Reducing Readmission Rates Among Diabetic Patients by Using Transition of Care Protocol

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Introduction

- Diabetes Mellitus (DM) affects more than 30 million Americans, from which up to 22.7% are readmitted to hospitals within 30 days of discharge (Rains, 2020).
- Readmissions related to diabetes are higher than all hospital readmission (14.4% - 22.7% vs 8.5% -13.5%) (Rains, 2020).
- Hospital readmissions increase healthcare costs, the risk of mortality, and reflect poorly on the hospital's care quality, hence need to be reduced (Harkness, 2020).
- Patients diagnosed with DM are more likely to experience complications before and after hospital discharge, which contributes to readmissions (Rubin, 2015).
- Inadequate care coordination, communication lapses, and lack of standard discharge procedures cause re-admissions in diabetic patients (Garnica, 2017).
- The quality improvement project was implemented in a managed care setting with high readmissions rates in diabetic patients and no standard discharge protocol.

PICOT Question and Objectives

PICOT

- In case managers and care coordinators (P), how does the use of a TOC protocol (I) compared to the current practice without TOC protocol (C) reduce the readmission rates for patients diagnosed with DM (O) within 4-5 weeks (T)?

Objectives

- To design and implement a collaborative nursing transition protocol among case management care coordination departments.
- Educate the providers (Care coordinators [CCs] and Case Managers [CMs]) on the new TOC protocol.
- Improve providers' knowledge and attitudes regarding TOC of DM patients.
- Evaluate compliance of providers in utilizing the TOC protocol within four weeks of implementation.
- Evaluate the intervention's effect on readmission rates.

Transitional Care Protocol

i. The discharge protocol:

- Case management department is notified of acute discharge and receive documentation within 24 hours.
- Patient assigned to a CM based on the zip code, who notifies the CC manager of the discharge. A 72-hour post-discharge assessment is arranged.

ii. The post-discharge assessment involves reviewing patient symptoms and self-management knowledge and addressing aftercare follow-up with nutritionists, PCPs, if need be and prescription reconciliation.

iii. The TOC protocol also included six-week post-discharge assessment and post-six-week monitoring plans.

Materials and Methods

Week 1

- Collect pre-test data.
- Conduct 2-hour education sessions.
- Collect post-test data for knowledge and attitudes towards the TOC protocol.

Weeks 2 – 4

- Implement the TOC.
- Chart audits on adherence conducted at the beginning of each week.

Week 5

- Final data collection.
- Fourth chart audit and compilation for assessing TOC adherence.
- Collect post-implementation readmissions data.

Design

- A one-group pre-test/post-test experimental design.

Sample:

- Sixty *(n* = 30*)* nurses: 45 CCs and 15 CMs

Setting.

- Managed Care Organization located in the Southeast area of Dallas, Texas serving more than 50,000 patients annually.

Measures

- Participants change in knowledge and attitudes regarding the TOC protocol and its use.
- Readmission rates in diabetic patients discharged from the facility.
- Participant's adherence to the use of the TOC protocol.

Analysis

- SPSS was used for the analysis.
- Readmission rates before and after the intervention were compared using Fisher's exact test.
- Pre and post-test survey results were compared using a paired sample t-test to assess the difference in the pre and post-test knowledge and attitudes.
- The compliance rate was measured weekly in percentages to represent the providers who appropriately used the TOC when discharging patients

Results

Table 1
Comparison of Participant Test-scores before and after They were Educated.

Test	Mean	Std. dev	Mean diff	Std. dev	95% CI		T	DF	Sig. 2-tailed
					Lower	Upper			
Pre	96.33	8.823	-3.167	7.700	-5.156	-1.177	-3.185	59	.002
Post	99.50	2.867							

The post-implementation readmission rates were lower than those recorded before the intervention although the difference was not statistically significant (p =202).
The participants' knowledge and attitudes regarding the TOC improved by (M = 3.17, SD = 7.7; t (59) = -3.185, p = 0.002) indicating that the intervention was effective in improving the participants' attitudes and knowledge.
The chart review results indicated a 60% compliance rate.

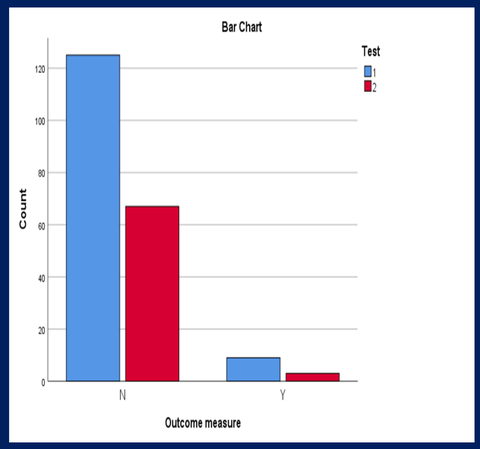

Figure 1: Differences in the readmission rates before and after the intervention

Discussion

- Educating the providers on the use of the TOC protocol led to an increase in their knowledge of the transitional care necessary for patients with diabetes to prevent re-hospitalizations.
- Additionally, the project implementation led to adoption of the use of the TOC protocol at the project setting.
- The overall compliance rate was 60%.Hoowever, non-compliance was only observed in the first assessment. The subsequent assessments indicated 100% compliance.

Discussion and Conclusions

- The findings are similar to previous studies except for the lack of statistical significance in the reduction of readmission rates.
- The readmission timelines for the pre and post-implementation assessment differed, which could have affected the validity of the results.
- The findings indicated significant improvements in the knowledge levels and attitudes of the case managers and care coordinators who were educated on the protocol's use.
- Implementing the intervention also led to practice change among the care coordinators and case managers to indicate adoption and adhered use of the TOC protocol when handling discharge procedures for DM patients as indicated by patient chart audits.
- The readmission rates for DM patients reduced after the intervention compared to a month prior, although the change was not statistically significant. The short project timeline limited an evaluation of long-term adherence in the use of the TOC protocol as well as trends in the readmission rates for patients with DM.
- Recommendations for practice include sustained use of the protocol and annual education for the nursing staff to refresh their knowledge and awareness of the need for transitional care protocols.

References

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