

Diabetes Mellitus Type 2: A Quality Improvement and Patient Safety Initiative

By

Dr. Remeliza N. Tukay, APRN, DNP, FNP-BC, NP-C, CCRN

Introduction

- Diabetes Mellitus (DM) type 2
 - Major healthcare dilemma
 - Generates massive national and global economic disagreement
 - Affects 25.6 million Americans

Problem Statement

- Economic Burden of DM
 - Estimated direct medical expenditure: \$176 billion
 - Diminished productivity expenditure: \$69 billion
 - Total expenditure: \$245 billion
- In the VA
 - One in four veterans have DM
 - 25 percent of the VA's population is affected
 - Three-quarters of veterans are overweight
 - Nearly 40 percent are obese
 - Attributed to the older average age of veterans
 - Unique to Vietnam veterans' exposure to "Agent Orange"
 - High poorly controlled HgbA1C of >9.0% at 84% as compared to the national target of 81%, per Performance Measure

Target Population

- LPNs and RNs assigned to the two PACT teams
- The ten targeted patients with uncontrolled DM type 2 from each PACT teams

Project Design/Methods

- Pre-test and post-test questionnaire will be completed by the nurses
- Pre-test and post-test questionnaire will also be completed by patients
- Proper selection of appropriate, current, organized and standardized DM type 2 teaching materials and references
- Modified according to specific patient's learning preferences, situations, barriers and condition

Objectives

- 1) To improve the knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic
- 2) To evaluate the outcomes of nursing teaching by assessing the self-care management knowledge, skills and confidence of patients with DM type 2 after receiving subsequent nursing teaching intervention
- 3) To examine the relationship between improved nursing education regarding DM type 2 self-care management and the HgbA1C of patients with uncontrolled diabetes at the VA primary care

Relevance to Practice

- Expand nurses' educator and patient advocate roles
- Educate patients about self-care management to develop and expand problem-solving and coping skills
- Self-care management support and education within a collaborative and integrated team approach framework
- Promote behavior transformation, maintain healthy behaviors, and tackle psychosocial concerns
- QI project will create a positive impact in nursing practice by encouraging nurses to be more proactive in diabetes care, prevention and control of DM type 2

Results

- 1) Post-test demonstrated considerable increase in the nurses' skills competency and benefitted from the educational intervention
- 2) t test demonstrated a statistically significant increase in confidence in sharing information in small chunks, guiding patients toward healthy choices, setting goals collaboratively, exploring barriers, and problem-solving to address barriers
- 3) PACT team's nurses demonstrated readiness to make changes in promoting patients' health behavior changes
- 4) The post-test demonstrated that some patients have increased tendencies to be overwhelmed living with diabetes and are not skilled in coping with diabetes
- 5) The post-test improved diabetes knowledge of patients
- 6) The post-test demonstrates that patients truly experienced barriers to adherence affecting their coping with chronic disease

Results (continued)

- 7) The t-test found a statistically significant increase in patients' confidence in coping with diabetes at post-test: confidence in keeping fatigue caused by diabetes from interfering with things they want to do, confidence in keeping the physical discomfort of pain caused by diabetes from interfering with the things they want to do, confidence in keeping the emotional distress caused by diabetes from interfering with the things they want to do, confidence in keeping any other symptom or health problem they have from interfering with the things they want to do, confidence in performing different tasks and activities needed to manage diabetes to reduce need to see a doctor, and confidence in performing things other than just taking medication to reduce how much diabetes affects their everyday life
- 8) The patients' post test data showed statistically significant increase in Confidence Ruler
- 9) The overall result of the project initiative demonstrated that improving the DM type 2 self-care management nursing education incorporating TEACH and MI strategies and techniques improved the uncontrolled HgbA1C of patients with DM type 2, thereby decreasing the number of patients with poorly controlled HgbA1C

Summary and Conclusions

- 1) The nursing education program improved the knowledge, proficiency, confidence and efficiency of nurses in teaching patients with DM who have uncontrolled HgbA1C in the primary care clinic
- 2) Has improved the self-care management knowledge, skills, and confidence of patients with DM type 2 after receiving subsequent nursing teaching intervention
- 3) Has shown decreased in the elevated HgbA1C of patients with diabetes type 2
- 4) Has shown various implications in policy development, practice, research and social change
- 5) Nurses are able to provide ongoing and continued diabetes self-management support and diabetes self-management education
- 6) Implementation of the QI project created a positive impact in nursing practice through the nurses' proactive role in diabetes care, and the prevention and control of DM type 2
- 7) The QI project reported the importance of improved communication, coordination and teamwork among patients and their PACT team, emphasized the consideration of the various barriers and gaps in patients' behavior transformation and diabetes management, and the positive impact of the proactive roles of nurses and their PACT team in diabetes outcome