Ten minutes could prevent one-third of road deaths

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Ten minutes could prevent one-third of road deaths. Credit: SINC

Spanish researchers have calculated the probability of dying in road accidents on the basis of the time taken for the emergency services to arrive. Their conclusions are clear - reducing the time between an accident taking place and the arrival of the emergency services from 25 to 15 minutes would cut the risk of death by one-third.

"The average wait after an accident until the emergency medical services arrive is 25 minutes in Spain", Rocío Sánchez-Mangas, co-author of the study and a researcher at the Autonomous University of Madrid (UAM), tells SINC.

Her research, which has been published in the journal *Accident Analysis and Prevention*, is based on information taken from the database records

of the Directorate General for Traffic (DGT), which contains exhaustive information on accidents, and another DGT study from May 2004, containing information about the time at which accidents take place, the calls made to the emergency services and their arrival at the accident site. Combining these two databases provided a sample of 1,463 accidents that took place on Spanish roads.

The authors estimated the probability of death according to the time required for the emergency service response, and the particular characteristics of the victims and the accidents themselves. When other factors were taken into account, "a reduction in the wait from 25 to 15 minutes is associated with a decline of one-third in the death rate, both on motorways and highways, as well as on conventional roads", the authors claim.

The results also show that the relationship between the death rate and the time required for the emergency health services response is different on different kinds of roads. On conventional roads, an increasing relationship was observed in the first 25 to 30 minutes - the death rate increased in line with the length of time spent waiting.

This increasing pattern can also be seen on motorways and highways, but in these cases the death rate was also relatively high in the first minutes after the accident, giving rise to a death:time ratio that follows a U-shaped curve.

An ill-fated end to the holidays

According to the DGT, despite the decline seen over recent years, the number of traffic accident deaths in Spain "continues to be a very significant public health problem". The latest data from the DGT show that 25 people died on Spanish roads during the last weekend of August, which is when Spaniards return en masse from their holidays - 12 more

than in 2009. Improved infrastructure and media campaigns, as well as legislative changes, such as the points-based licence system, are attempts to bring this problem under control. "However, less attention has been paid to a factor that could be critical in reducing the number of deaths - the emergency health response", the researchers stress.

More information: Rocío Sánchez-Mangas, Antonio García-Ferrer, Aranzazu de Juan, Antonio Martín Arroyo. "The probability of death in road traffic accidents. How important is a quick medical response?" Accident Analysis and Prevention 42 (2010) 1048, July 2010. DOI:10.1016/j.aap.2009.12.012

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