Crash Severity, Injury Patterns, and Helmet Use in Adolescent Motorcycle Riders

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Abstract

BACKGROUND: This study examined crash severity and injury patterns between helmeted and unhelmeted adolescent motorcycle riders. METHODS: Among an initial population of 4,721 junior college students, 1,284 students were involved in 1,889 motorcycle crashes during a 20-month follow-up period. Crash severity was measured by both the type of collision object and the repair cost of motorcycle damage. RESULTS: The incidence rates of crash, injury, hospitalization, and deaths per 1,000 person-years in the cohort were 358, 104, 14, and 1.3, respectively. Compared with helmeted riders, unhelmeted riders had more noncollisions and fewer collisions with a moving car but there was no significant difference in repair cost of motorcycle damage between these groups. More injuries to the external skin, face, and head and more severe injuries occurred in unhelmeted than in helmeted riders. Among crashes resulting in hospitalization/death, more injuries to the face and head occurred in unhelmeted riders than in helmeted riders. CONCLUSION: Crashes involving unhelmeted riders were not more severe but more frequently involved face and head injuries than crashes involving helmeted riders.