

H62 Disability-Related Road Traffic Crashes Involving Children

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Learning Overview: After attending this presentation, attendees will have a better understanding of the importance of disability in children caused by traffic accidents.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by increasing the awareness to eliminate the causes of accidents, to prevent future adults from being disabled, to plan training programs, and to make recommendations on preventive measures.

Traffic refers to people, animals, and vehicles that are moving along the roads. Road traffic accidents involve people and one or more vehicles that are stable or moving and result in death, injuries, or damage.^{1,2} According to the World Health Organization (WHO), road traffic accidents are the leading cause of death due to injuries, the tenth cause of death in general, and the ninth cause of death due to burden of disease. In 1998, road traffic accidents caused 2.8% of all disabilities, while they were the leading cause of disabilities caused by injuries. Road traffic accidents are expected to be the third cause of death due to burden of disease in 2020.³ The frequent exposure of children to trauma, violence, and abuse has required protective laws all over the world. All injuries that occur in an adult in a traffic accident can also occur in a child, but the locations of the primary lesions differ in children because their height is shorter than adults.⁴ Although it is extremely dangerous for children to travel in the front seat without a seat belt, on a lap, or standing, parents still allow it. In such cases, it is inevitable that the child will hit the windshield as a result of sudden braking or be injured or die from being trapped between the front panel and the parent's body.⁵ Seat belts that ensure the safety of adults are not suitable for children because they are physically smaller. In this context, the use of child car seats has been compulsory since 2000 in some European countries (Switzerland, Sweden, France, Norway, Portugal, etc.).⁶ In Turkey, according to the Highway Traffic Law numbered 2918, as of June 1, 2010, the use of child car seat systems suitable for children under 150cm and less than 36kg in the vehicle is obligatory; this regulation also prohibits children under 10 years of age to be transported in the front seat.⁴

Prospective examination of 106 pediatric victims of road traffic accidents evaluated by the Department of Forensic Medicine, Cukurova University, between July 1, 2019, and July 1, 2020, was undertaken to determine the presence and severity of any resulting disabilities. The cases were reviewed in terms of age, gender, accident type, affected body parts, surgical interventions, and lesions to allow measurement of disabilities and the rate of disabilities. The data gathered was statistically analyzed.

Among the 106 cases, the youngest case was a 2-year-old, 17 were 10 years of age and younger, 89 were between the ages of 11–17 years. Eighty-nine cases (74.5%) were male and 17 (24.5%) were female. Seventeen cases were injured inside the vehicle, 49 cases on motorcycles, 9 cases on bicycles, and 31 cases as pedestrians. Eighteen of the cases (16.9%) were motorcycle drivers who didn't have a legal driving license. Fifty-eight percent of cases had a head and neck injury. Twenty cases (18.8%) underwent surgical treatment. In this study, the rate of disability in 45.2% of the cases was found to be between 10%–30%.

Children are the future of the world and it is our duty to protect them. In childhood motorcycle accidents, male adolescents were more involved. Road traffic accidents not only cause deaths and property damage, but also serious illness and disability. Larger studies are needed to determine preventive measures to eliminate cause of accidents, to prevent future adults from being disabled, to plan training programs, and to make recommendations on preventive measures.

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Childhood, Traffic Accidents, Disability