

## **Abstract**

### **Background and Purpose**

Traumatic brain injury (TBI) affects many people with serious, life-altering consequences. Recovery from TBI can be affected by numerous complications, such as uncontrolled blood glucose which causes further brain injury through neuronal cell death. Nurses play a key role in caring for patients with TBI. The purpose of this quality improvement project was to implement nurse-lead education to increase knowledge about managing diabetes in TBI patients in neurorehabilitation.

### **Methods**

#### **Design and Setting**

This project utilized a same group pre-posttest design, conducted on a TBI unit within a 136-bed acute inpatient rehabilitation hospital in the Baltimore metropolitan area.

#### **Participants**

Nursing participants included all registered nurses working on the unit in November through December 2021. Adult patients with diabetes were identified as participants during this same time.

#### **Interventions**

Nurse participants completed a diabetes education module, preceded, and followed by a 35-item validated tool measuring knowledge.

### **Results**

Six nurses completed the intervention and improved their knowledge scores. Post-test patient data was not available as all patients were discharged by the time nurses had completed the training. Four nurses completed the feasibility survey indicating that the training was valuable and should be continued in onboarding of new nurses and annual nurse training.

### **Conclusions**

Nurse-lead education is a highly effective strategy for improving knowledge. Translating that knowledge to improved practice is key. Improving glycemic control in TBI patients is crucial in maximizing their potential for recovery during a time of greatest neural plasticity. Further study should focus on this relationship by designing a protocol for required nurse training and collection of patient data over a longer period of time.

### **Implications**

Improved recovery from TBI reduces high cost of care, better utilization of limited medical resources, and higher quality of life for the patient and family.

**Keywords:** Traumatic brain injury, diabetes, hyperglycemia, diabetes, neurorehabilitation