

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.

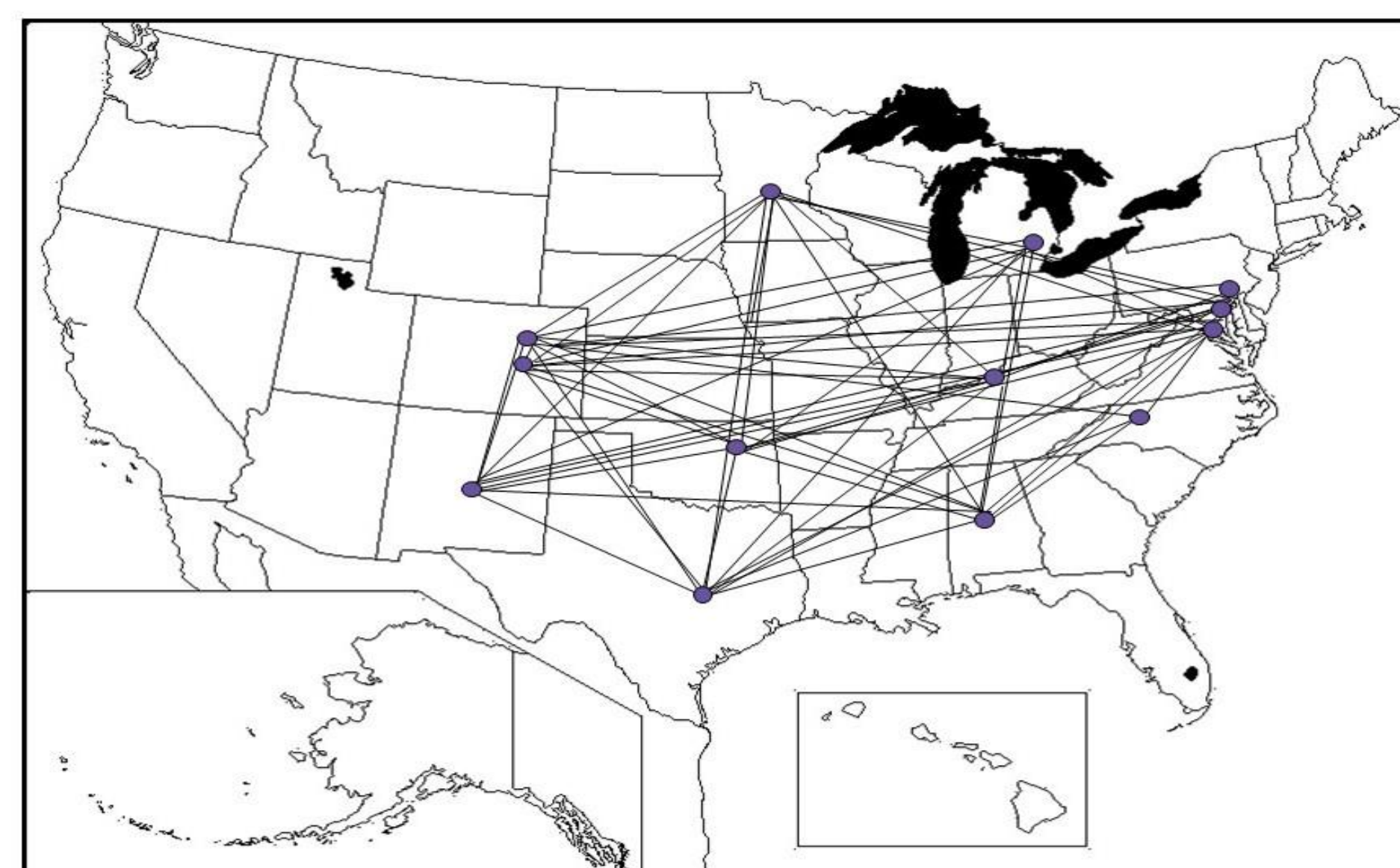
Methods

- 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)

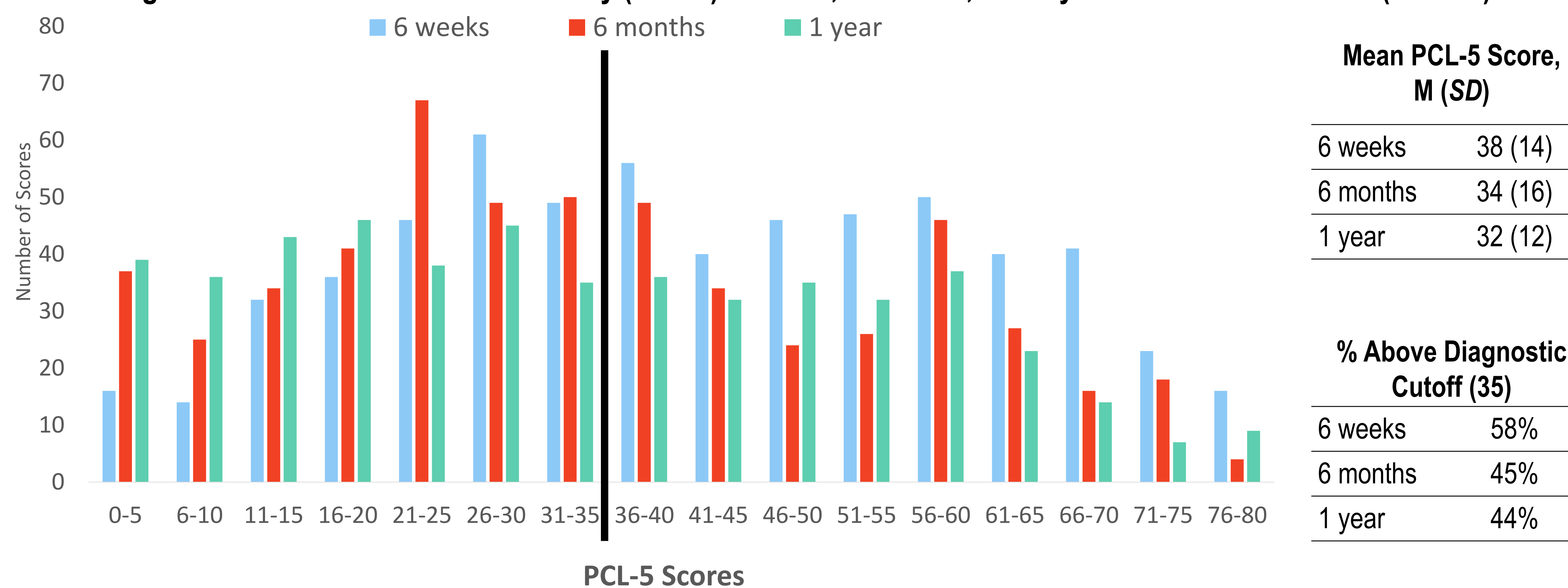


Table 2. Associations between substance use and posttraumatic stress at 6 weeks, 6 months, and 1 year after sexual assault*

	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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Funding

Research reported in this presentation was supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health under Award Number R01 AR064700.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.