Abstract

The Neurological Outcome Scale for Traumatic Brain Injury (NOS-TBI) is a measure adapted from the National Institutes of Health Stroke Scale (NIHSS), and is intended to capture essential neurological deficits impacting individuals with traumatic brain injury (TBI) (see Wilde et al., 2010). In the present study we evaluate the measure's construct validity via comparison with a quantified neurological examination performed by a neurologist. Spearman rank-order correlation between the NOS-TBI and the neurological examination was rho = 0.76, $p < 0.0001$, suggesting a high degree of correspondence (construct validity) between these two measures of neurological function. Additionally, items from the NOS-TBI compared favorably to the neurological examination items, with correlations ranging from 0.60 to 0.99 (all $p < 0.0001$). On formal neurological examination, some degree of neurological impairment was observed in every participant in this cohort of individuals undergoing rehabilitation for TBI, and on the NOS-TBI neurological impairment was evident in all but one participant. This study documents the presence of measurable neurological sequelae in a sample of patients with TBI in a post-acute rehabilitation setting, underscoring the need for formal measurement of the frequency and severity of neurological deficits in this population. The results suggest that the NOS-TBI is a valid measure of neurological functioning in patients with TBI.