

REDUCING HYPOGLYCEMIA EVENTS IN SURGERY PATIENTS WITH DIABETES: AN INTERDISCIPLINARY TEAM INTERVENTION

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INTRODUCTION

- Hypoglycemia due to inadequate carbohydrate intake is a frequent complication of insulin treatment of patients with diabetes.
- Hypoglycemia events in post-operative patients with diabetes are associated with a significant risk of increased postoperative morbidity and long-term all-cause mortality.

OBJECTIVE

- To reduce hypoglycemic events in post-operative surgery patients by ensuring all patients with diabetes are covered with insulin prior to eating breakfast.

SETTING AND PATIENT POPULATION

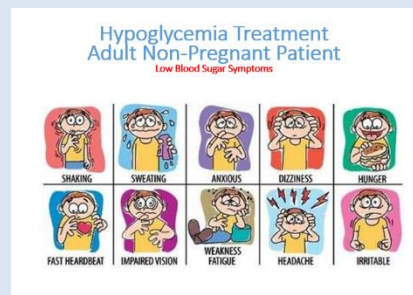
- Post-operative surgery patients with diabetes on a 30-bed surgery unit in an acute care hospital.

PRE-INTERVENTION

- Obtain hypoglycemia event % for 3 months pre-intervention (November 2021-January 2022).
- Have patients with diabetes (n=17) and nursing staff (n=10) complete surveys to assess perceptions of breakfast insulin coverage, dietary compliance and interdisciplinary team collaboration between Nursing, Diabetes Education, Food and Nutrition.
- Surveys revealed the following:
 - Patients stated that blood sugars are being appropriately checked.
 - Patients are not always waiting on their insulin to be administered before eating.
 - At times, insulin is administered after the patient has started eating
 - There is variability of time of when Food & Nutrition arrives on to the unit.

INTERVENTION

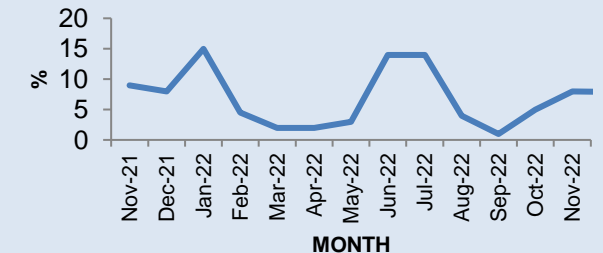
- Based upon the results of the surveys, the following interventions were implemented at the beginning of February 2022:
 - Inpatient Diabetes Care and Education Specialist** -> in-service with diabetes care and education specialist at morning huddles, reinforcement of use of already established diabetes pocket guide, and discussion of hypoglycemic events at morning/night team huddles.
 - Nurse-Patient Education** -> educating patients on importance of waiting to have blood glucose checked and insulin administered prior eating breakfast to prevent huge fluctuations in blood sugars as well as reducing the number of finger sticks.
 - Diabetes Log** -> creation of daily log that is updated daily and visible to all staff to help identify patients with diabetes, so that blood sugars can be checked on all patients with diabetes prior to eating breakfast.
 - Food & Nutrition Phone Call** -> phone call to the unit to notify staff that breakfast is on the way to the unit to allow blood sugars to be checked in a timely manner.



Room	Last Visit	Time	Glucose	Insulin	Notes
345 A					
345 B					
345 C					
345 D					
345 E					
345 F					
345 G					
345 H					
345 I					
345 J					
345 K					
345 L					
345 M					
345 N					
345 O					
345 P					
345 Q					
345 R					
345 S					
345 T					
345 U					
345 V					
345 W					
345 X					
345 Y					
345 Z					

RESULTS

- Pre-intervention hypoglycemia rates were 9% (n=53) in November 2021, 8% (n=72) in December 2021 (n=60) and 15% in January 2022.
- 3 months post intervention start, hypoglycemia rates were 4% (n=46) in February 2022, 2% (n=53) in March 2022 (n=62) and 2% in April 2022.
- Hypoglycemia rates in May and June 2022 was 14% (n=59, n=57), which was reflective of increased staff RN turnover and orientation.
- Hypoglycemia rates decreased from 15% prior to intervention to 2%, 4% and 8% at 3, 6 and 9 months after post intervention start respectively.



CONCLUSION

- Reducing hypoglycemic events in surgical patients with diabetes helps to reduce postoperative complications, morbidity and length of stay.
- A multifaceted interdisciplinary team intervention centered around collaboration can help reduce hypoglycemia events

REFERENCES

Lowden E, Schmidt K, Mulla I, Andrei AC, Cashy J, Oakes DJ, Aleppo G, Grady KL, Wallia A, Molitch ME. Evaluation Of Outcomes And Complications In Patients Who Experience Hypoglycemia After Cardiac Surgery. Endocr Pract. 2017 Jan;23(1):46-55. doi: 10.4158/EP161427.OR. Epub 2016 Sep 28. PMID: 27682356.