# Preventing Hypoglycemia: Benefits of Administering Bedtime Snacks

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**6 Acute Care**

## Introduction

Nurses frequently encounter patients who have uncontrolled DM and may have hypoglycemic episodes in the morning hours. Our goal was to educate our nursing colleagues regarding the benefit of administering bedtime snacks to prevent morning hypoglycemia. To further investigate this issue we surveyed our peers and discovered that, while most RNs perceived that they had treated morning hypoglycemic episodes, bedtime snacks were not consistently ordered by MDs.

## PICO

**P:** Adult Inpatient Diabetics Receiving Insulin

**I:** Giving Diabetic Appropriate Bedtime Snacks

**C:** Standard of Administering Bedtime Snacks Versus Current Hospital Practice

**O:** Prevention of Morning Hypoglycemia

**Question:** Does providing an evening snack prevent early morning hypoglycemic episodes?

## Methods

A literature search was conducted to include the following Databases:

•CINAHL, PubMed, EBSCO Host

The search terms used included:

•Hypoglycemia

•Inpatient Diabetic

•Bedtime Snacks

## Results

From the Literature Search, 7 Articles were found, only 2 Articles were relevant the PICO question.

•Literature Review - 1

•Random Control Trial - 1

Interviews with Diabetic Nurse Educators were also used.

## RN Survey Comments

- 100% of RNs surveyed stated they had treated morning hypoglycemia within the last month.
- There is limited access to snacks on night shift and weekends
- Nurses perceive that diabetic patients are dissatisfied with snack options
- RN's believe that they should be more proactive in discussing adjustment of insulin doses with the medical teams when a pattern of morning hypoglycemia arises.

PENN STATE University Libraries. Evidenced Based Practice Tutorial for Nurses. http://www.libraries.psu.edu/instruction/ebpt/learnmore/triad.htm

## Diabetic Care Journal

Randomized Placebo Control Trial:

•4 Different Snacks Administered to Diabetics

- •Orange Juice (Placebo)
- •White Bread and Cheese
- •2 Starch, 1 Protein
- •Cornstarch Dissolved in Drink

•Findings - Hypoglycemic Incidents Occur with No Snack and Sugar Less than 7mmol/L

•Conversion from mmol/L to mg/dL

- •10mmol/L = 180mg/dL
- •7mmol/L = 126mg/dL
- •5mmol/L = 90mg/dL

•Conclusion – Sugars greater than 10mmol/L, patient's get no snack; sugars 7-10mmol/L, patient's get any snack; sugars less than 7mmol/L, patient's get standard or protein snack

## Southern Medical Journal

Literature Review:

•Healthy Individuals experience Neurogenic Symptoms of Hypoglycemia at 68 mg/dl while Diabetics experience these Symptoms at a much lower level.

•Incorrect Insulin Doses and Mixtures of Long and Immediate Acting Insulin's Account for the Majority of Nocturnal Hypoglycemia.

•Nocturnal Hypoglycemia often goes Undetected because the Diabetic Patient does not awake from the Symptoms which accounts from Inconsistencies in data.

## Interview with Clinical Expert

Interview with Jennifer Young, Diabetic Nurse Educator revealed best current practice:

• Monitor Patients' Morning Glucose Levels for a History of Hypoglycemia and Discuss the Option of Adjusting Insulin Dosing with Doctors if there Seems to be Hypoglycemia on a Continuous Basis

• Previous Bedtime Snacks were Done Away with due to Cost – not being administered to patients

• Patient's Receiving 70/30 (N/R) or 50/50 (N/R) Mixed Insulin's Qualify for Bedtime Snacks Due To These Insulin's Actions

• Appropriate Bedtime "Snacks" consist of 15gms of Carbohydrates. Additional Snacks are RN Orders as a Communication to Dietary.

- •3 Graham Crackers, 2/3 Cup Applesauce, ½ Cup Non Fat Ice Cream, 8oz. Milk, ½ Cup Sugar Free Pudding

## Conclusions

Due to the lack of research articles pertinent to the PICO question, we were unable to draw a clear conclusion and initiate a policy/protocol for the floor. We were able to educate RNs and PCAs on the snacks already available on 6AC that were appropriate for our Diabetic population. Furthermore, RNs should be more proactive in addressing the adjustment of insulin levels with MDs to prevent morning Hypoglycemia if a pattern is documented. Further research will need to be performed on this topic.

## References

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Kalergis, M., Schiffrin, A., Gougeon, R., Jones, P. J. H., & Jean-Francois Yale. (2003). *Impact of bedtime snack composition on prevention of nocturnal hypoglycemia in adults with type 1 diabetes undergoing intensive I nsulin management using lispro insulin*. Diabetes Care, 26(1), 9-15. Retrieved from http://search.proquest.com/docview/220142449?accountid=13158.