Effective factors on linguistic disorder during acute phase following traumatic brain injury in adults

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Abstract:

Traumatic brain injury (TBI) has been known to be the leading cause of breakdown and long-term disability in people under 45 years of age. This study highlights the effective factors on post-traumatic (PT) linguistic disorder and relations between linguistic and cognitive function after trauma in adults with acute TBI. A cross-sectional design was employed to study 60 post-TBI hospitalized adults aged 18–65 years. Post-traumatic (PT) linguistic disorder and cognitive deficit after TBI were respectively diagnosed using the Persian Aphasia Test (PAT) and Persian version of Mini-Mental State Examination (MMSE) at discharge. Primary post-resuscitation consciousness level was determined using the Glasgow Coma Scale (GCS). Paracilinical data was obtained by CT scan technique. Multiple logistic regression analysis illustrated that brain injury severity was the first powerful significant predictor of PT linguistic disorder after TBI and frontotemporal lesion was the second. It was also revealed that cognitive function score was significantly correlated with score of each language skill except repetition. Subsequences of TBI are more commonly language dysfunctions that demand cognitive flexibility. Moderate, severe and frontotemporal lesion can increase the risk of processing deficit in linguistic macrostructure production and comprehension. The dissociation risk of cortical and subcortical pathways related to cognitive-linguistic processing due to intracranial lesions can augment possibility of lexical-semantic processing deficit in acute phase which probably contributes to later cognitive-communication disorder.