

# **STASH, Vol. 7(9): Taking matters into their own hands: Cannabis use following inpatient treatment for PTSD among a sample of military veterans**

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Military Veterans who have experienced trauma are at increased risk for PTSD symptoms and cannabis use among other disorders (Bremner et al., 1996). In line with Khantzian's self-medication hypothesis (Khantzian, 1985), people might turn to cannabis as an attempt to cope with PTSD symptoms, including anxious arousal and sleep disturbance. Research suggests that individuals who have experienced trauma are a particularly vulnerable population for relapsing to cannabis use after a period of discontinuation (Bremner et al., 1996).

The study we review in this week's STASH (Bonn-Miller et al., 2011) was the first to examine cannabis use among American Veterans following inpatient treatment for PTSD. This study prospectively examined the relationship between treatment changes in PTSD symptom severity and cannabis use four months after discharge from residential treatment for PTSD. The researchers hypothesized that lower levels of change in PTSD symptom severity (i.e., PTSD symptoms not improving) would predict more frequent cannabis use at 4-month follow-up post-treatment than their symptom improving counterparts. In addition, the researchers examined patterns of substance use specifically by looking at two additional substance use classes: alcohol and opiates. Use of these substances tends to co-occur among those with PTSD at high rates (Chilcoat & Menard, 2003).

## **Methods**

- The sample was composed of 432 male military Veterans (56.9% white, Mage= 51.06 years)
- All Veterans had a primary diagnosis of PTSD and were inpatients at the Department of Veterans Affairs (VA) Medical Center in Palo Alto.

- The researchers assessed the sample at 3 points:

- 1) At treatment intake
- 2) At treatment discharge
- 3) At 4-month follow-up which was administered by mail

### *Measures*

- The researchers used the PTSD Checklist—Military Version (PCL-M; Weathers et al., 1993) to measure PTSD symptom severity at treatment intake and treatment discharge.
- The PCL-M asks questions about DSM-IV PTSD symptoms; respondents indicate the degree to which they have been bothered by each of the 17 symptoms within the past month.
- The researchers calculated PTSD symptom severity change as the PCL-M score difference between intake and discharge. Lower levels of change indicate less symptom improvement.
- The researchers used the Northeast Program Evaluation Center (NEPEC) to assess substance use at intake and follow-up. Patients reported the number of days that they used cannabis, alcohol, cocaine, opiates, and amphetamines during the 2 months before intake assessment as well as 1 month before follow-up assessment (i.e., 3 months after discharge)

### **Results**

- Roughly half (54.3%; n=19) of participants who used cannabis pre-treatment relapsed to cannabis use after treatment; 10.1% (n= 40) of participants who did not report cannabis use pre-treatment reported cannabis use after treatment.
- Participants with lower levels of PCL-M score improvement reported significantly greater frequency of cannabis use during the 30 days before the 4-month follow-up, even after controlling for frequency of cannabis use pre-treatment ( $\beta = .11$ ;  $p < .05$ )
- Using post-hoc analyses, the researchers explored whether changes in certain PTSD symptom clusters were predictive of cannabis use at follow-up after controlling for frequency of cannabis use pre-treatment (see

Table 1):

- Levels of improvement in PTSD “re-experiencing” severity were not associated with cannabis use at follow-up ( $\beta = -0.09$ ;  $p = .07$ ),
  - Lower levels of improvement in PTSD “avoidance/numbing” severity significantly predicted more cannabis use at follow-up ( $\beta = -0.11$ ;  $p < .05$ )
  - Lower levels of improvement in PTSD “hyperarousal” symptoms significantly predicted more cannabis use at follow-up ( $\beta = -0.09$ ;  $p = .05$ ).
- Levels of improvement in PTSD symptoms were not associated with the frequency of any other non-cannabis substance use, suggesting a substance specificity effect for cannabis.

<b>PCL-M Change (Intake to Follow-Up)</b>	<b><math>\beta</math></b>	<b><i>P</i></b>
Re-experiencing	- .09	.07
Avoidance/numbing	- .11	<.05
Hyperarousal	- .09	.05

Figure. Relationship between PCL-M Symptom Improvement during Treatment and Follow-Up Cannabis Use.

### **Limitations**

- The researchers did not collect information regarding co-occurring Axis-I or Axis-II diagnoses. As a result, they could not study the relationships between substance use and co-morbid conditions.
- Because the VA Palo Alto Medical Center was responsible for collection of data and determination of benefits, participants might have been reluctant to disclose some patterns of drug use. A third party assessment (both in terms of person and institution) might have helped to prevent this potential bias.
- This study used a limited sample, only male military Veterans. This might mean that these findings will not generalize to women or victims of other kinds of trauma.

### **Discussion**

Veterans who experienced less improvement in their PTSD symptoms used

cannabis more frequently after treatment. This was particularly true for the PTSD symptoms avoidance/numbing and hyperarousal. These results support the idea that Veterans with PTSD might turn to cannabis to cope with hyperarousal symptoms like irritability and sleep disturbances, and numbing symptoms like emotional detachment, in line with with Khantzian's self-medication theory (1997). The substance specificity effect suggests that cannabis might be particularly helpful in alleviating these PTSD symptoms, at least temporarily. Future research should clarify the perceived and actual benefits of cannabis use among the Veteran population, as well as the detrimental effects of cannabis use. Future research also could seek to identify the perceived and actual benefits of other kinds of coping mechanisms among those who have PTSD.

*What do you think?* Please use the comment link below to provide feedback on this article.

## **References**

Bonn-Miller, M.O, Vujanovic, A.A., Drescher, K.D. (2011) Cannabis use among military veterans after residential treatment for posttraumatic stress disorder. *Psychology of Addictive Behaviors*, 25(3), 485-491.

Bremner, J. D., Southwick, S. M., Darnell, A., & Charney, D. S. (1996). Chronic PTSD in Vietnam combat Veterans: Course of illness and substance abuse. *The American Journal of Psychiatry*, 153, 369-375.

Chilcoat, H. D., & Mennard, C. (2003). Epidemiological investigations: Comorbidity of posttraumatic stress disorder and substance use disorder. In P. Ouimette & P. J. Brown (Eds.), *Trauma and substance abuse: Causes, consequences, and treatment of comorbid disorders*. Washington, DC: American Psychological Association.

Khantzian, E. J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *American Journal of Psychiatry*, 142, 1259-1264.

Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (October, 1993). The PTSD checklist (PCL): Reliability, validity, and diagnostic utility. Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX.