

The Prevalence of Traumatic Brain Injury in the Homeless Community in a UK City

Michael Oddy, Jane Moir,
Deborah Fortescue and Sarah
Chadwick



Homelessness and Cognitive Impairment

- Evidence suggests there are higher rates of cognitive impairment in homeless individuals than in the general population
- Traumatic Brain Injury (TBI) has been suggested as one possible cause
- The limited research that has been conducted suggests that rates of TBI in the homeless may be high



Homelessness and TBI Research

- Hwang et al (2008) conducted the first study with the specific aim of investigating TBI prevalence in homeless individuals
- 904 participants (both male and female) were recruited from a range of homeless shelters in Toronto, Canada
- Participants asked: 'Have you ever had an injury to the head which knocked you out or at least left you dazed, confused or disoriented?'
- 53% of participants responded affirmatively and 60% of these reported sustaining more than one



Homelessness and TBI Research

- A limitation of the Hwang study was the failure to recruit a matched control sample from the general population in order to definitively examine the association between brain injury and homelessness



Relationship between TBI and Homelessness

Two possible links between TBI and homelessness have been suggested:

- TBI may increase the risk of homeless: – the effects (poor memory, volatile mood etc) of TBI may make maintaining accommodation and employment difficult
- Homelessness may increase the risk of TBI: – homeless individuals may be at increased risk of trauma due to violence and substance misuse which may increase the risk of falls and engaging in risky behaviour



Aims of the Study

- To investigate the prevalence of TBI in the homeless population of a UK city
- To address the limitation of the Hwang et al. (2008) study by recruiting a matched comparison group from the general population
- To investigate the direction of any relationship between homelessness and TBI



Methodology

- We designed a questionnaire based on that developed by Hwang et al (2008) and the same question was used to elicit a history of head or brain injury
- Recruitment took place at 12 hostels and day centres providing services to homeless individuals across Leeds
- 100 homeless participants (75 males and 25 females)
- 100 age, gender and education matched comparison participants were recruited from the Leeds area



Results

	Homeless Participants	Comparison Participants
History of Head Injury	48% (n=48, 40 male, 8 female)	21% (n=21, 17 male, 4 female)

- A significantly higher proportion of homeless participants reported a history of head injury than control participants [Chi-squared test for independence with Yates Continuity Correction, $\chi^2 (1, n=200) = 16.13, p < .001$]



Of the homeless people reporting a history of head injury,

- **90% reported that their first head injury preceded homelessness**



Conclusions - prevalence

- The study found a self-reported TBI prevalence rate of 48% in the homeless sample. This was slightly lower than the rate of 53% found by Hwang et al (2008)
- This study attempted to improve on the methodology of Hwang et al (2008) by employing an age, education and gender matched comparison group from the general population
- Results revealed that although the percentage of comparison participants reporting a history of TBI was high (21%); the proportion of homeless participants reporting a history of TBI (48%) was significantly higher; (more than 2x higher)



Conclusions - Is TBI a risk factor for homelessness or is homelessness a risk factor for sustaining a TBI?

- The average age of homeless participants at the time of their first TBI was 19.9 years and 90% reported sustaining their first TBI prior to becoming homeless (70% of the Hwang sample sustained their first injury prior to becoming homeless)
- These results support the suggestion that TBI may be a contributing factor in the pathway to homelessness for some individuals



Implications

- Rates of TBI in homeless individuals appear to be high
- Raising awareness of these high rates of TBI amongst staff of services that support homeless individuals is essential
- Health professionals and researchers working with this population should routinely ask about a history of head injury so that appropriate and useful support can be given to these individuals



Where do we go from here?

- The current study relied on retrospective self-reports of a history of head injury which may be subject to a degree of recall bias
- Future research need to validate these self-reports by cross-referencing them with the medical records of homeless individuals



Where do we go from here?

- Hwang has been trying to find a city in North America where he can do this study for 5 years
- We have found one in Scotland – Glasgow
- Currently being conducted

