An Epidemiologic Study of Traumatic Brain Injuries in Emergency Department

Vahid Monsef Kasmaei, Payman Asadi*, Behzad Zohrevandi, Mohammad Taghi Raouf
Road Trauma Research Center, Guilan University of Medical Sciences, Rasht, Iran.

*Corresponding Author: Payman Asadi; Road trauma Research Center, Guilan University of Medical Sciences, Rasht, Iran.

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Abstract Introduction: Traumatic brain injuries (TBI) are one of the most important causes of death in patients under the age of 25 years and is responsible for one third of total deaths caused by trauma. Therefore, knowing its epidemiologic pattern in different populations seems vital. Therefore, this study aims to examine the epidemiologic pattern of TBI in emergency department.

Methods: In this cross-sectional study, the profiles of 1000 patients affected by TBI were selected using simple random sampling. The examined variables in this study included demographic, season, mechanism of injury, accompanying injuries, level of consciousness, hospitalization duration, computed tomography (CT) scan results, needing surgery, admission to intensive care unit, and outcome of the patient. In the end, independent risk factors for the death of patients were determined.

Results: 1000 patients suffering from TBI were studied (81.8% male; mean age 38.5±21.7 years). The frequency of their referral to hospital in spring (31.4%) was more (p<0.01). 45.9% of the patients had a level of consciousness less than 9 based on the Glasgow Coma Scale (GCS). Subdural (45.9%) and epidural bleeding (23.7%) were the most common findings in CT scans in this study (p<0.001). Finally, 233 (23.3%) of the patients were dead. Over 60 years of age,
falling and motorcycle accidents, intracranial hemorrhage accompanied by brain contusion, subdural bleeding, a GCS of less than 9, and the need to be admitted to intensive care unit were independent risk factors of death in TBI.

**Conclusion:** Age Over 60 years, falling and motorcycle accidents, intracranial hemorrhage accompanied by brain contusion, subdural bleeding, a GCS of less than 9, and need to be admitted to intensive care unit were independent risk factors for the death in TBI patients.

**Key words:** Brain injuries; head injuries; epidemiology; mortality; risk factors

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