

## Innovative Diabetes Patient Education for Better Blood Sugar Control

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# Background

- Type 2 diabetes is a chronic disease associated with elevated levels of sugar in the blood.
- The increase healthcare spending involved in managing complications of diabetes, and the need for patient's better quality of life requires good control of diabetes.
- According to National Diabetes Statistics Report (NDSR), about 29.1 million people who are 9.3% of the United States (US) population have diabetes disease.
- There are 21.0 million people, who are currently diagnosed, 8.1 million people are undiagnosed (NDSR, 2014).

## Purpose of Study

- To develop an innovative diabetes patient education to help patients learn self-management skills for better glucose control
- The goal was to educate diabetic patients on glucose control through a sustainable dietary plan, weight control education, for better glucose levels

#### **The Question Guiding Inquiry (PICOT)**

In patients with type 2 diabetes (P) how effective is an innovated diabetic patient education, focusing on diet and weight management (I) in controlling diabetes and improving blood glucose numbers (O) over a 6 week period (T)



## Methodology

- **Study Design**: A non- experimental randomization design pilot project.
- **Population**: Thirty (30) participants from a rural community clinic in the mid-western, United States participated in the pilot study.
- Ages: 20 to 65
- All participants were diagnosed with type 2 Diabetes
- 50% of the participants were male
- 50% were female

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### Methodology Institutional Review Board Approval:

- This Study was approved by Wilkes University IRB where investigator enrolled as a Doctorate Student
- Written permission to carry out the project was received from the institution where the project was conducted
- **Informed consent**: Participants were given an invitational letter; they completed and returned an informed consent for this pilot study.
- Participants completed a demographic form; and had their pre-blood sugar, pre-weight and pre-BMI taken and documented

## Methodology

#### **Participants:**

- Signed consent forms and fill demographic information
- Were given a pre-test
- Received bi-weekly face to face teaching sessions, on diet plans that mainly focused on weight loss, exercise, and blood sugar control
- Received weekly telephone follow up calls by the investigator
- Were also encouraged to exercise 30 minutes at least 5 times per week
- At the end of 6 weeks, weights, BMI's and blood sugars were rechecked and compared with previous values.
- Participants were given a posttest and a confidence test



## Data Analysis

- Data was analyzed using the Statistical Package for the Social Sciences (SPSS) version 21.0
- Using Munro's statistical methods for health care research, frequencies and percentages were calculated for the demographic variables.
- Paired samples T Tests were conducted to determine whether statistically significant differences exist between pre and post groups.

#### Results

Findings indicated that there were clinically significant differences, at the .05 significance level, in pretest to posttest scores for weight, BMI, and blood glucose.



#### **Results: Pre/Post Mean Scores for Weight/BMI/Blood Glucose**





### Results





## **Implications for Practice**

- Empowering diabetic patients will improve their selfawareness, self-esteem and involvement in their care
- DNP must continue to strategize and provide venues to ensure the development of patient confidence to continue to promote control over their everyday living and control of diabetes
  Doctoral Essentials
- Scientific Underpinnings for Practice
- Clinical Scholarship and Analytical Methods for Evidence-Based Practice
- Clinical Prevention and Population Health for Improving the Nation's Health
- Advanced Nursing Practice

### References

- Wattanakul (2012): Diabetes self-efficacy and risk perceptions were among the strongest explanatory variables for self- care behaviors within the participants.
- Ozgul (2015): empowerment is an efficient strategy in diabetes patient education
- Wu et al., (2014): There is great importance on patient education focusing on total lifestyle activities for self-management of type 2 diabetes

