**Economic & social burden of managing traumatic brain injuries (TBI) in adult aged 18-50 years in India**

**Data analysis**

From an initial sample of 128 TBI patients, 79 (61.71%) were part of follow up study of remaining 40 (31.25%) were declared dead post hospital discharge, rest of 9 (7.01%) didn't participated in follow up study. Of 128 patients 111 () were male and 17 () were female. Of 128 patients 20 (15.62%) were uneducated, 85 (66.40%) were only high school educated, 16 (12.5%) were graduate and 7 (5.4%) were post graduate. More than half (71.09%) were married and remaining 37 (28.90%) were unmarried. 8 cases (6.25%) belonged to age range between 10-19, 55 patients cases (42.96%) belonged to age range between 20 -29. 29 cases (22.65%) belonged to age range 30-39, 26 (20.31%) belonged 40-49 age range, 10 (7.81%) cases belonged to 50-59 age range.

Majority of cases 96 (75%) belonged to RTA injuries, 3 (2.34%) cases had assault as a reason for their traumatic brain injury, 2 (1.56%) cases reported with railway track injuries, 2 (1.56%) with other reasons and 25 (19.53%) reported injuries due to fall injuries. 121 cases (94.53%) had injury in one eye, 7 (5.46%) cases were reported with injuries in both eyes.

Post hospitalization discharge report shows that 16 (12.5%) cases reported with GCS score 3, 26 (20.31%) cases were reported with GCS score 4, 10 (7.81%) cases reported GCS score 5, 18 (14.06%) cases reported GCS score 6, 49 (38.28%) cases reported GCS score 7, rest of 9 (7.03%) people reported GCS score 8.

Of 128 cases 76 (59.37%) were non alcoholic and rest of 52 (40.62%) were alcoholic. Out of 128 patients 101 (78.90%) were non-smokers and 27 (21.09%) were smokers. Of 128 cases 121 (94.53%) reported no drug abuse rest of 7 cases (5.46%) reported drug abuse.

All 128 patients (100%) underwent CT scan of head, 3 cases (2.34%) underwent X-ray diagnosis, for 1 case (0.78%) USG was performed and there wasn't any case (0%) of CT cervical.

To study the health status of TBI patients Barthel and GOSE index were inquired using questionnaires. Modified Barthel index was used for post hospitalization health status check of TBI patients. Of 125 studied cases 19 (15.2%) were totally dependent, 6 (4.8%) were severely dependent, 82 cases (65.6%) were moderately dependent, 2 cases (1.6%) reported mild dependence and rest of 16 cases (12.8%) reported total independence.

Follow up study reveals continuous growth in number of patients with total independence, for 1st follow up after discharge 12.5% cases reported total independence which increased to 27.5% cases in 2nd follow up, increased to 53.24% in 3rd follow up, increased to 62.33% in 4th follow up and increased to 71.42% in 5th follow up.

On the other hand number of totally dependent cases show gradual decrease with 31.25% in first follow up, 15% in 2nd follow up, 10.38% in 3rd follow up, 7.79% in 4th follow up which continued in 5th follow up with same number of cases 7.79% which indicates recovery from traumatic brain injuries.

Gradual increment of Barthel index of severely dependent TBI patients shows that these injuries can be recovered over time as number of cases 32.5% (1st follow up) decreased to 30% in 2nd follow up, which further decreased to 15.58% in 3rd follow up and then decreased to 14.28% in 4th follow up and continued to be 14.28% in 5th follow up. Same was observed for moderately dependent TBI patients.

**Age distribution:**

The study focused on TBI patients whose age lie within 18-50 range, Out of 128 patients 14 (11%) TBI patients belong to age category 11-20, 61 (48%) belong to age category 21-30, 23 (18%) TBI patients belong to age category 31-40, rest of 30 (23%) patients belong to 41-50 age category.

**GCS analysis:**

Out of 128 patients 121 (94.53%) reported eye opening with pain stimulus, rest 7 (5.46%) cases reported no eye opening. All 128 (100%) TBI patients were intubated and their GCS verbal score was T (intubated). All 128 TBI patients (100%) had severe brain injury with total GCS score <=8. Of 128 TBI patients 16 (12.5%) show no motor response at all, 26 (20.31%) show response of extension to pain, 10 (7.81%) show response of flexion to pain, 18 (14.06%) show response of withdrawal from pain, majority of patients 56 (43.75%) show response to localize pain, 2 cases (1.56%) obeyed commands and were able to show motor movements accordingly.