BOSTON HEALTH CARE FOR THE HOMELESS PROGRAM

The Prevalence of Traumatic Brain Injury in the Sheltered and Unsheltered Homeless Population of Boston

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ABSTRACT

PURPOSE: Traumatic brain injury (TBI), common in the general population, is particularly common within the homeless population. Homeless persons are at risk of brain injury due to exposure to violence, the high incidence of trauma and accidents, and the prevalence of substance abuse within this population. Traumatic Brain Injury is known to result in socioeconomic decline and may put persons at higher risk of becoming homeless. This poster provides an overview of findings from a cross-sectional study looking at prevalence of TBI and at the psychosocial factors associated with these injuries.

METHODS: Recruitment and interviews occurred from December 2006 through August 2007. Subjects recruited from the program's shelter clinics, hospital clinics and medical respite unit were asked to complete a questionnaire assessing their history and the scope of brain injury, as well as collecting descriptive information on other psycho-social factors, such as mental health status, substance use and homelessness history. Preliminary descriptive data analysis was completed with the sample to compare subjects reporting head injury with those not reporting any head injury. For subjects who reported a head injury a subsequent chart review will be completed.

RESULTS: 227 interviews were completed (recruitment rate = 74%) and 152 (67%) reported at least one head injury. Subjects reporting head injury were predominately males (87%), and had a mean age of 47.5 years. 71% of subjects with head injuries, reported having had more than 1 injury. 94 (62%) of persons reporting head injury were 20 years old or younger at the time of their first head injury and 40 (26%) were 10 years old or younger. Additionally, 44% reported using alcohol or drugs when the injury occurred. Compared to subjects with no head injury, those with head injuries reported significantly higher use of alcohol (p = .002) and other substances, and significantly higher prevalence of depression (p = .003) and other mental illnesses (p = .002). Subjects with head injury also reported higher frequency of problems with concentration and memory, and increased problems with irritability/anger and criminal conviction.

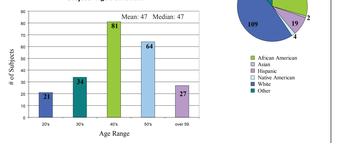
CONCLUSION: A dramatically high percentage of homeless persons surveyed in Boston Health Care for the Homeless clinics reported a history of head injury. This supports the anecdotal observation that the homeless are at high risk of TBI. The young age of first head injury suggests that TBI may be a risk for becoming homeless as an adult. Increased chronicity of homelessness was associated with an increased prevalence of head injury. Those suffering from head injury had increased prevalence of mental illness, cognitive problems and behavioral dysfunction, yet a relatively low percentage received any post injury therapy addressing these issues. This research suggests that homeless persons should be routinely screened for a history of TBI. The complex co-morbidities of mental illness, substance abuse, cognitive and behavioral issues of this population should be recognized and will likely require innovative interventions to assist in the recovery of functional status for these vulnerable individuals.

METHODS

- Subjects were recruited from 6 shelter clinics, 2 hospital clinics and the Barbara McInnis House (medical respite unit)
- 94-item questionnaire administered to 227 subjects
- Chart reviews for subjects reporting head injury to be completed

Descriptive Data (N= 227)

Gender
- Males 184 (81%)
- Females 43 (19%)



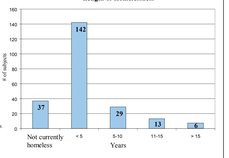
Descriptive Data (N=227)

82% homeless at the time of the interview.

Subjects' reported place of stay the night prior to the interview*:

-Shelter	63.5%
-Streets	8.5%
-Respite	8.4%
-Friends/family	7.1%
-Treatment Facility	1.6%
-Own Place	18.0%

*Some subjects reported more than one location.

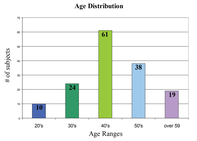


RESULTS

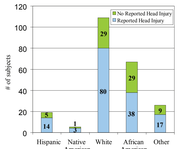
- 152 (67%) subjects reported at least one head injury. Of these subjects:
  - 71% reported having had more than 1 injury.
  - 73% reported losing consciousness with the injury.
  - 73% reported being hospitalized after the head injury.
  - 23% reported receiving any type of therapy after the injury (including speech, physical, occupational, language, psychiatric and behavioral).
  - 44% reported using alcohol or drugs when the injury occurred.

Individuals Reporting Head Injuries (N=152)

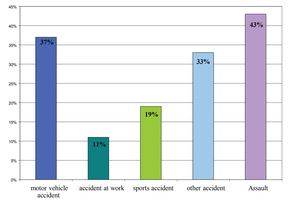
Gender
- Male 132 (87%)
- Female 20 (13%)



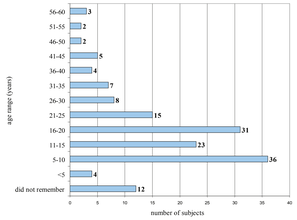
Reported Head Injury by Race/Ethnicity



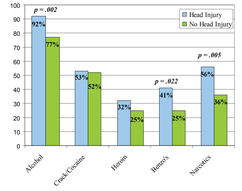
Causes of Head Injury



Age at First Head Injury



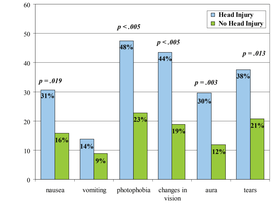
Head Injury and Substance Use



Headaches, Concentration and Memory

	Head Injury (N = 152)	No Head Injury (N = 75)
History of Headaches	64%	52%
Trouble with Concentration	64%	53%
Problems with Short-term Memory	66% (p = .045)	52%
Problems with Long-term Memory	41%	33%

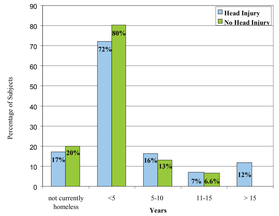
History of Head Injury and Symptoms Associated with Headaches



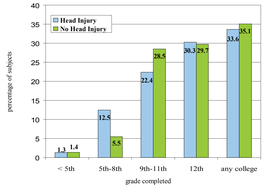
Mental Health, Criminal Conviction and Veteran Status

	Head Injury	No Head Injury
Irritability and Anger	65% (p < .005)	39%
Convicted of a Crime	67% (p = .002)	45%
History of Mental Illness	52% (p = .002)	31%
History of Depression	62% (p = .003)	41%
Veteran	32% (p = .005)	14%

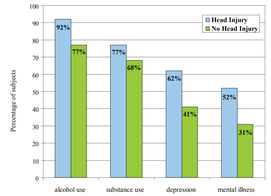
Length of Homelessness and History of Head Injury



Last Grade Completed and History of Head Injury



Reported Co-Morbidities and History of Head Injury



CONCLUSION

- The dramatic proportion of subjects who reported a history of head injury supports our anecdotal observation that homeless individuals are at a high risk of TBI.
- Increased chronicity of homelessness was associated with increased prevalence of head injury.
- Those suffering from head injury have increased prevalence of mental illness, cognitive problems and behavioral dysfunction, yet a relatively low percentage received any post-injury therapy addressing these issues.

CONCLUSION

- These findings suggest that homeless persons should be routinely screened for a history of TBI.
- The complex co-morbidities of mental illness, substance abuse, cognitive and behavioral issues should be considered when developing interventions to assist in the recovery of functional status for these vulnerable individuals.

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