SENSORY STIMULATION AFTER TRAUMATIC BRAIN INJURIES

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METHODS

Data was collected from the time of the patient’s admission until the patient discharged to the next line of care. At CHI Creighton University Medical Center-Bergan Mercy Hospital, patient information and data are stored in a secure system entitled EPIC. Each member of the interprofessional team can document various notes to communicate about the patient’s hospital stay. After each therapy session, detailed documentation occurs on the documentation system allowing the interprofessional team to view the patient’s progression with therapy. To measure the patient’s response to occupational therapy with emphasis on regulated sensory stimulation, the JFK Coma Recovery Scale-Revised (CRS-R) was used. The CRS-R is used to assess patients with an altered state of consciousness most commonly between a coma and is often used to differentiate between a vegetative state and minimally conscious state. The assessment has 23 items within six subscales that measure various aspects of sensation. The six subscales include: Auditory, Visual, Motor, Oromotor, Communication, and Arousal Functions. It is composed of hierarchical items that are associated with brain stem, subcortical and cortical processes. The lowest score being 0 indicates only reflexive activity while the highest score 23 representing higher cortical and cognitive functioning.

RESULTS

Therapy

- OT treatment sessions consisted of early mobility, therapeutic activity, neuromuscular re-education, and therapeutic exercise with emphasis on sensory stimulation within activities of daily living.
- At the beginning of the OT treatment plan, the patient initially scored a 9/23 on the CRS-R with only minimal reflexive movements present. Her main responses were noted when noxious stimuli was presented to her lower extremities, brief eye opening to loud startles, and blinking to threats to her eyes.

Progression

- Therapy continued to progressed as the patient was able to regain strength and activity tolerance enabling her to tolerate a separate occupational therapy and physical therapy session in one day rather than one co-treatment session.
- The patient’s parents were able to be present and involved in majority of the OT treatment sessions. They were able to provide insight into special qualities about the patient that allowed individualization for each therapy session. Education was provided to her parent’s on using the patient’s name, bringing autobiographical information, and providing light touch to the patient’s hands and face to further enhance sensory stimulation and arousal.
- Therapy sessions would consist of the patient sitting at the edge of the bed to further enhance neuromuscular re-education with the goal of increasing proprioceptive input and arousal

OUTCOMES

- Towards the end of the patient’s hospital stay, the patient scored 15/23 with significant increases in command following, eye opening, and action-oriented movement. The patient was also able to share a special moment with her mother when she was able to reach out for her mom’s hand and hold onto it, something she has not been able to do since her brain injury.
- The patient discharged to a long-term acute care hospital to further address her rehabilitative and medical needs.

REFERENCES

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