

POORLY CONTROLLED DIABETES & EDUCATION INTERVENTION

Brief Patient Educational Intervention to Improve Medication Adherence and Glycemic Control
in Adults with Persistent, Poorly Controlled Type 2 diabetes: A Quality Improvement Project

Abstract

Chibuzo U. Nwigbo

Johns Hopkins School of Nursing

On my honor, I pledge that I have neither given nor received any unauthorized assistance on this
paper. April 11, 2021, Chibuzo U. Nwigbo.

Abstract

Background and Purpose: Adults with diabetes are at a 60% higher risk of early death than adults without diabetes. Diabetes medication nonadherence due to inadequate knowledge leads to poor glucose control and costly complications. The purpose of this quality improvement project was to implement a brief educational medication intervention with an informational leaflet and teach-back method patient counseling during office visits to improve medication knowledge, medication nonadherence, and glycemic control in adults with poorly controlled type 2 diabetes.

Methods: The project utilized a 1-group pre-and post-survey design comparing diabetes medication knowledge and diabetes medication nonadherence at baseline and 12 weeks after the intervention. Blood glucose time-in-range (BG TIR) data were compared at baseline, 2-weeks, and 12-weeks after the intervention. Fifteen participants that met the inclusion and exclusion criteria were recruited from a diabetes center. The intervention was conducted one time during a diabetes telemedicine visit using a 2-page educational leaflet with teach-back method counseling.

Results: The medication knowledge mean score before and after the intervention was 5.43 and 7.57 ($p= 0.00$). There was a decrease in medication adherence before and after the intervention ($p= 0.41$). The top reason for medication nonadherence before and after the intervention was forgetfulness, 20%, and 50%. The mean BG TIR increased 9.39% and 4.67% from baseline at 2-weeks and 12-weeks after the intervention ($p= 0.16$, and $p= 0.50$).

Conclusions: Overall, the findings show an improvement in diabetes medication knowledge and a clinically significant short-term improvement in BG TIR following the intervention. Results suggest an intervention other than education to improve medication adherence.

Implications: If sustained the short-term improvement in BG TIR is desirable in reducing DM complications. Future projects using a larger sample size in a physical clinic setting and with more than a one-time educational session may have a statistically significant and clinically significant long-term improvement in BG TIR, medication adherence.

Keywords: Poorly Controlled Diabetes, Medication Adherence, Medication Knowledge, Time-In-Range, Education Intervention