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Harm reduction with pharmacotherapy for homeless people with alcohol dependence: Protocol for a randomized controlled trial

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ABSTRACT

Background: Interventions requiring abstinence from alcohol are neither preferred by nor shown to be highly effective with many homeless individuals with alcohol dependence. It is therefore important to develop lower-threshold, patient-centered interventions for this multimorbid and high-utilizing population. Harm-reduction counseling requires neither abstinence nor use reduction and pairs a compassionate style with patient-driven goal-setting. Extended-release naltrexone (XR-NTX), a monthly injectable formulation of an opioid receptor antagonist, reduces craving and may support achievement of harm-reduction goals. Together, harm-reduction counseling and XR-NTX may support alcohol harm reduction and quality-of-life improvement.
Aims: Study aims include testing: a) the relative efficacy of XR-NTX and harm-reduction counseling compared to a community-based, supportive-services-as-usual control, b) theory-based mediators of treatment effects, and c) treatment effects on publicly funded service costs.
Methods: This RCT involves four arms: a) XR-NTX + harm-reduction counseling, b) placebo + harm-reduction counseling, c) harm-reduction counseling only, and d) community-based, supportive-services-as-usual control conditions. Participants are currently/formerly homeless, alcohol dependent individuals ($N = 300$). Outcomes include alcohol variables (i.e., craving, quantity/frequency, problems and biomarkers), health-related quality of life, and publicly funded service utilization and associated costs. Mediators include 10-point motivation rulers and the Penn Alcohol Craving Scale. XR-NTX and harm-reduction counseling are administered every 4 weeks over the 12-week treatment course. Follow-up assessments are conducted at weeks 24 and 36.
Discussion: If found efficacious, XR-NTX and harm-reduction counseling will be well-positioned to support reductions in alcohol-related harm, decreases in costs associated with publicly funded service utilization, and increases in quality of life among homeless, alcohol-dependent individuals.

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1. Introduction

Alcohol dependence occurs 10 times more among homeless people than in the general population [1,2]; thus, homeless individuals are disproportionately affected by alcohol-related morbidity and mortality [3]. As a result, many homeless, alcohol-dependent people become frequent users of high-cost healthcare and criminal justice services and thereby place heavy utilization and cost burdens on publicly funded systems [4–6].

Unfortunately, research has shown that interventions requiring abstinence (referred to hereafter as 'abstinence-based treatments') are not always effective for this population [7–9]. Moreover, most homeless individuals with alcohol dependence never go to, are turned away from, or drop out of these treatments [10–12]. Various factors, including lack of insurance and difficulties accessing treatment [11], have been cited as barriers to engagement. However, research has indicated that lack of interest in abstinence-based treatment poses one of the most sizable barriers to engagement [13–15].

Nonabstinence-based approaches, including low-threshold supportive housing (i.e., Housing First) and medically supervised alcohol administration, have been applied with this population and are associated with increased engagement, reductions in alcohol use and related problems, and decreased utilization of publicly funded services and associated costs [5,16–18]. Referred to as harm-reduction approaches, they entail compassionate and pragmatic strategies that focus on minimizing alcohol-related harm and enhancing quality of life for affected individuals and their communities without requiring abstinence or use reduction [19].

Whereas service-oriented, harm-reduction approaches are proliferating, there are no evidence-based behavioral or pharmacological harm-reduction interventions to further support these efforts. To fill this treatment gap, the current study aims to test the efficacy of a combined pharmacobehavioral, harm-reduction intervention for homeless, alcohol dependent individuals. This intervention will pair a) naltrexone extended-release injectable suspension (XR-NTX; VIVITROL®), an opioid receptor antagonist shown to reduce alcohol craving and problems [20], with b) harm-reduction counseling, which supports patient-driven goals and recognizes any movement toward harm reduction and quality-of-life enhancement as steps in the right direction [21]. Although the efficacy of XR-NTX has been established in a previous trial [20], no other studies to date have a) combined XR-NTX with an explicitly harm-reduction counseling approach or b) tested the efficacy of XR-NTX in this more severely affected population (i.e., homeless individuals with alcohol dependence).

The hypothesized clinical mechanisms of XR-NTX — reduced alcohol craving, decreased stimulatory effects of alcohol, increased cognitive control and reduced impulsive decision-making [22] — make it an ideal adjunct to harm-reduction counseling. Specifically, it allows people time and space away from alcohol craving so they can make more adaptive and healthier behavior choices toward reaching their harm-reduction goals. These hypotheses were initially supported in the preceding, single-arm pilot study (N = 31) of this intervention, which showed that participants were increasingly able to generate clinically relevant harm-reduction goals and succeeded in reducing their alcohol-related harm [23,24].

1.1. Study aims and hypotheses

The first aim of the Harm Reduction with Pharmacotherapy (HaRP) study is to test the efficacy of XR-NTX + harm reduction counseling (XR-NTX + HRC), placebo + harm reduction counseling (placebo + HRC), and harm-reduction counseling alone (HRC) compared to community-based supportive services as usual (TAU). It is hypothesized that, compared to TAU, the three active treatments (XR-NTX + HRC, placebo + HRC, HRC) will evince greater decreases in alcohol use and problems and increases in health-related quality of life. Further, the XR-NTX + HRC group will evince greater decreases in alcohol use and problems than the placebo + HRC group.

The second aim is to test potential mediators of the treatment effects. Because the three active treatments include personalized feedback, patient-driven, harm-reduction goal setting and collaborative planning for safer drinking, it is hypothesized that these groups will experience increases on motivation for harm reduction, which will mediate treatment effects on alcohol outcomes. Because one of naltrexone's putative clinical mechanisms is reduction in alcohol craving [22], it is hypothesized that the XR-NTX +HRC group will experience significant decreases on craving compared to the placebo + HRC group, which will mediate the effects of XR-NTX + HRC versus placebo + HRC on alcohol outcomes.

The third aim is to test treatment effects on costs of publicly funded service utilization. It is hypothesized that the XR-NTX + HRC, placebo + HRC and HRC groups will show greater decreases than the TAU group.

2. Methods

2.1. Design

This study is a 4-arm RCT ($N = 300$) testing the relative efficacy of XR-NTX + HRC, placebo + HRC and HRC compared to TAU (see Fig. 1) in reducing alcohol use and problems, improving quality of life and decreasing publicly funded service utilization. This design differs from a fully-crossed 2 × 2 design because it does not include a medication + no counseling condition. The medication + no counseling condition was excluded because researchers have concluded that combining medication with medication management or psychosocial support is needed to fully realize the medication effects, and over the past decade, this combination has become the gold standard in medication trials involving naltrexone [25,26]. Embedded within this larger design is also a double-blind comparison of the efficacy of XR-NTX and placebo with both participants and researchers blind to medication condition. This additional comparison is planned to potentially replicate the initial XR-NTX RCT's positive findings [20], but this time using an explicitly harm-reduction framework and within a more severely affected population. The study features a 12-week active treatment trial with a 24-week follow-up to test for potential delayed treatment effects or treatment decay.