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BACKGROUND

- Injection drug use (IDU) is associated with an increased risk of acquisition and transmission of bloodborne pathogens such as HIV and Hepatitis C virus (HCV)¹
- Justice involved persons with HIV (PWH), and OUD are also at increased risk of virologic failure due to substance use relapse post release to the community²
- Treating OUD using medications, particularly buprenorphine and methadone, is an evidence-based strategy to improve retention in care, improve HIV viral suppression, and reduce IDU frequency,³ however the effect of extended-release naltrexone (XR-NTX) on IDU behaviors has been incompletely studied
- We aimed to assess the relationship between receipt of XR-NTX and IDU behavior among PWH and OUD post-release from incarceration and hypothesized that XR-NTX would modulate IDU frequency in these individuals

RESULTS

Table 1. Participant baseline characteristics by ‘as treated’ groupings.

Variable	Overall N = 88 n (%)	High Treatment N = 21 n (%)	Low Treatment N = 67 n (%)	p value
Age, mean (SD), years	45.7 (8.28)	47.6 (7.70)	45.0 (8.41)	0.21
Cisgender male	71 (80.7)	18 (85.7)	53 (79.1)	0.75
Race and Ethnicity				
White non-Hispanic	9 (10.2)	3 (14.3)	6 (9.0)	0.41
Black non-Hispanic	20 (22.7)	8 (38.1)	12 (17.9)	0.07
Hispanic	59 (67.1)	10 (47.6)	49 (73.1)	0.03
Education, High School or greater	12 (13.6)	6 (28.6)	6 (9.0)	0.002
Unstable Housing Status	50 (56.8)	10 (47.6)	40 (59.7)	0.33
Currently Prescribed ART	74 (84.1)	20 (95.2)	54 (80.6)	0.23
HIV viral load <200 copies/mL at release	54 (61.4)	13 (61.9)	41 (61.9)	0.95
CD4 count, mean (SD), cells/mL	501.7 (299.7)	499.1 (334.1)	502.5 (290.8)	0.77
HCV antibody	62 (70.5)	14 (66.7)	48 (71.6)	0.80
Substance Use Disorder via MINI				
Alcohol	22 (25.0)	6 (28.6)	16 (23.9)	0.72
Cocaine	67 (76.1)	14 (66.7)	53 (79.1)	0.40
Cannabis	22 (25.0)	4 (19.1)	18 (26.0)	0.81
Utilized injection drugs 30 days prior to incarceration	58 (65.9)	12 (57.1)	46 (68.7)	0.33
Number who shared works (n=58)				0.86
Never	32 (55.2)	5 (66.7)	24 (52.2)	
Rarely, sometimes, or always	26 (44.8)	4 (33.3)	22 (48.8)	
Number of people shared IDU works with, mean (SD)	1.4 (1.53)	2.3 (2.22)	1.2 (1.4)	0.38

METHODS

- This was a secondary analysis utilizing data collected from a randomized placebo-controlled trial among PLH and OUD transitioning to the community from incarcerated settings (NEW HOPE; 2010-2016)⁴
- PWH and OUD who were transitioning to the community in CT and MA were randomized 2:1 to receive either XR-NTX or placebo. The first injection was received prior to release, and 5 monthly injections post-release
- Daily opioid use and route of administration pre-incarceration and post-release was collected via the Timeline Followback technique
- Analyses for each outcome was performed via *intention-to-treat* (ITT) analyses and “as treated” analyses (N=88). **As treated groupings were defined by those that had received three (3) or more XR-NTX injections were placed into a “high treatment” group (n=21) and those who received two (2) or less XR-NTX injection or placebo were placed into a “low treatment” group (n=67)**

Analyses

Mean proportion of injection opioid use

- Number of days injecting opioids per month. Proportion use per month was assessed via a general linear mixed model with predictor variables of time, treatment group, and a time*treatment group interaction
- Statistical significance was assessed via the log-rank test and Welch’s t-test for days of continued days of opioid injection abstinence.

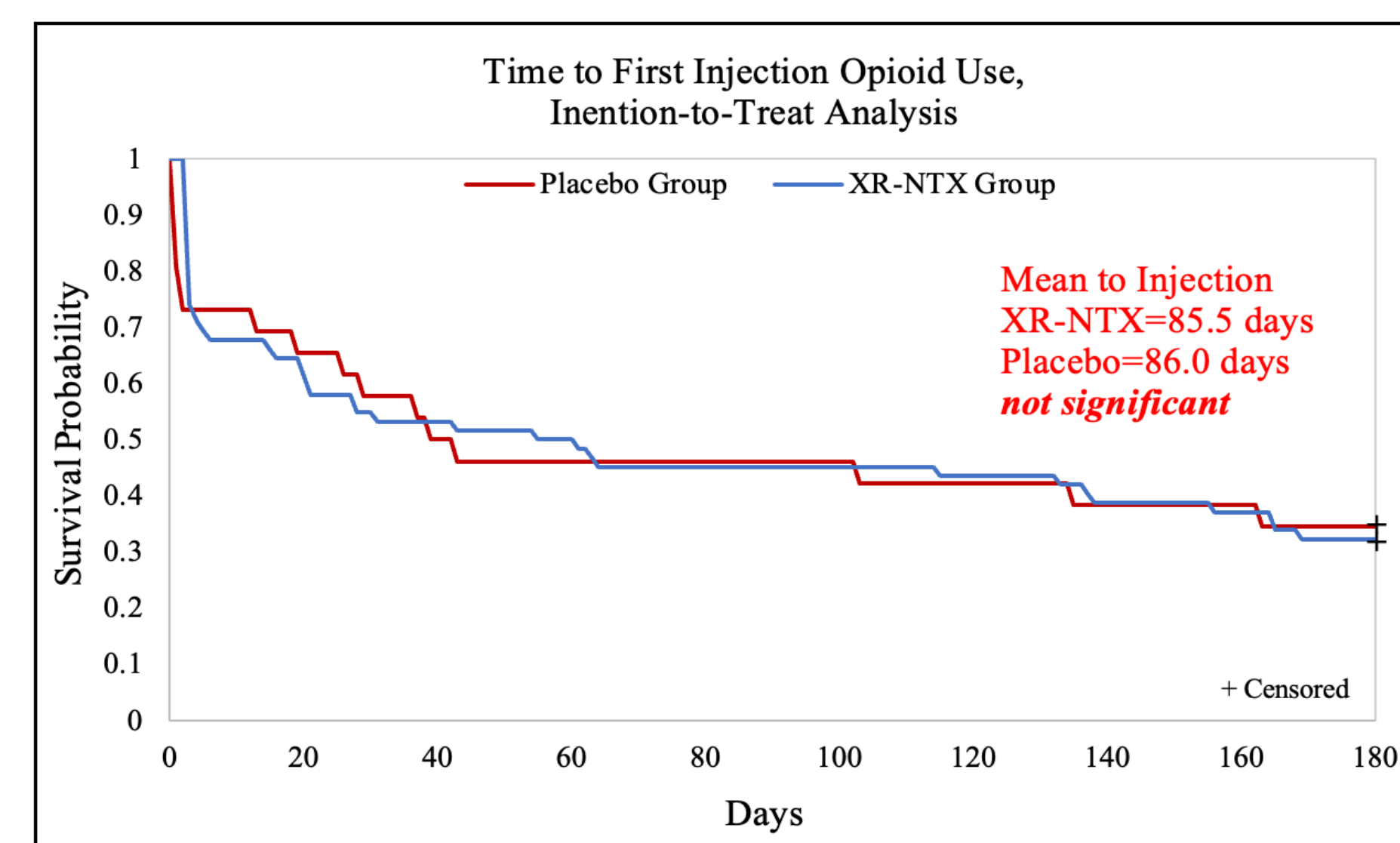
Time to first opioid injection

- A Kaplan-Meier analysis examined time to first opioid injection with the first missing data point treated as a relapse event. Those missing all follow-up data were excluded from the analysis (n=14). Differences in time to first relapse between groups were assessed via a log-rank test

RESULTS

Figure 2. Time to first injection opioid use post release from incarceration

Figure 2a. Intention-to-Treat



Those with high treatment had significantly longer times to first opioid injection

Figure 2b. As Treated

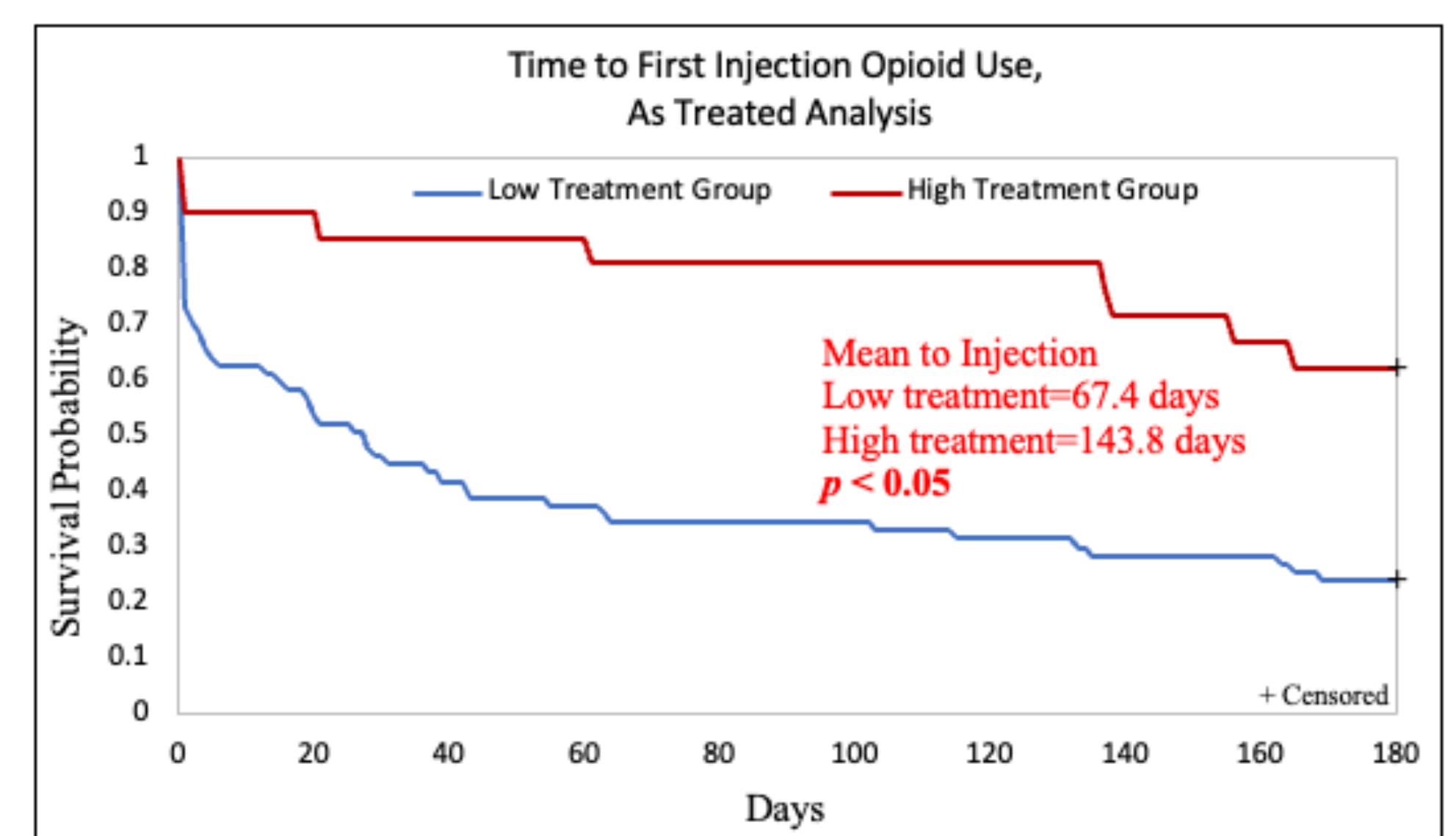


Figure 1. Mean proportion persons who injected opioids during, baseline, intervention, and follow-up time points

Figure 1a. Intention-to-Treat

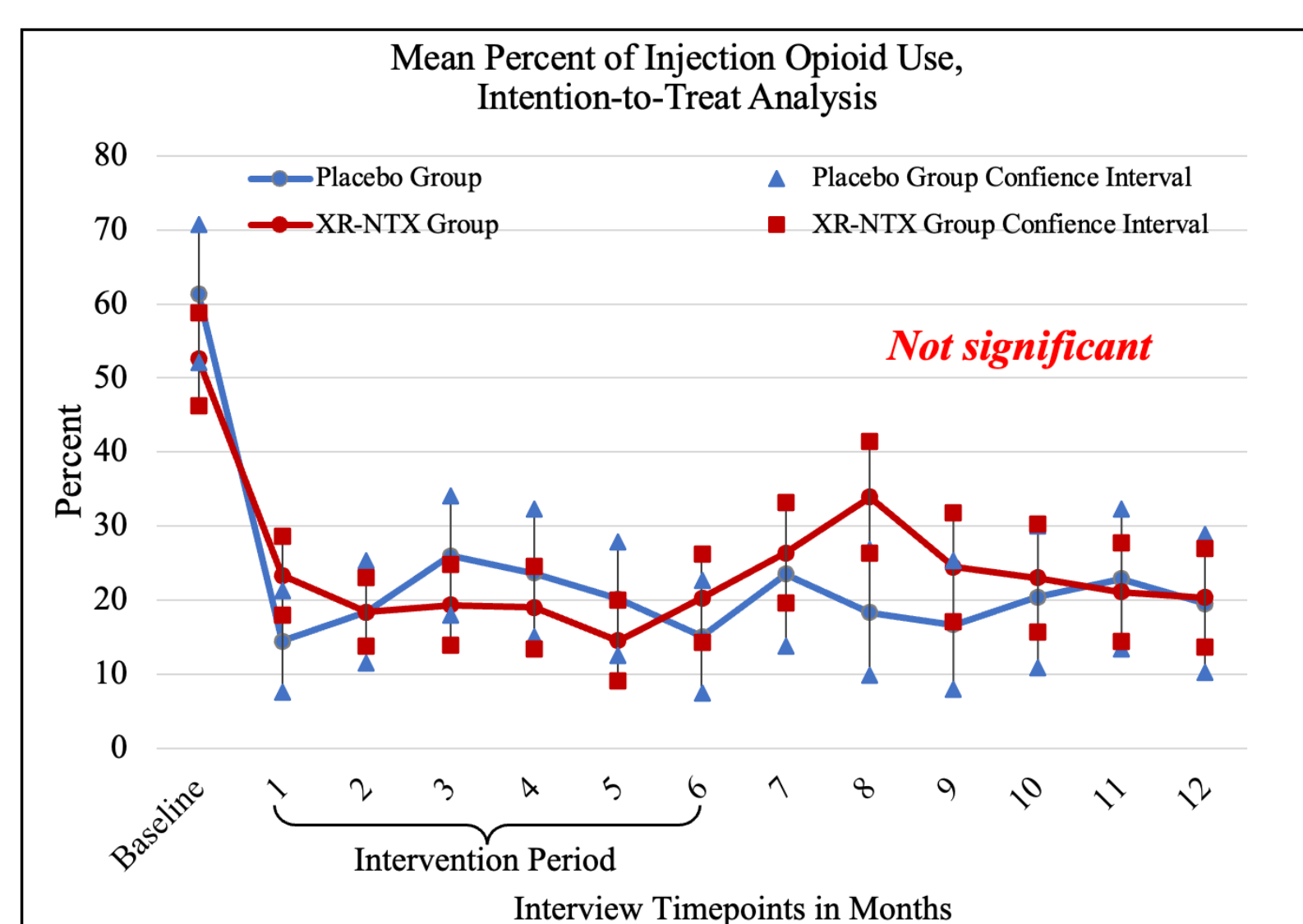
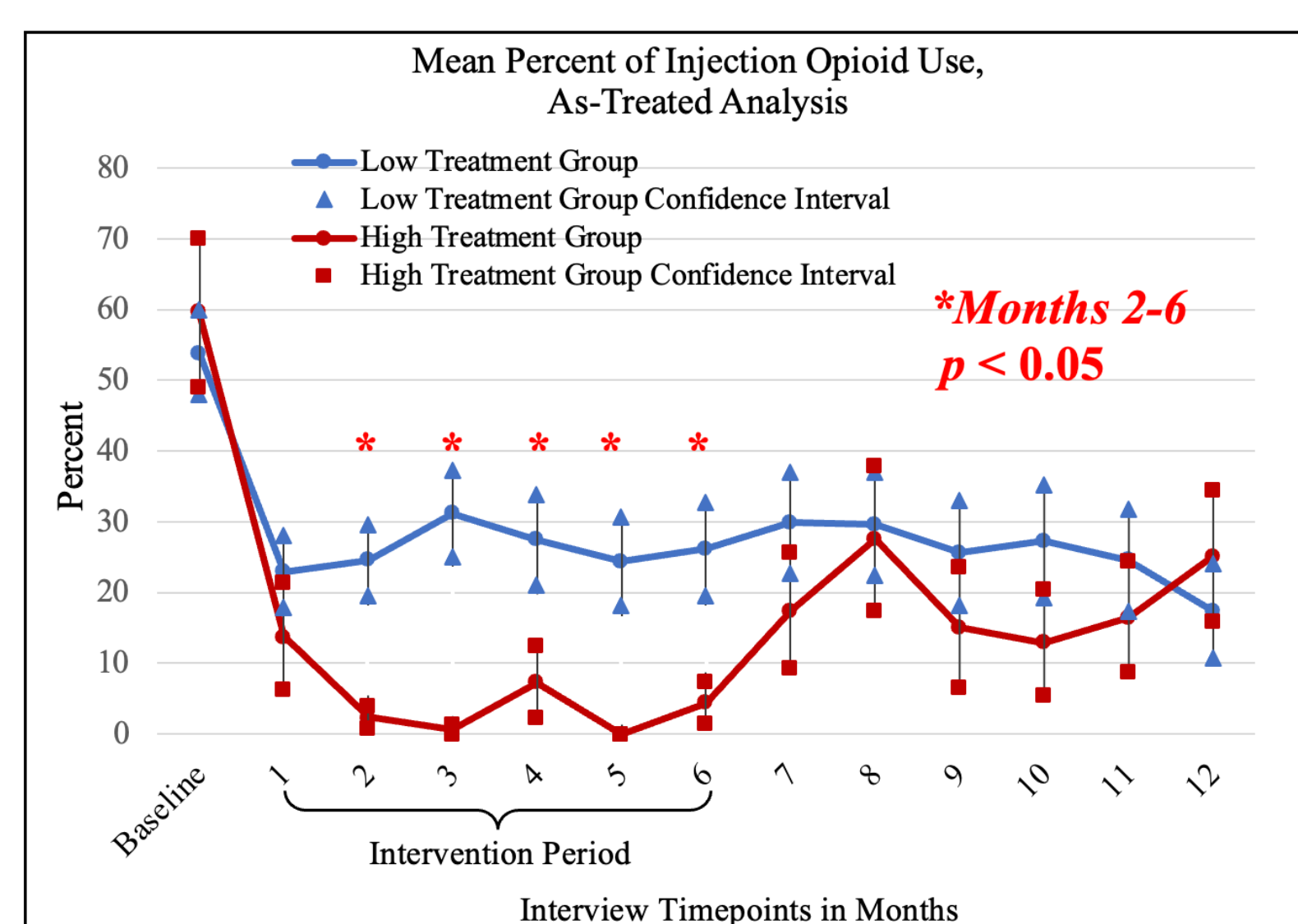


Figure 1b. As Treated



Those with high treatment had significantly less injection opioid use

CONCLUSIONS

- This analysis demonstrates a reduction of injection opioid use behavior among individuals receiving XR-NTX which has important implications for bloodborne virus transmission. XR-NTX already has already been associated with improved HIV viral suppression among justice-involved PWH with OUD⁴
- Continued public health efforts to promote harm reduction via uptake and maintenance of all forms of medication for OUD are warranted

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