Use of non-prescribed opioids and naloxone risk following TBI in Vancouver’s Downtown Eastside

Saint, S.A. 1,2; Livingston, E. 1; Nelson, B. 1,2; Farah, L. 1; Shubbs, J. 1,2; Griér, A. 1; Su, W. 1; Long, D. 1,2; Barr, A. 1,2; Leonova, O. 1,2; Vertinsky, A.T. 1,2; Giacalone, K. 1,2; Jones, A.A. 1,2; Thornton, A. 1,2; Honer, W.G. 1,2; Psenicka, W. 1,2

1. British Columbia Mental Health and Substance Use Services Research Institute, 2. Faculty of Medicine, University of British Columbia, 3. Department of Psychology, Simon Fraser University.

BACKGROUND

- It is not clear if TBI causes increased use of opioids or risk of opioid overdose.
- Little work has made efforts to characterize the TBI-opioid use relationship longitudinally in community samples.

AIMS

Quantify any effect of incident TBI on (1) Non-prescribed opioid use (2) Risk of non-fatal overdose within residents of Vancouver’s Downtown Eastside.

METHODS

Design. Eighty-seven participants from a naturalistic cohort study assessing morbidity in marginally-housed residents of Vancouver’s Downtown Eastside:
- Were prospectively monitored for TBI.
- Completed the same substance and naloxone use assessment of non-injured participants.
- To index possible cohort effects

Analyses

Effect of TBI on opioid use (1)

- Non-parametric pre-post-injury comparison
- ‘Controls’ Compare average weekly frequency of non-prescribed opioid use (days used / 7) in the year before TBI to that in the year after TBI.
- ‘Controls’ Repeat comparison with time-locked opioid use data from non-injured participants.

Effect of TBI on risk of overdose (2)

- Time-to-event analysis
- Cox proportional hazards model

RESULTS

Average days of weekly non-prescribed opioid use increased from pre- to post-TBI year (figure 1; Vwilscon signed rank = 544, p = .010, pre-injury mean: 2.5 days, median: 0.83; post-injury mean: 2.9 days, median 1.5).

No such increase was noted in the time-locked matched injured group (Vwilscon signed rank = 138, p = .086, pre-injury mean: 1.55 days, median: 0; post-injury mean: 1.70 days, median 0).

CONCLUSIONS

Traumatic brain injury is associated with increases in non-prescribed opioid use and increased risk of non-fatal overdose.

REFERENCES


Figure 1. Non-parametric comparison of mean weekly opioid use in the year before and after TBI.

Figure 2. Depiction of estimated hazard of non-fatal overdose after time of TBIs.