

Epidemiology of traumatic brain injury patients at Kilimanjaro Christian medical centre, Moshi, Tanzania

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<https://doi.org/10.1016/j.afjem.2013.08.012>[Get rights and content](#)

Introduction

Traumatic brain injury (TBI) affects 10 million people annually. [Clinical epidemiology](#) can inform prevention initiatives to curb this burden. Kilimanjaro Christian Medical Centre (KCMC) is a referral hospital for 11 million people with neurosurgical capacity located in Moshi, Tanzania.

Methods

Secondary analysis of a prospective observational TBI Acute Care Registry at the KCMC Casualty Department (CD) included all patients presenting between May 5 and July 27th, 2013. Means with standard deviations (SD), Fisher's exact or Chi-squared with a binomial [logistic regression](#) reporting Odds Ratios (OR) with 95% confidence intervals (CI) was calculated using Stata IC (College Station, TX).

Results

171 total patients were enrolled in the TBI Registry. The mean age was 32.1 years (range 1–99, SD 16.6), with 71% between 15 and 45 years of age. 82% were male and 28% cases involved alcohol. Causes of TBI were road traffic injuries (RTI) (74%), assaults (13%) or falls (8%). 52% of RTI's involved motorcycle users. The mean Glasgow Coma Score (GCS) was 12.6 (range 3–15, SD 4.04) with 19% of patients having severe TBI (GCS of <9). The overall mortality rate was 13% for all CD patients, 14% for admitted patients and 80% for patients admitted to the ICU. Death was associated with [hypoxia](#) (OR 16.0 (95% CI 5.4, 47.5), hypotension (OR 7.3 (95% CI 1.4, 38.4) and low GCS (GCS <9, OR 29.7 (95% CI 9.6, 92.0). Severe TBI had a 53% mortality rate, while moderate and mild TBI 12% and 3% fatality rates respectively. Of severe TBI patients, 63.6% suffered disability from their injury compared to 27% of moderate and 3% of mild TBI.

Conclusion

Most TBI patients were young males involved in road traffic collisions, predominantly involving motorcycles. Over a quarter of them involve alcohol. Our data support that TBI causes significant death and disability.