

Learning Test. The delayed recall score of the RAVLT was used as a measure of verbal memory performance. BI history and characteristics were based on survivors' responses to the modified HELPS screener. Multiple regression was used to determine significant predictors of verbal performance with RAVLT-Delayed Recall scores serving as the criterion, and education, age, number of reported injuries, number of injuries that left participants feeling dazed/confused, following provider recommendations, and childhood history of injury all entered as predictors.

**Results:** The model indicated that a large percentage of the variability ( $R^2 = .378$ ) in delayed recall performance could be attributed to the combination of predictors in the model ( $F(6, 25) = 2.828, p = .047$ ). Examination of the regression coefficients indicated that only following provider recommendations ( $\beta = .420, p = .019$ ), and number of injuries that induced disorientation/confusion ( $\beta = -.592, p = .004$ ) were significantly related to delayed recall after controlling for all other variables in the model.

**Conclusions:** The results of this study suggest that injury severity and adhering to medical recommendations after IPV-related TBI play a significant role in predicting cognitive functioning. Consistent with existing literature, our findings show that injury characteristics of severity and repetition are closely associated with memory functioning. These findings have implications for guiding screening procedures that may be more sensitive to functional outcome in survivors of IPV who are at risk for BI. Furthermore, our findings highlight a need to increase awareness of IPV-related BI in medical professionals, and to support these front-line staff in providing medical care and psychoeducation about BI to IPV survivors.

**Categories:** Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)

**Keyword 1:** brain injury

**Keyword 2:** verbal abilities

**Keyword 3:** head injury (closed)

**Correspondence:** Seima I Al-Momani, University of Nebraska-Lincoln, seima-al-momani@huskers.unl.edu

### 30 A Study to Assess Functional and Psychological Outcome After 6 Months

### of Moderate and Severe Traumatic Brain Injury (TBI)

Tanya Zakhmi, Dr. Tejasvi Singh Randhawa, Dr. Manju Mohanty, Dr. Sunil Kumar Gupta, Dr. Sushant Kumar Sahoo

Post Graduate Institute of Medical Education & Research, Chandigarh, Chandigarh, India

**Objective:** Assessment of clinical, functional and psychological outcome after 6 months of moderate and severe TBI

**Participants and Methods:** Sixty consecutive participants aged 18 and above with moderate to severe TBI (GCS score of 3-12 at admission) attending the Outpatient Department of Neurosurgery Specialty, Post Graduate Institute of Medical Education and Research, Chandigarh, India were recruited. The exclusion criteria were any pre-existing major psychiatric disorders, intellectual disability, current or past history of substance abuse, degenerative and/or progressive condition, terminal illness and past history of TBI. Ethical clearance was obtained from Institute Ethics Committee. Written informed consent was obtained from all participants prior to inclusion in the study. Socio-demographic details (age, sex, marital status, family type, place of residence, education and occupation) and clinical details (mode of injury, injury severity, treatment, status on discharge, any previous co morbidities) were obtained from participant and hospital records. Functional outcome was assessed by Glasgow Outcome Scale and Barthel's Index of Activities of Daily Living. Mini Mental State Examination (MMSE) was used to assess cognitive status. Hospital Anxiety and Depression Scale was used to assess symptoms of anxiety and depression.

**Results:** Out of 60 patients, 40 had moderate head injury and 20 patients had suffered from severe head injury. There were 53 male (88.3%) and 7 (11.7%) female and the mean age was 34 years ( $SD=14.5$ ). The mean duration of TBI was 11 months ( $SD=6.5$ ). Fifty percent participants were married and majority was living in joint/extended families. Majorities were residing in rural localities 36 (60%). With regard to education level 11.7% were illiterate, 33% were educated up to 10th standard and 21.7% up to 12th standard. With regard to occupation, 11.7% were unemployed, 6.7% were housewives, 11.7% were students, 8.3% were retired and

rest (61.6%) was engaged in varied occupations.

The most common mode of injury was road traffic accident (90%). Contusion was the most common CT abnormality noted (37 patients, 61.7%). Regarding treatment, 36 patients (60%) underwent surgical intervention and 24 (40%) were managed conservatively. With regard to surgical intervention, 28 (77.8 %) patients underwent decompressive hemicraniectomy and subsequent cranioplasty and rest 8 (22.2 %) underwent craniotomy and hematoma evacuation.

As per Glasgow Outcome Scale, 50 (83%) had low disability and 10 (17%) had moderate to severe disability. The mean Barthel's Index score was 19.6+1.07 (Range 15-20) which indicated that most of the patients had resumed independence in activities of daily living. Only 25% participants were observed to have cognitive impairment (MMSE). With regard to anxiety and depression 16.7% showed symptoms of anxiety whereas 30% showed symptoms of depression (HADS score  $\geq 8$ ).

**Conclusions:** After 6 months of TBI, most participants had resumed independence in activities of daily living but cognitive impairment is persistent in 25% and symptoms of depression in 30% participants.

**Categories:** Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)

**Keyword 1:** traumatic brain injury

**Keyword 2:** neuropsychological assessment

**Keyword 3:** cognitive functioning

**Correspondence:** Tanya Zakhmi, PhD Student, Department of Neurosurgery, Post Graduate Institute of Medical Education & Research, Chandigarh, India, tanya2402z@gmail.com

### 31 Characterizing Sociodemographic Factors Associated with the Cognitive and Linguistic Scale (CALs) Among Pediatric Rehabilitation Patients Admitted for Traumatic Brain Injury

Angela H. Lee, William A. Anastasiadis, Christine Petranovich, Sarah J. Tlustos  
Children's Hospital Colorado, Aurora, CO, USA

**Objective:** Extant literature suggests significant heterogeneity in recovery trajectories after experiencing a moderate to severe traumatic brain injury (TBI) during childhood (Moran et al., 2016). The Cognitive and Linguistic Scale (CALs) is a promising non-norm-referenced measure designed for serial monitoring within an inpatient rehabilitation setting that may optimize prediction of acute recovery and long-term neuropsychological functioning. To date, the CALs has primarily been examined in the context of injury characteristics such as severity and etiology (e.g., Slomine et al., 2016), and it is unclear what non-injury factors may be relevant to consider. Using archival data gathered from an inpatient pediatric neurorehabilitation program, this study examined associations between the CALs and select sociodemographic factors to better inform the clinical utility of the measure.

**Participants and Methods:** Participants included 56 youth (46% BIPOC, 66% male) aged 2-17 years ( $M = 12.40$ ,  $SD = 3.99$ ) who were admitted for moderate to severe TBI to an inpatient rehabilitation program at a regional tertiary care children's hospital. Data extracted from medical records included demographic information (i.e., age at injury, sex, ethnoracial identity, address, initial Glasgow Coma Scale (GCS) rating, CALs at admission, and full-scale IQ (FSIQ) at discharge. GCS was used as a proxy for injury severity. Residential addresses were geocoded and area-level median income was used as a proxy for familial socioeconomic status (SES). A multiple regression model was utilized to parse the individual contributions of demographic variables) on initial CALs performance while accounting for injury severity. Parallel regression models were used to determine whether patient characteristics moderate the association between initial CALs performance and cognitive functioning at discharge.

**Results:** Preliminary analyses demonstrated that there were no significant associations between GCS and demographic variables,  $ps > .05$ . Patient age at injury was significantly associated with CALs total score at admission above and beyond injury severity and other demographic characteristics,  $t(31) = 2.55$ ,  $p = .016$ , such that older age was associated with higher initial CALs scores. Results of moderator analyses between CALs and patient characteristics showed a significant main effect of injury severity, such that higher GCS was associated with higher FSIQ at discharge across