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Poster Presentation

The Incidence of Traumatic Brain Injury: a Meta-Analysis

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Abstract

In western countries such as United States data from 2002-2006 showed that at least 1.7 million people sustain a traumatic brain injury (TBI) each year. Of those individuals, about 52,000 die, 275,000 are hospitalized, and 1.365 million are treated and released from an emergency department. In 2000, direct medical costs and indirect costs such as lost productivity of totaled an estimated \$76.5 billion. Children aged 0 to 4 years, older adolescents aged 15 to 19 years, and adults aged 65 years and older are most likely to sustain a TBI. Almost half a million (473, 947) emergency department visits for TBI are made annually by children aged 0 to 14 years. Adults aged 75 years and older have the highest rates of TBI-related hospitalization and death. In twenty three European reports from Denmark, Sweden, Finland, Portugal, Germany, and from regions within Norway, Sweden, Italy, Switzerland, Spain, Denmark, Ireland, the U.K. and France an aggregate hospitalized plus fatal TBI incidence rate of about 235 per 100,000 was recorded but prevalence rate data were not reported from any European country. An average mortality rate of about 15 per 100,000 and case fatality rate of about 11 per 100 have been reported as well. The TBI severity ratio of hospitalized patients was about 22:1.5:1 for mild vs. moderate vs. severe cases, respectively. The percentages of TBI from external causes varied considerably and several reports reported an association of alcohol use with TBI. In eastern countries such as China, a total of 14,948 of cases of TBI were identified from 77 hospitals in eastern China. In Iran, TBI-patients in Motahhari hospital in Urmia during 2005 to 2006 years were recorded. From the total of 1796 hospitalized patients for TBI, 721 patients (40.1%) have acute TBI that 1392 (77.5%) of them were males. The findings of this study demonstrated that the lack of a system to road-user safety was the main cause of injury; therefore the focus of all activities should take place in this field.

Keywords: Traumatic Brain Injury, Meta-Analysis, Emergency Department.

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