 2 weeks after the education session
  - Participants received a 20 minute self-efficacy education guided by a power-point presentation

- **Analysis:**
  - Twenty-five post-intervention surveys were returned and compared to the baseline surveys for analysis.

RESULTS

Primary Objective:

Statistically and clinically significant improvements in overall self-efficacy of self-management among type 2 diabetics as scores on the Self-Efficacy for Diabetes questionnaire improved almost 8 points (t(24)=3.11, p < .005, 95% CI [11.39, 2.28], d = .6)

Secondary Objectives:

- **Diet:** There were clinically significant improvements in confidence with eating every four to five hours including breakfast (t(24)=3.57, p < .005, 95% CI [-1.67, .25]), (d = .3) and following the appropriate diet when preparing food with others (t(24)=-3.3, p < .005, 95% CI [-1.86, 0.39], d = .6). There were statistically and clinically significant improvements in confidence in choosing appropriate foods when hungry (t(24)=-3.53, p < .005, 95% CI [-1.86, 0.39], d = .6).
- **Exercise:** There was a clinically significant improvement in exercising 15 to 30 minutes four to five times per week (t(24)=-1.69, p =.1, 95% CI [-1.95, 0.19], d = .3). Disease Management: There were statistically and clinically significant improvements in confidence knowing what to do when blood sugar is higher or lower than normal (t(24)=3.41, p < .002, 95% CI [-3.08, -0.76], d = .7) and when changing in one’s illness means visiting the doctor (t(24)=-2.34, p < .028, 95% CI [-1.58, -0.1], d = .5). There was also a clinically significant improvement in confidence in controlling one’s diabetes so that it does not interfere with activities (t(24)=1.75, p < .09, 95% CI [-0.56, 0.08], d = .3).

CONCLUSIONS

- Individualized self-efficacy education program was found to be effective at improving self-efficacy among type 2 diabetics age 18 years or older.
- The individualized self-efficacy program was also shown to improve self-efficacy related to diet, exercise, and disease management.
- Strengths of this project include statistical and/or clinical significance in most outcomes.
- Limitations of this project includes a small sample size and number lost to follow up.
- Recommendations for future projects include expanding education to several different sessions covering self-care topics and individual barriers more in-depth and to have the diabetic answer the initial survey with the healthcare participant as it sparks conversation and elicits the concerns of the diabetic.

ACKNOWLEDGEMENTS

The project’s author would like thank her doctoral committee chair, Miriam D. Butler, DNP, NP-C, FNP-BC; committee members, Lila Pennington, DNP, APNP, FNP/GNP-BC and Maria L. Walls, ANP; Dr. Jan Sherman for statistical support; West County Medical Associates for allowing a setting for this project to take place.

REFERENCES

- Cinar & Schou, 2014
- Cinar & Schou, 2014
- Ludman et al., 2014
- Tang, T. S., Ludman, E., et al. (2014). Individualized self-efficacy program was found to be effective at improving self-efficacy among type 2 diabetics age 18 years or older.
- Tang, T. S., Ludman, E., et al. (2014). Individualized self-efficacy program was found to be effective at improving self-efficacy among type 2 diabetics age 18 years or older.