

BACKGROUND

- The 2004 Florida hurricane season was unprecedented, with 4 hurricanes (Charley, Frances, Ivan, and Jeanne) and one tropical storm (Bonnie) making landfall during a 7-week period in August and September.
- Although studies focusing on first responders to such disasters have been conducted indicating that they are at a heightened risk for adverse physical and mental health outcomes, limited attention has been given to public health workers, and the challenging and varied demands to which they are exposed during and following a disaster. Public health workers during disasters are required to support their community while simultaneously risking injury, damage to personal property, and threats to their own and their family's safety. Identifying factors, such as coping strategies, that may influence mental health outcomes among this population have important implications for planning and preventive interventions.
- The present study aimed to identify the relationship of coping strategies to general distress and clinically significant depression among Florida Department of Health (FDoH) workers following the 2004 Florida hurricane season.



METHODS

Procedures:

- This was a collaborative effort among the FDoH, the Centers for Disease Control, and the Center for the Study of Traumatic Stress.
- Self-report surveys were distributed via e-mail to all FDoH employees.
- The surveys were sent out 9 months after the 2004 Florida Hurricane season; Participation was voluntary and anonymous.

Participants: N=2,457 FDoH Employees

- Gender:** 19.5% Male; 80.5% Female
- Marital Status:** 66.0% Married; 34.0% Not currently married
- Age:** 18-78 years (mean[standard deviation] = 47.5[10.3])
- Race:** 73.0% White; 27.0% Non-white
- Education:** 50.2% < BA/BS; 49.8% ≥ BA/BS

Measures:

- Coping Strategies** were measured on a scale of 0-5 (0=not at all, 1=a little bit, 2=moderately, 3=very, 4=extremely, 5=N/A):

During the hurricanes how helpful was...

- | | |
|---|---|
| ■ Talking to family? | ■ Doing things to take mind off the hurricanes? |
| ■ Talking to friends? | ■ Exercise/participation in sports? |
| ■ Talking to co-workers? | ■ Leisure or restful/relaxing activities? |
| ■ Watching TV coverage of the hurricanes? | ■ Being alone? |
| ■ Keeping to your usual routine? | |

- General Distress** was measured on a scale of 0-4 (0=not at all, 1=slightly, 2=moderately, 3=quite a bit, 4=extremely): **SINCE the hurricanes, how much have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable?)**
- Depression** was measured using the Patient Health Questionnaire-9. Items were scored on a scale of 0-3 (0=not at all, 1=several days, 2=more than half the days, 3=nearly every day). A total score of 10+ indicates moderate to severe depression.

Over the LAST TWO WEEKS, how often have you been bothered by any of the following problems?

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|--|--|
| 1) Little interest or pleasure in doing things? | 6) Feeling bad about yourself or that you are a failure or have let yourself or your family down? |
| 2) Feeling down, depressed, or hopeless? | 7) Trouble concentrating on things, such as reading the newspaper or watching television? |
| 3) Trouble falling staying asleep, or sleeping too much? | 8) Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual? |
| 4) Feeling tired or having little energy? | 9) Thoughts that you would be better off dead or of hurting yourself in some way? |
| 5) Poor appetite or over eating? | |

Statistical Analysis:

- Univariable and multivariable analyses were conducted. Linear regression was used to determine the relationship between coping strategies and general distress. Logistic regression was used to determine the relationship between coping strategies and depression.

RESULTS

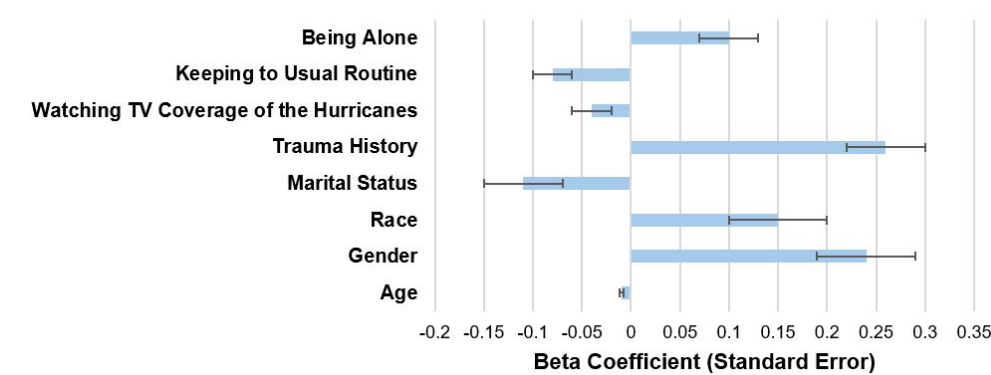
Univariable Analysis

- More general distress** was associated with:
 - Being female ($p \leq .001$)
 - Being white ($p \leq .001$)
 - Trauma history ($p \leq .001$)
 - Identifying **being alone** as a helpful coping strategy ($p \leq .001$)
- Less general distress** was associated with:
 - Younger age ($p \leq .01$)
 - Watching TV coverage of the hurricanes ($p \leq .001$)
 - Being unmarried ($p \leq .001$)
 - Keeping to your usual routine ($p \leq .001$)
- More depression** was associated with:
 - Trauma history ($p \leq .01$)
 - Being alone ($p \leq .001$)
- Less depression** was associated with:
 - Being unmarried ($p \leq .05$)
 - Exercise or participation in sports ($p \leq .01$)
 - Watching TV coverage of the hurricanes ($p \leq .01$)
 - Talking to family ($p \leq .01$)
 - Talking to friends ($p \leq .001$)
 - Talking to co-workers ($p \leq .001$)
 - Keeping to your usual routine ($p \leq .001$)

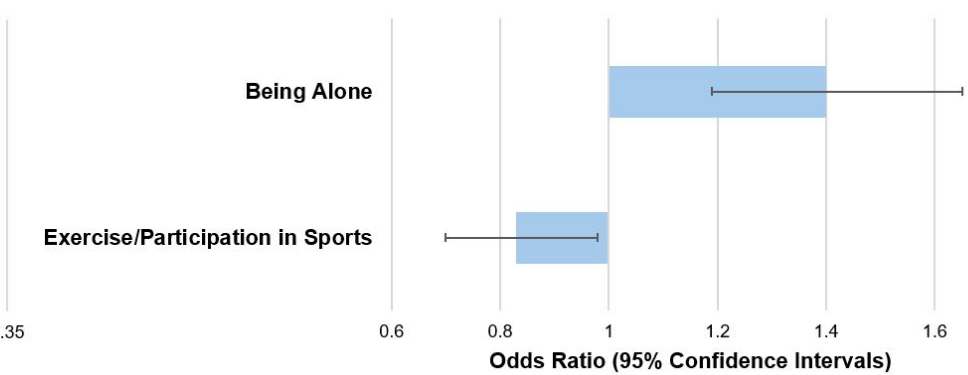
Multivariable Analysis

- General Distress:** All variables significant at the univariable level remained so in the multivariable model.
- Depression:** Only identifying **being alone** as a helpful coping strategy was associated with more depression ($p \leq .001$) and identifying **exercise/participation in sports** as a helpful coping strategy was associated with less depression ($p \leq .05$).

Factors Associated with General Distress Post-Hurricanes



Factors Associated with Depression Post-Hurricanes



CONCLUSIONS

- Coping strategies during natural disasters may influence general distress and depression post-disaster, especially among public health workers.
- Public health workers who reported being alone as a helpful coping strategy during the hurricanes had higher levels of general distress and depression after the hurricanes, after adjusting for demographics and trauma history.
- Those who reported watching TV coverage of the hurricanes and keeping to their usual routine as helpful had lower levels of general distress and those who reported exercise or participation in sports as helpful had lower levels of depression, after adjusting for demographics and trauma history.
- Programs focused on promoting healthy coping strategies, like those identified here, may be an important part of preparation and response practices during community disasters, and may lead to a decrease in general distress and depression after disaster.
- Further study of public health workers and other first responders is needed to better understand the factors that may influence general distress and depression following a community disaster response.

