

Head injuries in traffic accidents with emphasis on the comparisons between motorcycle-helmet users and non-users

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Abstract

Motor-vehicle incidents in Taiwan are a major cause of head injuries. Our objective was to analyze the characteristics of head injuries caused by motor vehicle accidents in terms of the injured person's demographic characteristics, time and types of crash, injury severity on the abbreviated injury scale (AIS), medical cost and benefits of helmet protection. For this purpose we conducted an epidemiologic survey of 2451 consecutive victims of traffic accidents, coming to, or managed at, the emergency care department of a large Taipei metropolitan hospital in 1990. The results showed that the most common cause of head injury in traffic accidents was a motorcycle incident. Motorcycle accident injured patients were generally young males, laborers or students. Most head injuries occurred between 16:00 and 23:00, and peaking at 21:00 in a day. Forty-three points four percent of patients were admitted, major head injury fatalities occurred within one week of the collision. The elderly or patients with high AIS comprised most nonsurvivors. According to our data, helmet usage was about 14% overall. Helmetless young riders were numerous among the total victims. A significant difference was noted in the severity of injury of helmeted users of motorcycles, compared with those who wore no helmet. As expected, patients who did not wear a helmet had a greater AIS average and higher rate of fatality. Forty-one of the 42 fatalities were patients who had been riding on motorcycles without helmets. Helmets provide adequate protection and reduce severity of injury, and medical cost for motorcycle collisions.