Survey of Risk Factors for Cycling Injuries in Taiwan.

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Abstract

Introduction: Cycling is a worldwide activity. In both developed and developing countries it serves as an important means of transportation as well as an enjoyable recreational activity for adults and children. Injuries related to cycling are comparatively common, especially head injuries, which account for one third of visits to emergency departments and three quarters of deaths. Head injuries also carry a substantial risk of long term disability. Thus, preventing head injuries from cycling is relatively important. In order to decrease Years of Potential Life Lost(YPLL)
significantly and to protect teenagers from severe head injury, the bicycle helmet law should be enforced immediately. Methods: In this particular study, we utilized case control study for analyzing the result of GCS to discriminate the severity of head injury. Hospital trauma registry was used to investigate the traumatic patients from six hospitals in Taiwan since February 2nd to November 30th, 2001. Telephone interviews were conducted to confirm whether or not the injury was caused by bicycle accident, and to complete the insufficient information. Frequency and Pearson Chi-Square was used to test for univariables, and multiple logistic regression was used to examine the association between severity and related confounders in multivariables. Result: There were a total of 1,132 bicycle induced injuries in the traumatic registry. Injury mainly occurs during 7-8 o'clock in the morning and 5-6 o'clock in the afternoon. According to age distribution, by observing the injury position, the 0-9 years old were injured mainly from falling off the bicycle; 10-14 years old were mainly injured by colliding with static objects.; and those over 15 years old were mainly injured by colliding with moving objects; and the injury position of 0-9 years old are mainly head and limbs; while for people 10-14 and over 15 are mainly limbs. Among the 324 head injured man, the rate of having severe head injury is 4.86 , while the confidence interval is 2.89-5.68; the rate of 10- 19 years old having severe head injury is 3.85 , the confidence interval is 1.68-4.55; the rate of not wearing helmet and cause severe head injury is 4.64 , the confidence interval is 1.38-5.68; the rate of not having reflecting equipments and cause severe head injury is 2.64 ,the confidence interval is 1.38-4.58; the rate of carrying objects and cause severe head injury is 5.26 , the confidence interval is 4.23-8.98; the rate of biking towards the outer road side and have severe head

injury is 3.89 , the confidence interval is 2.11-4.68; the rate of speeding and cause severe head injury is 2.45 , the confidence interval is 1.65-2.88 ; the rate of having malfunction break and cause severe head injury is 2.13 , the confidence interval is 1.25-2.69 . Discussion: The Result shows that men have higher risks of getting severe head injury then woman. Bicycle injury among school-age children has been and continuous to be a severe issue that requires special attention. In comparison the age group that suffer from motorcycle accident injuries, the study shows that the age of those who suffered from severe head trauma induced by bicycle riding was lower. The accidents that occurred in age groups of 5-9 and 10-14 were higher then the other age groups. Although head injury can be prevented by wearing a helmet, most people tend to neglect other protective items such as knee pads. In addition, caring heavy objects and performing safety check on the bicycle itself are other factors that can not be neglected.