



RISK FACTORS IMPACTING PEDESTRIAN SAFETY

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Introduction. Pedestrians are known as the most vulnerable road users, which means their needs and safety require specific attention in strategic plans. Given the fact that pedestrians are more prone to higher injury severity levels compared to other road users, this study aims to investigate the risk factors that impact their safety. Data from the World Health Organization confirms that road crashes do indeed take a serious toll on pedestrians. In 2013, more than 270,000 pedestrians lost their lives globally, representing almost 1/5 of the total number of deaths.

Material and methods. This study analyzed the major aspects of this topic, published in the last 10 years. The study is based on 47 literature sources of foreign authors (Romania, Russia, USA, Germany, Spain, etc.).

Results. The key risk factors impacting the safety of pedestrians are: speed, alcohol, lack of adequate pedestrian facilities, non-compliance to road traffic regulations, distracted driving affected by mobile phone or headphones use, poor visibility due to inadequate street lighting, vehicle headlights that do not work well, and driver's fatigue.

First of all, speed is the main cause of road accidents among pedestrians. The higher the speed is, the higher is the probability to suffer serious or fatal injuries. At 30 km/h, the probability of survival is 90%, while at 60 km/h, it is 25%. Similarly, it can reduce drivers' peripheral vision, increase the distance needed to stop completely, and decrease the available reaction time.

Secondly, drunkenness is considered especially dangerous when the driver is the one who's intoxicated, as alcohol undermines their decision-making capacity, makes their reflexes slower, shortens their attention span, and affects visual acuity – all of which are essential to safe driving. Thirdly, and the most important are adequate pedestrian facilities. These conditions are particularly critical on arterial roads and at intersections, where the risk for pedestrians increases. Urban development with long blocks that allow cars to reach high speeds and insufficient safe pedestrian crossings also contribute to higher risk.

Some of the most common pedestrian accident injuries are: soft tissue damage, broken bones and bone fractures, traumatic brain injuries and spinal cord injuries. Worldwide, road traffic injuries are a leading cause of death with more than 1.3 million fatalities each year (WHO, 2018).

Conclusions. Lack of speed control and alcohol are statistically important predictors of trauma and death among pedestrians worldwide. Nowadays with the urbanization and spread of roadways the incidence of accidents involving pedestrians has increased significantly and their safety began to be threatened by the above mentioned factors. Safe environments should address spatial equality for pedestrians relative to other modes of transport.