Therapeutic approaches to the treatment of post traumatic stress disorder and substance use in adults and adolescents

Natalie Peach1, Katherine Mills1, Emma Barrett1, Vanessa Cobham2, Joanne Ross1, Sean Perrin3, Sarah Bendall4, Sudie Back5, Kathleen Brady5, Maree Teesson1

1NHMRC Centre of Research Excellence in Mental Health and Substance Use, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia
2School of Psychology, University of Queensland, St Lucia, QLD, Australia
3Department of Psychology, Lund University, Lund, Sweden
4Orygen National Centre of Excellence in Youth Mental Health, Parkville, VIC, Australia
5Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston, SC, USA
Outline

What are trauma and PTSD?

How common are trauma and PTSD among people with substance use disorders?

Why are we concerned?

Why do they co-occur?

How do the symptoms of each interact?
Outline

How do we best treat?

Adults

Adolescents
What is trauma?

- **An event** where a person is exposed to:
  - death
  - threatened death
  - actual or threatened serious injury
  - actual or threatened sexual violence

- The event may be **experienced via**:
  - direct exposure
  - witnessing, in person
  - indirectly (i.e., learning that a close relative or close friend was exposed to trauma)
  - repeated or extreme indirect exposure to aversive details of events, usually in the course of professional duties

- **May be prolonged or one-off event**

What is PTSD?

• Most common psychiatric disorder to occur after a traumatic event (conditional probability 1/10)

  - Intrusive re-experiencing e.g. nightmares, flashbacks
  - Avoidance e.g. avoid trauma-related thoughts, feelings, reminders
  - Negative alterations in cognitions and mood e.g. negative thoughts about self and world, self blame, decreased interest in activities and decreased positive affect
  - Alterations in arousal and reactivity e.g. irritability or aggression, hypervigilance, difficulty concentrating or sleeping

• Adaptive response to fear that has become maladaptive

Rates of child and adolescent trauma

- The 'hidden epidemic' of child and adolescent trauma is an issue of significant public health concern (Lanius, et al., 2010)
- Alarmingly high rates of trauma exposure (and repeated exposure) experienced by children and adolescents under the age of 18yrs
- A review of 32 studies conducted across 13 countries concluded that the rates of trauma exposure peak in adolescence, with 70-80% of adolescents having been exposed to one or more traumas (Nooner, et al., 2012)

Nooner KB, et al. (2012). Factors related to Posttraumatic Stress Disorder in Adolescence, Trauma, Violence, & Abuse, 13(3), 153-166
Early trauma is associated with increased risk for serious and disruptive problems that persist into adulthood (Anda et al., 2006; Brady & Back, 2012; Wu et al., 2010).

Many experience lifetime difficulties in multiple domains of functioning (emotion regulation, interpersonal functioning, cognition and memory) as manifested by:

- Low educational attainment and unemployment
- High risk behaviours, aggression, imprisonment, homelessness
- Chronic physical health conditions (e.g. cardiovascular disease, diabetes, liver disease)
- Mental health disorders, substance use and suicide

The earlier the trauma, the greater the risk for these problems (Scott et al., 2011).

Those exposed to multiple traumas are at increased risk for cumulative impairment (Briggs et al., 2012; Cook et al., 2005; Heim et al., 2010).
In Australia, >80% of entrants to treatment report having experienced a traumatic event in their lifetime.


Trauma among clients entering AOD treatment

• Most commonly:
  - witnessing serious injury or death,
  - threatened with a weapon, held captive or kidnapped
  - physical or sexual assault

• The vast majority have experienced multiple traumas

• High rates of childhood trauma

<table>
<thead>
<tr>
<th>Event</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witnessed serious injury/death</td>
<td>68</td>
</tr>
<tr>
<td>Threatened with a weapon, held captive, kidnapped</td>
<td>64</td>
</tr>
<tr>
<td>Seriously physically attacked or assaulted</td>
<td>55</td>
</tr>
<tr>
<td>Involved in a life threatening accident</td>
<td>50</td>
</tr>
<tr>
<td>Great shock – other person</td>
<td>42</td>
</tr>
<tr>
<td>Sexually molested</td>
<td>31</td>
</tr>
<tr>
<td>Raped</td>
<td>25</td>
</tr>
<tr>
<td>Involved in a fire, flood, other natural disaster</td>
<td>24</td>
</tr>
<tr>
<td>Other extremely stressful event</td>
<td>21</td>
</tr>
<tr>
<td>Tortured or the victim of terrorists</td>
<td>8</td>
</tr>
<tr>
<td>Direct combat experience in a war</td>
<td>4</td>
</tr>
</tbody>
</table>

High prevalence of PTSD in AOD clients

- Not surprising that **up to two-thirds** of AOD clients have also been found to suffer from post-traumatic stress disorder (PTSD).


PTSD and SUD among adolescents

• PTSD and SUD often co-occur among adolescents:
  – 70% of adolescents with SUD have experienced a trauma and up to 35% suffer from concurrent PTSD
  – ~ 50% of adolescents with PTSD also suffer from a co-occurring SUD

(Giaconia et al., 2000; Deykin et al., 1997; Kilpatrick et al., 2003; Lubman et al., 2007; Nooner et al., 2012)
Harms associated with PTSD+SUD

Poorer physical health
Poorer psychological health
Poorer psychosocial functioning

More severe clinical profile

Pooreer treatment outcomes


Why do SUD+PTSD co-occur?

• Theories to explain the relationship:

  - **Self-medication hypothesis**
    • Self-medication of PTSD symptoms plays a significant role in the development and maintenance of AOD use disorders.
    • The onset of trauma exposure and the development of PTSD symptoms predates the onset of an AOD use disorders in at least half of cases.

*Chapman et al. (2012). Remission from post-traumatic stress disorder in the general population. Psychological Medicine, 42, 1695-1703.*
Why do SUD +PTSD co-occur?

- Theories to explain the relationship:
  - Self-medication hypothesis
  - High-risk hypothesis
  - Susceptibility hypothesis
  - Common factors hypothesis

Regardless, once have both disorders each serves to maintain/exacerbate the other
Trauma, PTSD, and AOD use are integrally related

- Improvements in PTSD lead to improvements in substance use but reciprocal relationship not observed - PTSD symptoms do not remit following improvements in substance use.

- On the contrary, PTSD symptoms may worsen in the absence of substance use, making it difficult for patients to sustain abstinence and increasing their risk of relapse to AOD use.

- Highlights the centrality of PTSD improvement in the treatment of SUD+PTSD clients.

How do we best treat co-occurring PTSD and SUD?
How do we best treat PTSD+SUD?

- Reluctance to address PTSD among AOD clients:
  - too vulnerable
  - need to address AOD use first
- Clients being passed between services with little coordination of care

Treatment models for PTSD+SUD

**Sequential Model**
- SUD treated first
- PTSD treated later

**Parallel Model**
- SUD treated by Clinician 1
- PTSD treated by Clinician 2

**Integrated Model**
- SUD and PTSD treated at *same time* by *same clinician*

- Clients prefer this
- More efficient

Evidence-based integrated psychotherapies

• A number of integrated psychological therapies have been developed for the treatment of comorbid SUD+PTSD over the two decades.

• Existing approaches may be divided into two types:
  - non trauma-focused therapies (present-focused)
    (e.g., Seeking Safety [www.seekingsafety.org/])
  - trauma-focused therapies (past-focused)
    - Using prolonged exposure – repeated re-telling and exposure to trauma memories

Evidence-based integrated psychotherapies

- Cochrane review concluded that:
  - there is little evidence to support non-trauma/present-focused individual or group-based therapies
  - individual trauma-focused therapies delivered alongside AOD treatment can reduce PTSD severity and AOD use

Exposure-based integrated psychotherapies

• Exposure-based therapies = gold standard for PTSD

• Traditionally, considered inappropriate for people with SUD:
  • distressing emotions experienced may be overwhelming (lead to more substance use; put at-risk of self-harm/suicide)

• Researchers have begun investigating the efficacy of integrated exposure-based programs that address PTSD and AOD use simultaneously.


Exposure-based integrated psychotherapies

• Support for these programs is growing, with an increasing number of studies providing evidence for their safety and efficacy

• Two large RCTs conducted in Australia.


Exposure-based integrated psychotherapies

• Sannibale et al (2013) compared the efficacy of integrated CBT for PTSD and alcohol use with CBT for alcohol use plus supportive counselling (12 session; n=62). Participants who had received one or more sessions of exposure therapy had twice the rate of clinically significant change in PTSD severity compared to those who received CBT for alcohol use plus supportive counselling.

• Mills et al (2012) examined the efficacy of a 13 session integrated therapy called Concurrent Treatment of PTSD and Substance Use Disorders Using Prolonged Exposure (COPE) among individuals with a range of SUDs (combines CBT for SUD and PTSD, including prolonged exposure), relative to TAU for SUD (n=103).

### Participants

- **N = 103**

#### Treatment (53%)
- Receive COPE

#### Control (47%)
- Assessment only

#### Main drug of concern

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Heroin</td>
<td>21</td>
</tr>
<tr>
<td>Cannabis</td>
<td>19</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>17</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>16</td>
</tr>
<tr>
<td>Alcohol</td>
<td>12</td>
</tr>
<tr>
<td>Cocaine</td>
<td>7</td>
</tr>
<tr>
<td>Other opioids</td>
<td>7</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>1</td>
</tr>
</tbody>
</table>

- **100% substance dependent**
- **Median number of drug classes used = 4.0**
- **80% injecting drug users**

### Total (n=103)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Childhood trauma (pre 16 years)</td>
<td>75%</td>
</tr>
<tr>
<td>Median age of first trauma (IQR)</td>
<td>8yrs (5 – 15yrs)</td>
</tr>
<tr>
<td>% CSA</td>
<td>55</td>
</tr>
<tr>
<td>% Current PTSD</td>
<td>100</td>
</tr>
<tr>
<td>Median duration (range)</td>
<td>10yrs (1mth – 40yrs)</td>
</tr>
<tr>
<td>% Severe depression</td>
<td>69</td>
</tr>
<tr>
<td>% Screen +ve for BPD</td>
<td>73</td>
</tr>
<tr>
<td>% Attempted suicide</td>
<td></td>
</tr>
<tr>
<td>- Lifetime</td>
<td>53</td>
</tr>
<tr>
<td>- 12 month</td>
<td>10</td>
</tr>
</tbody>
</table>
What we found

• Across the 9 mth follow-up period both groups evidenced improvements in their:

  ✓ Substance use
  ✓ Severity of dependence
  ✓ PTSD symptoms
  ✓ Depression
  ✓ Anxiety

  THEY DID NOT GET WORSE!

• Participants randomised to COPE demonstrated significantly greater improvements in relation to their PTSD symptoms

Primary outcomes

PTSD symptom severity

Severity of SUD

Mean CAPS scores

Mean number of dependence criteria

PTSD diagnosis

*Controlling for baseline severity of PTSD symptoms*
Primary outcomes

PTSD symptom severity

Changes in PTSD severity were NOT influenced by presence of other comorbidities (depression, anxiety, BPD), types of traumas experienced, types/number of substances used

Ongoing AOD use may impede therapy, but it is not necessary to achieve abstinence before the commencement of PTSD treatment – improvements can be obtained even with continued AOD use

Mean CAPS scores


Participant feedback

“The best thing I have done for myself in years. I hadn’t ever spoken about this stuff so it was really helpful”

“It helped me realise how much my addiction is linked to the trauma. I can now talk about the incident without freaking out”

“No one had ever talked to me about my trauma before. It was good to put a name to my symptoms”

“The imaginal exposure was the hardest part but also the most useful.”
The COPE Treatment manual is published in the Oxford University Press 'Treatments that Work' series and available online.

Further research (COPE)


Ruglass et al (2017) compared the efficacy of COPE and Relapse Prevention Therapy (RPT) for substance use relative to an active monitoring control group (n=110). Both groups demonstrated significantly greater reductions in PTSD and SUD compared to active monitoring. Participants with full PTSD (vs subthreshold) demonstrated significantly greater reductions with COPE relative to RPT.

Back et al (in prep) compared the efficacy of COPE to TAU among military veterans (n=54)... outcomes pending.


Where to next: **COPE-A**

- Treating substance use and traumatic stress among adolescents
- There is a critical need to intervene early before PTSD and SUD develop into chronic, relapsing conditions in adulthood
- Lack of empirically validated treatments for adolescents with PTSD and AOD
- NHMRC-funded RCT
- Examining efficacy of **COPE-Adolescent** treatment in adolescents with co-occurring PTSD + AOD use, relative to a supportive counselling control
Currently recruiting in Sydney region
We are looking for 12-18 year olds with-
  - Exposure to at least one traumatic event
  - DSM-5 full or subthreshold PTSD diagnosis
  - Use of alcohol or other drugs in past month and history of problematic use
  - Fluency in English
- Both treatments: 16 sessions with psychologist, free of charge
- Four optional caregiver sessions
- Can continue seeing regular clinician
- Location convenient to participant
- Contact: n.peach@unsw.edu.au or k.mills@unsw.edu.au

Where to next: COPE-A