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Implementation of an Inpatient Diabetes Team: Impact on Hypoglycemia Recurrence

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**Introduction / Background**

- Hypoglycemia among inpatients with diabetes (DM) can lead to complications, transfers to higher levels of care, increased length of stay, and mortality (Draznin et al., 2014; Tismanetzky et al., 2014).
- A substantial portion of hypoglycemic events are not followed by proper adjustments to medications or carbohydrate intake, leaving patients who experience hypoglycemia at high risk for recurrence (Cook et al., 2007; Maynard, Huynh, & Renvall, 2008).
- Some hospitals have instituted specialty teams to help manage patients with DM.

**Theoretical Model**

- Donabedian’s (1988) Structure, Process and Outcome model for health care quality provided the framework for this study.
- The DM-specialty team was conceptualized as a structural element supporting the performance of care delivery processes linked to improved patient outcomes.

**Purpose**

To evaluate the impact of a quality improvement program consisting of a DM-specialty team (nurse practitioner and RN-Certified Diabetes Educator) on rates of hypoglycemia recurrence during hospitalization.

**Aim**

To describe and compare rates of hypoglycemia recurrence pre- and post-implementation of the DM-specialty team.

**Results**

- In 2015, 89 patients experienced hypoglycemia, in 2017 there were 71.
- The average age in 2015 was 65.5 years (sd= 13.9), in 2017 it was 63.4 years (sd=15.3). The groups did not differ significantly on age (t(142) = .862, p=.390).
- Patients in 2017 had significantly higher comorbidity index scores (M= 7.5) compared to 2015 (M= 5.6), (t(120.217)= -2.820, p=.006).

**Methods**

- Design: Descriptive comparative.
- Sampling: Purposive sample of inpatients with DM who experienced at least 1-episode of hypoglycemia (blood glucose <70 mg/dl).
- Data Collection: Retrospective. Medical records of patients hospitalized during a 1-month period in 2015 prior to the implementation of the DM-specialty team, and those of patients seen by the DM-specialty team during a 1-month period in 2017, were extracted.
- Analysis: Data from 2015 was compared to 2017 on age and risk for mortality using a validated comorbidity index (Charlson Comorbidity Index). The rate of hypoglycemia recurrence (recorded episodes >15 minutes apart) was calculated.

**Conclusions**

- Patients seen by the DM-specialty team had substantially lower rates of hypoglycemia recurrence despite a significant increase in the risk for mortality associated with comorbidities.
- Quality and safety in the care of patients with DM may be improved through the addition of such teams within hospital settings.