Introduction

- Hospital admissions for severe hypoglycemia are associated with significant healthcare costs, decreased quality of life, and increased morbidity and mortality, especially for older adults with diabetes.

- Understanding the reasons for hypoglycemia hospitalization is essential for the development of effective interventions, yet the factors and precipitants in older adults are not well understood.

Research Questions

1. What is the experience of patients who have been hospitalized for severe hypoglycemia?
2. To what factors/causes do patients attribute their hypoglycemic event?

Methods

Design: qualitative study using one-on-one, in-depth, semi-structured interviews

Setting and participants: patients aged 65 years or older admitted to a single-tertiary referral hospital with diabetes-related hypoglycemia

- Informed consent
- Exclusion of patients with significant cognitive or hearing impairment
- Professional audiocaping and transcription
- In-person, in-depth, open-ended interviews
- Analysis using constant comparative method
- Extraction of themes and development of theory

Main Themes

1. Surprise at hypoglycemia
   - "And I've had sugar problems for many years. But always controlled. And that's why it was farthest from my mind... This was a big disappointment, a big surprise" (male, age 90s).

2. Adequate support, knowledge, and preparedness for hypoglycemia
   - "Do not take insulin and don’t eat. Cause there you go in hypoglycemia" (female, age 70s).
   - "I always keep orange juice around the house, so that if it was low I would take an orange juice..." (female, age 90s).
   - "They have a nurse around the clock, and she’s really good with diabetes. You know, you ask her some questions... she really will give you the right answers" (female, age 70s).

3. Challenges balancing diet to avoid hyperglycemia, while minimizing hypoglycemia
   - "I didn’t want to eat too much because I didn’t want to gain weight because my husband gets really upset if I gain a pound or two. He’s not thinking about the other, so, I’m fighting two battles here" (female, age 80s).
   - "And my doctor told me... she said but never let it be over 200 in the mornin’" (female, age 70s).

4. Belief that hyperglycemia necessitates medical intervention, but hypoglycemia does not
   - "For the last month or two, it’s been running kind of low... 25, 30... "Do you ever call the doctor when your blood sugar is low?" “No... I kept track of it” (female, age 60s).
   - "When you feel dizzy and all out of it, 70- you drink your orange juice; 300, you call the doctor" (female, age 60s).

5. Tension between clinician-prescribed treatment plans and self-management
   - "I knew it was too much insulin to take... I should have been doing it my way" (male, age 80s).
   - "... she told me to take 8 all the way across, 8 for breakfast, lunch, and dinner. So, I, that’s why I took the 8... I was on a sliding scale... before. Now, if my sugar, glucose was low, I wouldn’t take anything..." (female, age 80s).

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Reference


Patient Demographics

- 17 participants interviewed:
  - Mean age: 78.9
  - 76.5% female
  - 64.7% African American
  - 64.7% on insulin
  - Average of 13 chronic conditions

Discussion

We hypothesized that older patients who experience severe hypoglycemia would express:
- lack of knowledge or understanding regarding hypoglycemia,
- lack of support from patients’ families or the healthcare system,
- or lack of access to food or an inability to prepare food.

We found little evidence for the above hypothesized reasons. Instead we found:
- Pervasive emphasis on avoidance of hypoglycemia
- Tension in management of diabetes

Some hypoglycemic events may simply be unpreventable. However, our findings suggest two potential areas of improvement in diabetes care and for the reduction of hypoglycemic events in older adults at risk:
- Healthcare systems need to shift from their emphasis on the avoidance of hyperglycemia to a more balanced approach
- Clinicians and patients need to work together to design treatment regimens that are more flexible, empowering, and patient-centered

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