

Self-Reported Physical Disability Correlated to Post-Traumatic Emotional Disorders

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Background

- In military population, TBI is associated with increased risk for post-traumatic emotional disorders including PTSD and PTSS
- The relationship between TBI and post-traumatic emotional disorders in the civilian population is less clear

Background

- There are few consistent risk factors for the development of post-traumatic emotional disorders
 - Younger age, non-white ethnicity, female, assaultive trauma, low socioeconomic status, pre-injury psychiatric diagnoses, beliefs regarding initial symptoms
- Injury severity scores and Glasgow Coma Scores have not been associated with risk for post-traumatic emotional disorders

Objectives

- Test if self-reported physical disability is an independent risk factor for post-trauma emotional disorders in a civilian population
- Test whether or not TBI amplified the risk for post-trauma emotional disorders associated with physical disability

Approach

- Between August 2010 and November 2011, all trauma clinic patients were asked to complete
 - Rivermead Post-Concussive Symptoms Questionnaire (RPC)
 - 12 Item Short Form Health Survey (SF-12)

Approach

- Post-traumatic emotional disorder was defined as having moderate to severe problems with the emotional factor components of the RPC
- Self-reported physical disability was defined as being limited physically from performing daily activities most to all of the time

Methods: Testing self-reported physical disability as a risk factor for PTED

- Outcome of interest was post-traumatic emotional disorder
- Multivariable logistic regression
 - Controlled for gender, insurance status, shock, injury severity score, brain injury severity score, admission Glasgow Coma Score

Methods: Testing whether or not TBI amplifies the risk of PTED associated with physical disability

- Multivariable logistic regression
 - Controlled for age, gender, insurance status, shock, injury severity score, brain injury severity score, admission Glasgow Coma Score
- Interaction term between self-reported physical disability and TBI severity included

Study Population

- 384 trauma clinic patients with complete forms
- 67 (17.4%) reported PTED
- 244 (63.5%) reported physical disability
- 61 (25.5%) mild TBI
15 (6.3%) moderate/severe TBI

	Physical Disability	No Physical Disability	P-Value
TBI Category			0.3
None	59.5%	69.8%	
Mild	29.7%	24.8%	
Moderate/Severe	10.8%	5.5%	
Gender			0.7
Male	72.7%	75.8%	
Female	27.3%	24.2%	
Insurance			0.06
Private	79.6%	77.5%	
Public	11.4%	4.1%	
Self-Pay	9.0%	18.4%	

	Physical Disability	No Physical Disability	P-Value
ISS Category			0.09
0-9	45.5%	32.4%	
10-15	2.3%	12.3%	
16-24	22.7%	17.6%	
>24	29.6%	37.7%	
Shock	22.7%	36.9%	0.07
GCS <9	9.1%	7.4%	0.7

Results: Physical disability is an independent risk factor for PTED

- Using multivariable logistic regression, the only one of our factors independently associated with PTED was physical disability
- aOR = 4.24, p=0.03

Results: TBI does not amplify risk of PTED associated with physical disability

- Interaction term between mild TBI and physical disability not significant ($p=0.9$)
- Interaction term between moderate/severe TBI and physical disability not significant ($p=0.4$)

Limitations

- Difficult to parse apart overlying symptom patterns among PTED
- Missingness
 - Only patients who came to clinic
 - Only patients willing or able to fill out both forms
- Likely some bias in self-report in moderate/severe brain injury group

Conclusions

- Self-reported physical disability a better correlate of post-traumatic emotional disorders than objective measures of injury severity or patient demographics
- Traumatic brain injury does not increase or decrease the risk of PTED associated with physical disability
- Patient self-report may indirectly capture coping strategies and undetected patient factors that may be more important in predicting emotional disorders than traditional measures

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