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patients with traumatic brain injury

By Leili YekeFallah, PhD; Fatemeh Aghae, MSc; Jalil Azimian, PhD; Mahmood Alipour Heidari, PhD; and Fatemeh Hasandoost, MSc.

Abstract: This study investigates the effect of tactile stimulation on consciousness and vital signs in patients with traumatic brain injury (TBI) in ICUs. A clinical trial was conducted on 60 patients with TBI admitted to ICUs in three hospitals in Qazvin, Iran, in 2016. Study results show that tactile stimulation increased the level of consciousness and decreased the systolic BP, diastolic BP, and respiratory rate in these patients.

Keywords: Glasgow Coma Scale, level of consciousness, sensory deprivation, tactile stimulation, traumatic brain injury, vital signs

Patients with traumatic brain injury (TBI) admitted to the ICU experience multiple stressors related to environmental factors, intensive therapeutic interventions, and surgery. The limited meaningful sensory stimuli of the ICU can result in sensory deprivation, while the increased lights and noise present in the ICU can result in sensory overload. These environmental conditions can lead to perceptual, cognitive, and emotional disorders and cause psychological imbalances in patients.^{1,2}

According to studies conducted on this topic, hospitalization in the ICU is stressful to patients.³⁻⁵ Spending time in an unknown environment apart from family, such as an ICU, contributes to patients' anxiety and stress levels,

consequently affecting their vital signs.^{1,6} In fact, ICU admission has been linked to complications such as anxiety, pain, fear of an unknown environment, hemodynamic instability (hypertension, tachycardia, and tachypnea), and reduced levels of consciousness and Glasgow Coma Scale (GCS) scores.⁷

Some estimated 69 million individuals experience TBI from all causes each year, with the Southeast Asian and Western Pacific regions experiencing the greatest overall burden of disease.⁸ Head injury following road traffic collision is more common in low- and middle-income countries, and the proportion of TBIs secondary to road traffic collision is likewise greatest in these countries. Meanwhile, the



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