Improving Fasting Blood Glucose Levels in Patients With Type 2 Diabetes Through the Use of the Diabetes Self-Management Education and Support Program

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PROBLEM STATEMENT

❖ Poor management of diabetes can result in increased fasting blood glucose (FBG) levels. [1]
❖ Management of type 2 diabetes should consist of both pharmacological therapy and lifestyle modifications to reach the target FBG level of less than 126 mg/dL. [2]

PROJECT PURPOSE

❖ **Project Purpose:** Improve daily FBG levels and glycemic control using the diabetes self-management education and support program
❖ **Overarching Aim:** Support the evidence that the Diabetes Self Management Questionnaire (DSMQ) is a reliable and valid instrument and enables an efficient assessment of self-care behaviors associated with glycemic control
❖ **Clinical Question:** In adult patients 18 years of age or older with type 2 diabetes mellitus, will the implementation of the DSMES program improve FBG levels and self-care behaviors within a three-month period when compared to current practice?

MODEL/NURSING THEORY

❖ **John Hopkins Nursing Evidence Base Practice (EBP) Model-Three-phase process:**
   ➢ Identify the clinical problem
   ➢ Perform literature review
   ➢ Translate theory into clinical practice

METHODS

❖ **Participants**
   ➢ 33 patients participated in the EBP project; however, 25 of them were lost to follow-up.
   ➢ Inclusion criteria: FBG of 154mg/dL or greater, 18 years or older, and type 2 diabetes mellitus
❖ **Setting**
   ➢ Family practice clinic in Central Florida
❖ **Instruments/Tools**
   ➢ DSMQ to assess self-care behaviors
❖ **Intervention and Data Collection**
   ➢ Administer the DSMQ to assess self-care and relative behaviors
   ➢ Provide patients with daily reminders to capture real-time FBG levels
❖ **Data Analysis**
   ➢ Descriptive statistics
   ➢ Levenne's test for equality of variances

RESULTS
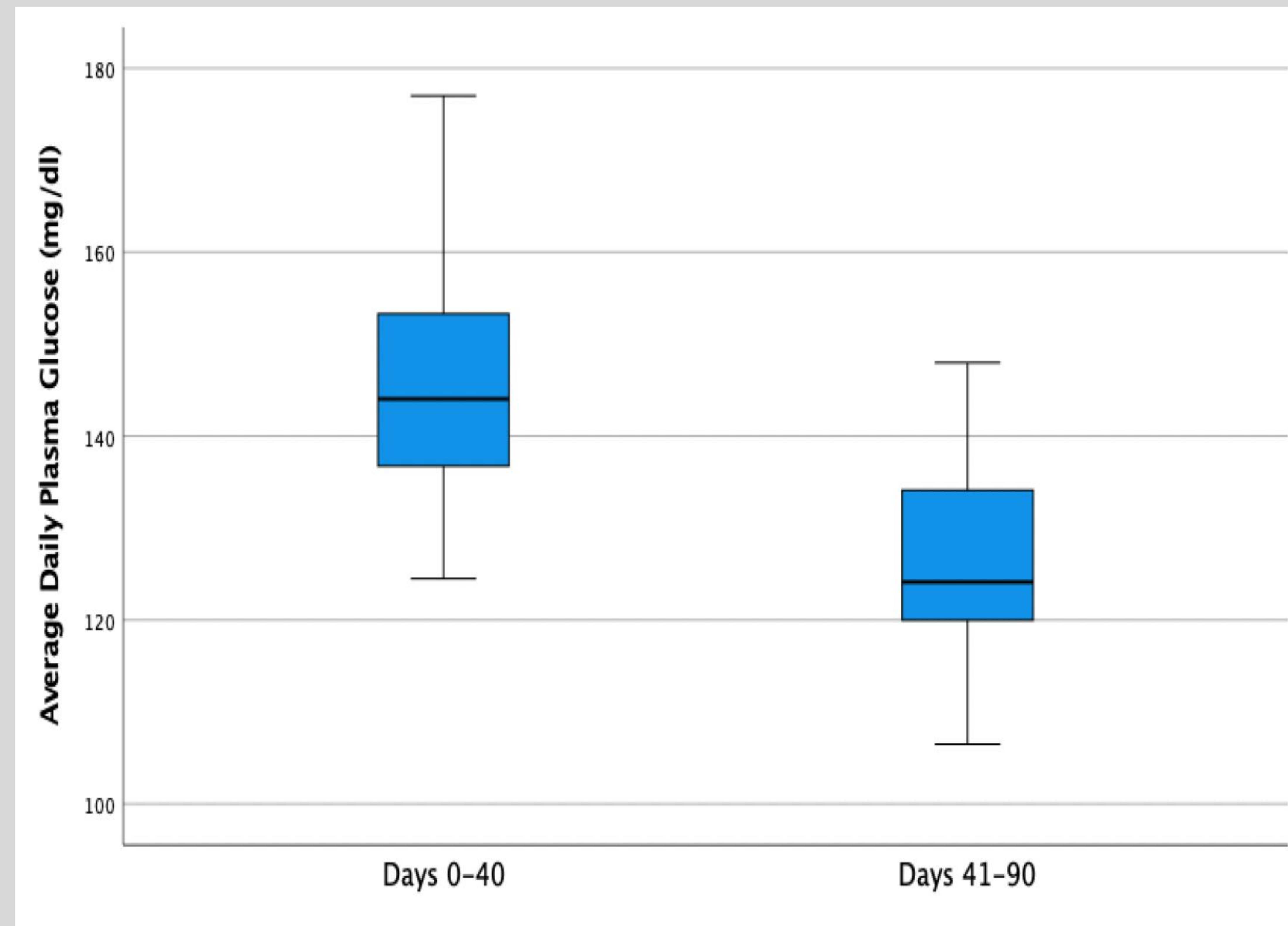
❖ There was a steady increase in FBG levels on days 0-10; however, the FBG levels gradually decreased on days 41-90.
❖ When comparing the last 50 days to the first 40 days, the mean plasma glucose levels were 19.8 points lower ($SE = 2.4$), which was statistically significant ($t = 8.3$, $p < .001$).

DISCUSSION

❖ The implementation of daily diabetes self-management behaviors has shown a significant reduction in daily FBG levels.
❖ This project has substantially impacted patients' overall health, improve FBG levels, increase the quality of life, and promote patient empowerment in terms of chronic diabetes.[3]

IMPLICATIONS FOR ADVANCED PRACTICE NURSING

❖ Nurse practitioners should incorporate the DSMES in every new patient encounter.
❖ Nurse practitioners should have patients complete a pre-screening tool to assess self-care behaviors associated with glycemic control.

SUSTAINABILITY

❖ Every patient with new-onset type 2 diabetes at the clinic will receive a diabetes log, diabetes management counseling, and seven quick reminder tools from the DSMES to help guide and create behavior changes.

REFERENCES

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