

Use of media can save lives in bad storms

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The number and intensity of storms and other extreme weather events are on the increase all over the world. The latest study by the Medical University of Vienna in cooperation with the US Centers for Disease Control and Prevention (CDC) uses the example of one of the largest American series of tornados of all times to show that the risk of injury can be reduced significantly with the use of certain media.

Several dozen tornados struck in April 2011 across Southeast USA and made for an image of devastation. Thomas Niederkrotenthaler from the

Centre for Public Health of the Medical University of Vienna used this third-largest series of tornados in the history of the USA as an opportunity to conduct a study, which just appeared in the latest edition of the international top journal *PLOS ONE*.

Television and social media offer particularly good protection

Together with his research team, Niederkrotenthaler investigated the behavioural factors which reduce or increase the risk of injury. The researchers particularly concentrated on the media use by those affected, which had never been scientifically investigated in this context so far. The results of the study show that people who used media intensively for education during the series of tornados, had a significantly less risk of injury. Television and Internet were mainly protective and warnings via [social media](#) such as Twitter and Facebook particularly in this case.

"The media carried out excellent work. It accurately predicted the streets and the locations through which the tornados would pass, and continuously provided information about changes in the predictions. The corresponding media users could thus effectively protect themselves from the consequences of the storms," says Niederkrotenthaler. "The great protective effect of media has its cause in an important characteristic feature of tornados because unlike hurricanes, its exact course can only be predicted shortly before its arrival. The target forecast lead time of the US National Weather Service is just 15 minutes."

The media is however also important for another reason: Approximately 20 percent of the injuries are caused only after a tornado, mainly during the cleaning-up operations. Toppling trees and accidents with chain saws are especially dangerous and rather frequent. This was an outcome that

led to an adaptation of the American prevention guidelines.

Niederkröthaler also says: "The tornado prevention guidelines were adapted as an outcome of our study. The media now informs the citizens that they need to be particularly careful after tornados as well."

The internationally composed research team identified a visit to shelters and cellar rooms as another important protective factor.

Niederkröthaler said, "As a whole, factors of primary prevention mainly save lives in such cases. In Alabama alone there were 212 deaths due to the tornado outbreak; however, most of the victims did not make it to a hospital, which emphasises the relevance of primary prevention." Tornado sirens also correspondingly made a significant contribution to protecting the civil population. They did sound quite frequently because of false alarms, but those affected have surprisingly not become hardened because of that – on the contrary: "People, who had already heard the sirens before when a tornado actually struck, protected themselves better than others even during the series of tornados which we investigated," says Niederkröthaler.

More information: "Injuries and Post-Traumatic Stress Following Historic Tornados: Alabama, April 2011." Thomas Niederkröthaler, Erin M Parker, Fernando Ovalle, Rebecca E Noe, Jeneita Bell, Likang Xu, Melissa A Morrison, Caitlin E Mertzluft, David E Sugerman. (2013) *PLOS ONE*, [dx.plos.org/10.1371/journal.pone.0083038](https://doi.org/10.1371/journal.pone.0083038)

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