

Risk and Protective Factors in the Development of Post-traumatic Stress Disorder Symptoms among a Cohort of Students in Two Tertiary Institutions Post Hurricane Ivan

EM Thompson, WD Abel

ABSTRACT

Objective: This study seeks to identify factors associated with post-traumatic stress disorder (PTSD) following Hurricane Ivan among a cohort of tertiary-level students in Jamaica.

Methods: A 22-item, self-administered questionnaire was administered to a non-random sample. Using parametric and non-parametric analyses, the relationship between PTSD symptoms and several variables was examined.

Results: Feeling anxious, worried or fearful and/or experiencing loss and injury during the hurricane were significant ($p < 0.01$) predictors for PTSD symptoms

Conclusions: Factors predicting the development of PTSD symptoms were feeling anxious, worried or fearful during the hurricane and experiencing loss of property and/or death or injury of a family member during the hurricane.

Factores de Riesgo y Protección en el Desarrollo de los Síntomas de Trastornos por estrés Postraumático en una Cohorte de Estudiantes en dos Instituciones Terciarias con Posterioridad al Huracán Iván

EM Thompson, WD Abel

RESUMEN

Objetivo: Este estudio busca identificar los factores asociados con el trastorno por estrés postraumático (TPEP) luego del paso del huracán Iván, entre una cohorte de estudiantes de nivel terciario en Jamaica.

Métodos: Un cuestionario auto-aplicado contentivo de 22 ítems, fue administrado a una muestra no aleatoria. Usando análisis paramétrico y no paramétrico, se examinó la relación entre los síntomas del TPEP y varias variables.

Resultados: El sentirse ansioso, preocupado o temeroso y/o experimentar pérdidas o lesiones durante el huracán, fueron predictores significativos ($p < 0.01$) de los síntomas de TPEP.

Conclusiones: Los factores que predicen el desarrollo de los síntomas TPEP fueron el sentirse ansioso, preocupado o temeroso durante el huracán y el experimentar pérdida de propiedades y/o muerte o daño de miembros de la familia durante el huracán.

West Indian Med J 2009; 58 (2): 179

From: Department of Community Health and Psychiatry, The University of the West Indies, Kingston 7, Jamaica, West Indies.

Correspondence: Dr W Abel, Department of Community Health and Psychiatry, The University of the West Indies, Kingston 7, Jamaica, West Indies. E-mail: wendelabel@hotmail.com.

INTRODUCTION

Few studies have investigated a relationship between hurricanes and the development of post-traumatic stress disorder (PTSD) symptoms (1, 2). No study describing PTSD symptoms among university students post-hurricane has been cited in the literature.

Identified risk factors in the development of PTSD symptoms are the severity, degree and duration of the trauma, the presence of physical injury, threat to life and social support (3, 4).

This study seeks to evaluate sociodemographic factors, risk and protective factors associated with the development of PTSD symptoms following hurricane Ivan.

SUBJECTS AND METHODS

The study is a cross-sectional study involving 183 students chosen randomly from two tertiary institutions in Jamaica. A 22-item, self-report instrument that included PTSD symptoms, risk and protective factors and sociodemographic factors was piloted and administered six weeks following the hurricane.

Data were entered in SPSS using bivariate and multivariate analyses, the relationship between PTSD symptoms and several variables was examined.

RESULTS

The response rate was 100 per cent and the reliability score (Cronbach's Alpha) was 0.684. The sample age ranged between 17 and 43 years, 83.6% were single and 16.4% were separated, widowed, married or in common-law relationships.

Marital status was significant ($p < 0.05$). Respondents in common-law unions, visiting partner relationships or married reported more symptoms than respondents who were single.

Among the independent variables, level of support and gender were not significant. Respondents who answered "yes" to having someone to call on for support had fewer PTSD symptoms (mean = 0.99, SD 1.71) than those who answered "no" (mean = 1.06; SD 1.87). Males reported fewer PTSD symptoms (mean = 0.87, SD 1.77) than females (mean = 1.07, SD 1.72). Previous trauma ($p = 0.05$), house damage or lost ($p < 0.05$), loss of property ($p < 0.05$), death or injury

($p < 0.05$) and feeling anxious, worried or fearful during the hurricane ($p < 0.05$) were statistically significant.

Multiple regression analysis revealed that there was a significant linear relationship between the criterion variable and the six predictor variables: $F=7.9333$; $p = 0.000$, multiple correlation coefficient (r) = 0.517. The six variables tested accounted for 27 per cent of the change in PTSD symptoms.

DISCUSSION

Those at risk for developing PTSD symptoms ($p < 0.01$) were anxious, worried or fearful during the hurricane; had suffered loss of property or death or injury of a family member or close friend during the hurricane.

These findings support two of the study's hypotheses and are consistent with findings in the literature (5). The study failed to support the hypotheses regarding social support, gender and previous trauma.

Limitations of the study included the lack of a control group; the sample, arguably, was mostly a homogenous group of tertiary-level students. The questionnaire was based on the DSM IV criteria for PTSD and was intended for screening; time constraints did not allow validation in this context.

REFERENCES

1. Rubonis AV, Bickman L. Psychological impairment in the wake of disaster; the disaster-psychopathology relationship. *Psychol Bull* 1991; 109: 3, 384-99.
2. Caldera T, Palmer L, Penayo U, Kullgren G. Psychological impact of the hurricane Mitch in Nicaragua in a one-year perspective study. *Soc Psychiatry Psychiatr Epidemiol* 2001; 36 (Suppl 3): 108-14.
3. Epstein RS, Fullerton CS, Ursano RJ. Post-traumatic Stress Disorder following an air disaster: A prospective study. *AM J Psychiatry* 1998; 155 (Suppl 7): 934-8.
4. Classen C, Koopman C, Hales R, Spiegel D. Acute stress disorder as a predictor of post-traumatic stress symptoms. *AM J Psychiatry* 1998; 155 (Suppl 5): 620-4.
5. Baum A, Davidson L. A suggested framework for studying factors that contribute to trauma in disaster. In: Sowder B, ed. *Disasters and Mental Health: Selected Contemporary Perspectives*. Rockville, Maryland: (US) National Institute of Mental Health; 1985: 29-40.