



ST VINCENT'S
HEALTH AUSTRALIA



Opioid dependence and trauma

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UNDER THE STEWARDSHIP OF MARY AIKENHEAD MINISTRIES

PTSD and OUD



PTSD has been shown to co-occur with substance use disorders especially OUD

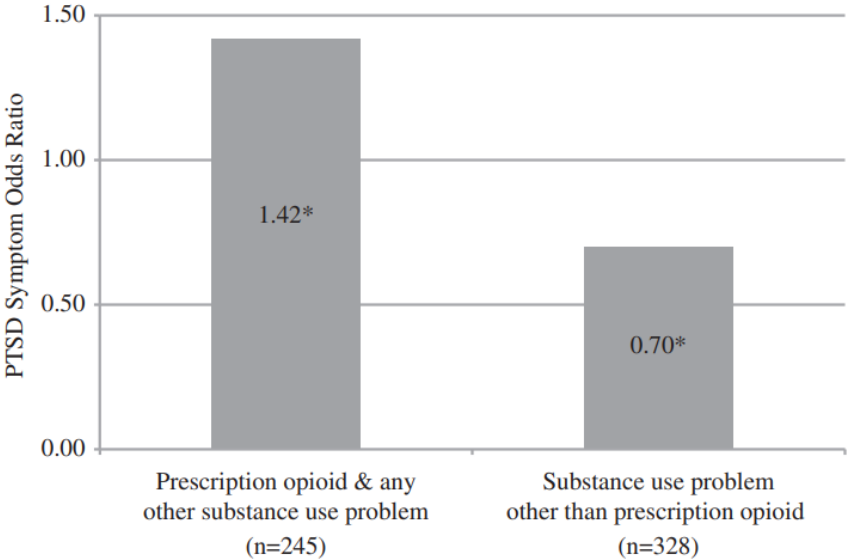


Figure 1. Odds ratios for posttraumatic stress disorder (PTSD) symptom severity with and without a prescription opioid use problem ($n = 573$).
Note: $*p \leq 0.05$.

[1] <https://pubmed.ncbi.nlm.nih.gov/24809229/>

PTSD and OUD



- Particularly high comorbidity between PTSD and opioid use disorder relative to other drugs
- One study of 573 clients attending addiction treatment facilities found that
 - 47% of clients with prescription opioid use disorder had probable PTSD diagnosis (PTSD checklist >44) compared with
 - 38.7% without prescription opioid use disorder (OR 1.42, 95% CI 1.02-1.99)

[1] <https://pubmed.ncbi.nlm.nih.gov/24809229/>

PTSD and OUD (2)



- **Higher rates of prescription opioid misuse in:**
 - Women with histories of sexual abuse
 - Adolescents (12-17yo) who have witnessed violence [2]

- **Veterans with PTSD significantly more likely to engage in high-risk use of prescription opioids compared to those without PTSD**
 - Adjusted relative risk 1.74 (95% CI 1.67-1.82) [3]

[2] www.ncbi.nlm.nih.gov/pmc/articles/PMC2738927/

[3] <https://pubmed.ncbi.nlm.nih.gov/22396516/>

Why the correlation?



Substance use commonly used as means of self-medicating symptoms relating to underlying **(and potentially undiagnosed)** PTSD

Why the correlation?



When exposed to trauma or stress, cascade of stress hormone release involving the hypothalamic pituitary axis starting with corticotrophin-releasing hormone (CRH) occurs:

- Adrenocorticotrophic hormone (ACTH) release → Fight or flight response
- Beta-endorphin release → Reduces emotional + physical pain

Why the correlation?



- As the withdrawal of these stress hormones occurs ...
... emotional distress and other symptoms of PTSD become **more** prevalent
- Substance use, particularly sedatives, can be used to compensate for this stress hormone withdrawal [5]

Noradrenergic overstimulation



Activation of the hypothalamic pituitary axis precipitates other neurochemical responses such as

- **activation of the noradrenergic system** via the brainstem locus coeruleus [7]

[6] <https://pubmed.ncbi.nlm.nih.gov/9854171/>

References



- [1] <https://pubmed.ncbi.nlm.nih.gov/24809229/>
- [2] www.ncbi.nlm.nih.gov/pmc/articles/PMC2738927/
- [3] <https://pubmed.ncbi.nlm.nih.gov/22396516/>
- [4] <https://www.cureus.com/articles/8657-comorbid-post-traumatic-stress-disorder-and-opioid-dependence>
- [5] <https://pubmed.ncbi.nlm.nih.gov/10890822/>
- [6] <https://pubmed.ncbi.nlm.nih.gov/9854171/>

