

Introduction

- ~1 in 5 women are sexually assaulted during their lifetime.¹
- > 90% of sexual assault (SA) survivors experience posttraumatic stress (PTS), a higher prevalence than other forms of trauma.^{2,3}
- Adult SA survivors often have limited access to mental health services, and PTS in SA survivors has been associated with substance use coping⁴.
- During this time of physical and mental suffering, 13% – 49% of sexual assault survivors develop an alcohol use disorder, and 28% – 61% develop problematic use of other substances⁵.
- To our knowledge, there are no large-scale prospective studies of associations between PTS and substance use among SA survivors. We evaluated the association between PTS and substance use using data from a large-scale prospective study (R01 AR064700). We evaluated use of alcohol, cannabis, and prescription pain relievers and controlled for age, income, and education level.

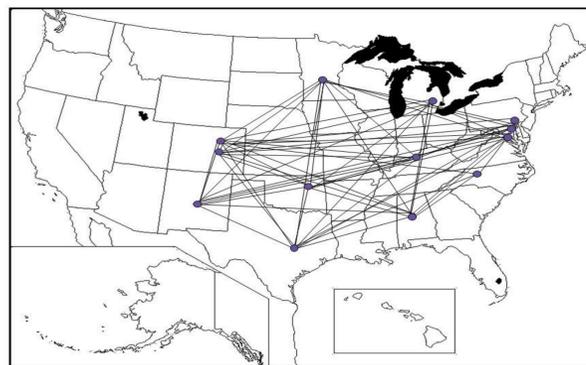
Methods

- Adult woman sexual assault survivor ≥ 18 years of age presenting to a *Better Tomorrow Network* site (Figure 1) within 72 hours of SA were approached for study participation.
- Initial consent at time of emergency care included consent to contact the participant in 48-72 hours, collect blood samples, perform a brief assessment, and access medical records. These records include Sexual Assault Nurse Examiner (SANE) records regarding the assault history and medical services provided to the patient.
- Follow up evaluations of enrolled participants are performed at 1 week, 6 weeks, 6 months, and 1 year after SA. These included assessment of PTS symptoms (PTSD Checklist, PCL-5) and use of alcohol, cannabis, and prescription pain reliever (CIDI-SC).
- Cohort sociodemographic characteristics were summarized using descriptive statistics. Linear regression analysis was used to evaluate associations between PTS and substance use at 6 weeks, 6 months, and 1 year.

Table 1. Sexual Assault Survivor Characteristics (n=706)

Age, mean (SD)	28 (9.7)
Highest level of education completed, n (%)	
Less than high school	56 (8)
High school or some college	502 (72)
College graduate or beyond	142 (20)
Income, n (%)	
Less than \$40,000	408 (63)
\$40,000-\$80,000	159 (25)
\$80,000 or higher	83 (13)

Figure 1. Better Tomorrow Network sites



Participant comments related to coping

For me the coping mechanism I have used the most is alcohol, even when I was in counseling. There should probably be more assistance available just for rape victims and substance abuse related problems. – 1-year survey

It gets worse before it gets better... being numb is easier than dealing with the emotions it causes. – 1-year survey

I truly didn't think I was going to deal with trauma and emotional pain on the level of despair. I was wrong. This has been the most dynamic emotional pain I have ever experienced and I've had moments of PTSD where I feel completely emotionally hijacked by this reality and I lose control. – 1-week survey

This doesn't go away. It's been six months and I still have breakdowns about what happened. I have had a wonderful support system but I still feel the effects of this. I can't imagine what this is like for people who do not have a support system. I am so privileged and yet I am still suffering. – 6-month survey

Figure 2. Posttraumatic stress severity (PCL-5) 6 weeks, 6 months, and 1 year after sexual assault (n = 614)

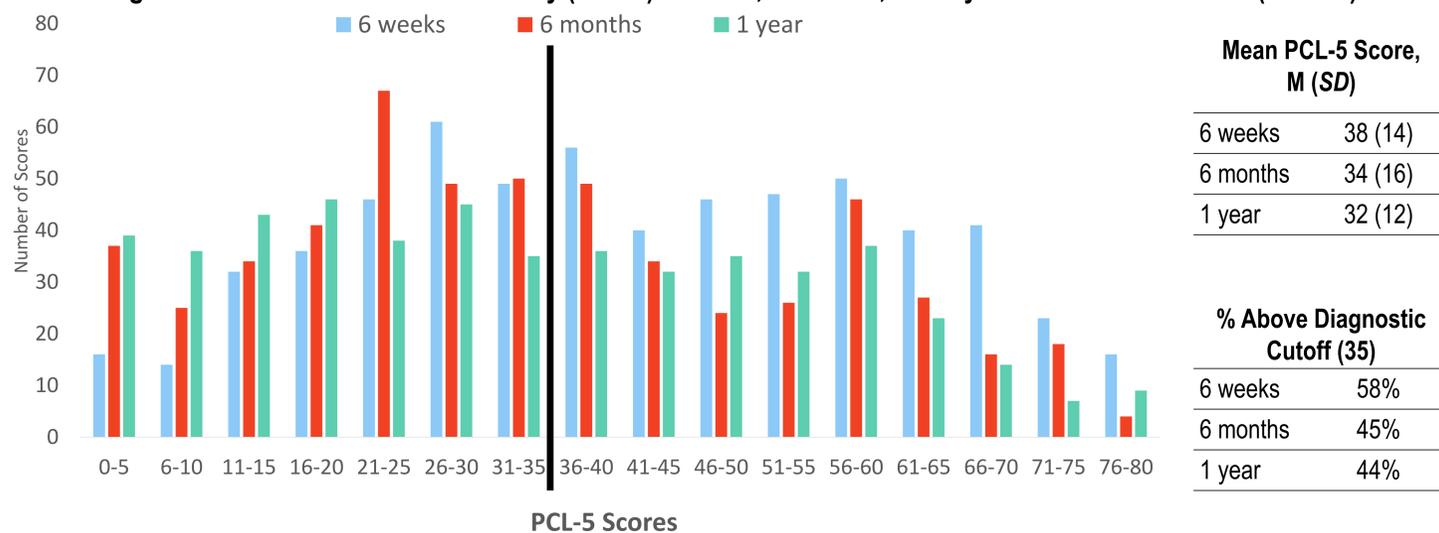


Table 2. Associations between substance use and posttraumatic stress at 6 weeks, 6 months, and 1 year after sexual assault*

	Weekly Use, n (%)	β	p-value
6 weeks			
Alcohol	139 (22)	1.649	0.330
Cannabis	168 (27)	4.038	0.019
Prescription pain relievers	19 (5)	7.126	0.030
6 months			
Alcohol	113 (21)	4.109	0.026
Cannabis	150 (27)	7.201	< 0.001
Prescription pain relievers	19 (3)	6.278	0.064
1 year			
Alcohol	113 (22)	5.105	0.012
Cannabis	156 (31)	5.347	0.009
Prescription pain relievers	13 (3)	16.833	< 0.001

*Adjusted for age, education, and income level



Overall, ~40% of survivors used alcohol, cannabis, and/or prescription pain relievers in the year after sexual assault.

Results

- Regarding sample descriptives, most SA survivors were < 30 years of age, had not completed college, and had an income < \$40,000 per year (Table 1).
- PTS severity was high at all 6 weeks, 6 months, and 1 year after SA, with 44-58% of PCL-5 scores over the diagnostic cutoff for PTSD (Figure 2).
- Substance use was common at all timepoints, with ~40% of SA survivors using substances in the year after SA.
- PTS symptoms were associated with cannabis use at 6 weeks (p = 0.019), 6 months (p < 0.001), and 1 year (p = 0.009); with alcohol at 6 months (p = 0.026) and 1 year (p = 0.012); and with prescription pain relievers at 6 weeks (p = 0.030), 6 months (p = 0.064), and 1 year (p < 0.001) (Table 2).

Conclusions

- Most adult women sexual assault survivors presenting for emergency care experience a substantial burden of posttraumatic stress in the year after sexual assault.
- The use of substances such as alcohol, cannabis, or prescription pain relievers in the year following sexual assault is associated with more severe posttraumatic stress symptoms.
- Further analyses of this study will include evaluations of the incidence of PTS and other neuropsychiatric outcomes over time, as well as predictions of these outcomes.

References

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