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EXTENDED-RELEASE NALTREXONE LOWERS INJECTION USE IN JUSTICE INVOLVED PERSONS WITH HIV

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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 PLH and OUD are also at increased risk of virologic failure due to substance use relapse post release to the community[2]
- Among persons living with HIV (PLH), inadequate treatment of OUD is associated with virologic failure[3]
- 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,[4] 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 risk behavior among PLH and OUD post-release from prions or jail and hypothesized that XR-NTX would modulate IDU risk behavior in these individuals

METHODS

- This was a secondary analysis utilizing data collected from a multi-site randomized placebo-controlled trial among prison and jail detainees living with HIV and OUD transitioning to the community (NEW HOPE; 2010-2016)[5,6]
- PLH and OUD (n=93) who were transitioning to the community in CT and MA were randomized 2:1 to receive either XR-NTX (380 mg IM injection) or placebo, with first injection received prior to release. Participants received 5 monthly injections post-release
- Daily opioid use and route of administration pre-incarceration, during incarceration, and post-release was collected via the Timeline Followback (TLFB) technique

Analyses

Mean proportion of injection opioid use

- Number of days injecting opioids per month was analyzed via intention-to-treat (ITT). Additionally, an "as treated" subanalysis was performed comparing participants who had received three (3) or more XR-NTX injections were placed into a "high treatment" group (n=21) and participants who received two (2) XR-NTX or less or placebo were placed into a "low treatment" group (n=67)
- Statistical significance was assessed via the log-rank test and Welch's t-test for days of continued days of opioid injection abstinence. 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

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). Analyses were stratified via ITT and "as treated" groups
- Differences in time to first relapse between groups were assessed via a log-rank test

RESULTS

Table 1. Baseline participant characteristics by 'as treated' groupings. High treatment includes those with 3 or more XR-NTX injections, low treatment includes those with 2 or less XR-NTX injections or any number of placebo injections.

Variable	Overall N = 88 n (%)	As Treated High Treatment N = 21 n (%)	As treated 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 Greater than High School	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
No. Injections Received				
1	61 (69.3)	20 (95.2)	41 (61.2)	0.003
2	37 (42.1)	20 (95.2)	17 (25.4)	<0.001*
3	32 (36.4)	21 (100)	11 (16.4)	<0.001*
4	22 (25.0)	15 (71.4)	7 (10.5)	<0.001*
5	14 (15.9)	9 (42.9)	5 (7.5)	<0.001*
6	14 (15.9)	10 (47.6)	4 (6.0)	<0.001*
Utilized injection opioids 30 days prior to incarceration	58 (65.9)	12 (57.1)	46 (68.7)	0.33
Number reporting sharing works (N=58)				
Never	32 (55.2)	5 (66.7)	24 (52.2)	0.86
Rarely, sometimes, or always	26 (44.8)	4 (33.3)	22 (48.8)	
Number of people shared works with mean (SD)	1.4 (1.53)	2.3 (2.22)	1.2 (1.4)	0.38
Substance use disorder (MINI) Cocaine	67 (76.1)	14 (66.7)	53 (79.1)	0.40
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

58 (65.9%) reported injecting opioids and 26 (44.8%) shared injection equipment with at least one person pre-incarceration

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

Figure 1a. Intention-to-Treat

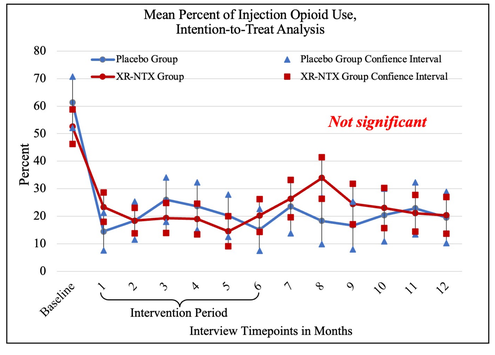
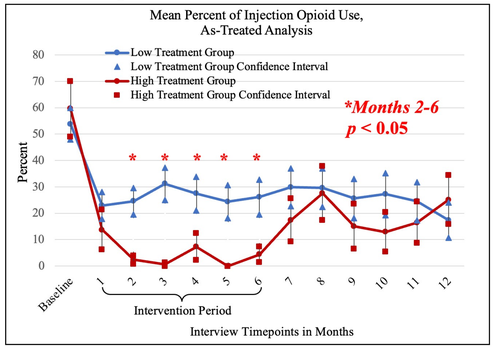


Figure 1b. As Treated



Those with high treatment had significantly less injection opioid use

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

Figure 2a. Intention-to-Treat

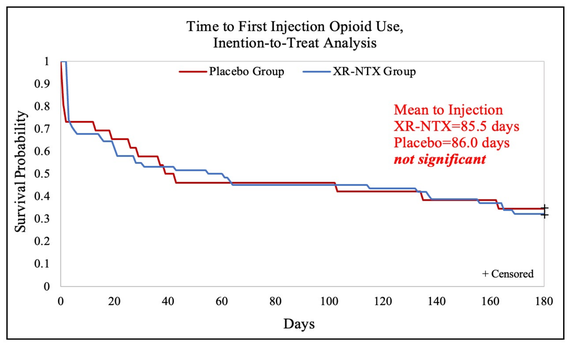
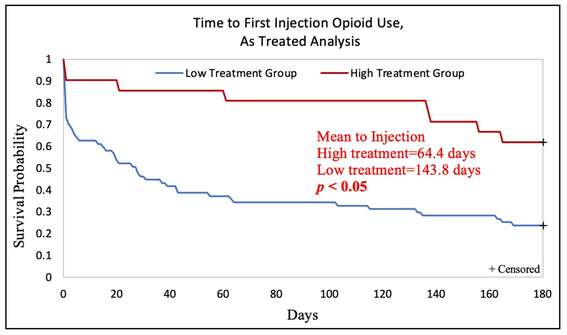


Figure 2b. As Treated



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

CONCLUSIONS

- This is the first analysis associating a reduction of injection opioid use among individuals with OUD with receipt of XR-NTX which has important implications for bloodborne virus transmission as XR-NTX already has already been associated with improved HIV viral load suppression among justice-involved PLH with OUD[6]
- Continued public health efforts to promote harm reduction via uptake and maintenance of all forms of medication for opioid use disorder are warranted

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