Natural Disasters and Human Health: Measuring the Prevalence of Stress-Related Disease After the 2002-2003 Illinois Storm, Tornado, and Flood Events

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Background and Objectives: Prior research has revealed that disaster events are associated with an increased prevalence of stress-related illness that may persist for a prolonged period of time after the initial threat has subsided. The severity of post-disaster disease morbidity is contingent on the magnitude of the respective event and the associated loss of personal and community resources. This study examines stress-related post-disaster disease incidence that is of sufficient severity to require inpatient hospitalization.

Methods: A longitudinal pre-event and post-event comparison of hospital admissions for diagnostic groupings of stress-related disease was performed to determine if there was a significantly higher rate of admissions in disaster-stricken rural communities of Southern Illinois.

Results: Inferential statistical analysis revealed a significant increase in hospital admissions for stress-related illness in the year following the 2002-2003 storm, tornado, and flood disasters that affected Southern Illinois. There was no evidence of a significant increase in similar hospital admissions for control groups or for non-stress-related conditions.

Conclusion: This cohort study of pre-event and post-event stress-related hospital admissions provides an additional method for evaluating the consequences of disasters and focuses attention on the critical need for post-disaster preventive health interventions that address community vulnerability and well-being with respect to stress-related illness. Adverse reactions to environmental contaminants may be potentiated by the observation of an increased level of post-event stress-related hospital admissions in rural communities affected by natural disasters.