

Bicyclist fatalities in southeast Norway between 2000 and 2023

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Objective

Cyclists are vulnerable road users, essentially unprotected when involved in crashes. This study aims to provide updated knowledge of bicyclist fatalities, determine the circumstances in which they occur, and assess the injury patterns and causes of death.

Methods

Bicyclist fatalities in southeast Norway from 2000 to 2023 were identified by an electronic search of forensic autopsy records at Oslo University Hospital. The autopsy and police reports were reviewed, data extracted and analyzed.

Preliminary results

A total of 123 fatalities were identified, 118 were bicyclists and 5 had used electric scooters. The median age of the victims was 55 years (Range 4-97) and 76% (94/123) were males.

Forty-six percent (57/123) were hit or run over by a moving vehicle, most often regular passenger cars. The manner of death was determined accidental in all 57 cases. Fatal head injuries, typically including fractures to the skull base were observed in 44 (77%). The others died of injuries to various body regions, predominantly the thorax. Alcohol, drugs or psychoactive medicinal drugs indicating impairment at the time of the crash were detected in 9 (16%). Information about use of helmets at the time of the crash was limited.

Fifty-four percent (66/123) of the cases were found lifeless adjacent to their bikes or scooter. The circumstances suggested they had either crashed with an unmoving object, fallen off the bike or stepped off the bike before collapsing. Only 34 of these cases (52%) were determined accidental manner of death, of which 14 (41%) died of head injuries and 8 (24%) of injuries to the neck. Alcohol, drugs or psychoactive medicinal drugs were detected in 14 (41%). The other 32 (48%) died of natural causes, predominantly ischemic heart disease.

Conclusion

Bicyclist fatalities occurred due to collision with vehicles and non-moving objects, or in incidents involving accidental fall or apparent sudden collapse on or off the bike. Head injuries were the most common cause of death. A large proportion had no severe injuries, but died of natural causes, predominantly ischemic heart disease. Further analyses will focus on describing the injury patterns and determine the injury mechanisms in bicycle fatalities due to collisions.

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