Extended-Release Pharmacotherapies for Substance Use Disorders in Incarcerated Populations: A Systematic Review

Amelia Woods[1, 2], Catherine Foley[1], Katherine Conigrave[3,4], Winifred Asare-Doku[1], Anthony Shakeshaft[5], Michael Farrell[1], Michael Doyle[3]

Presenter email amelia.woods@unsw.edu.au

The Difference is Research

Background

Substance misuse is a widespread issue among individual within the global criminal justice system (CJS).

The CJS often serves as a crucial point of contact with the healthcare system for this population.

Opioid use disorder (OUD) in CJS
- ~55% in an Australian sample
- Associated health impacts: blood-borne virus (1), overdose (2)

Alcohol use disorder (AUD) in CJS
- ~24% per systematic review (3)
- Health impacts: liver damage, accidental injuries and family violence.

After release from prison, there is a heightened risk of relapse and overdose, often with limited access to treatment.

Relapse prevention pharmacotherapy
- Offers the potential to reduce physical, social, and economic harm cause by substance use (4, 5)
- Includes: buprenorphine (OUD) and naltrexone (OUD + AUD)
- Prev only daily dosing available, now extended release (XR) formulations
- XR formulations offer potential benefits within the CJS such as reduced diversion, enhanced acceptability and retention in treatment, overdose protection and economic advantages

Introduction

Although there is evidence supporting the effectiveness of XR relapse prevention pharmacotherapy in general settings, a comprehensive review of their safety and effectiveness in the CJS is currently lacking.

Aim

To describe the evidence for effectiveness, safety and feasibility of extended-release medications for patients with substance use disorders in prison or within 3 months of release.

We had 3 sub aims

1) to identify the refereed literature on the use of XR-BPN and XR-NTX for patients involved in the CJS.

2) to describe the characteristics of the identified studies (inc year and country of publication, PDOC, participants characteristics [gender, age, ethnicity]).

3) To critically appraise the methodological quality of these studies

Methods

Design
This systematic review followed the guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA).

Data sources: Proquest, OVID/ Embase, EBSCO, PubMed/Medline, CINCH, Cochrane, Scopus

Inclusion Criteria
- Setting: Prison (or recently released [<3 months] from prison.
- Participants/Cases: People with Substance Use Disorders
- Intervention: XR substance use relapse prevention pharmacotherapy (XR-BUP + XR-NTX)

Data collection: study, participants and treatment characteristics; outcome variables.

Results

Study Characteristics
N= 25 papers published from 792 found in search.

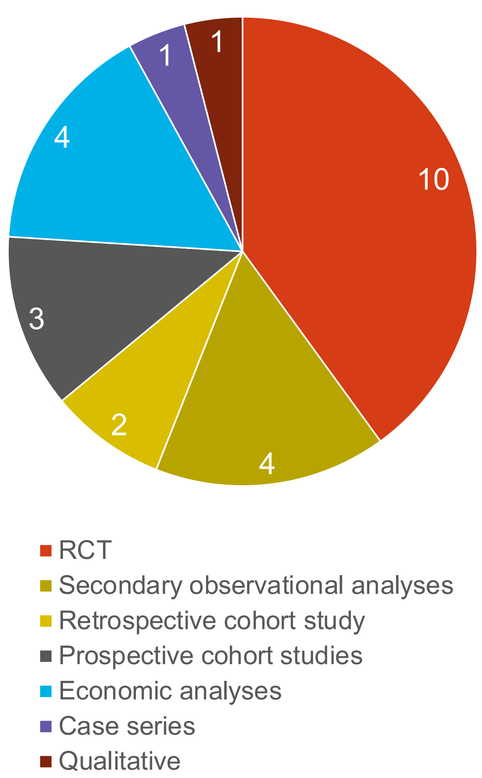
Studies were published in English between January 2000 and December
- Majority in the last 3 years (n=14)

Medication type: Predominantly XR-NTX (n= 16), some XR-BUP (n= 8) and one looking at both

Geographical representation: US (n=18), Norway (n=2), Australia (n=2), Canada (n=1), UK (n=1) Germany (n=1)

Quality: Most studies had small to moderate sample sizes with variable retention and follow-up periods.

Figure 1: Methods of included studies



Key outcomes
Retention in treatment
- XR-NTX
  - 2 OUD studies showed no difference in treatment retention compared to TAU (6) and placebo (7)
  - 1 reported better retention cf methadone (8)
- XR-BUP studies didn't compare retention across arms

Substance use outcomes
- XR-NTX: results were inconclusive due to varying definitions and measures.
- XR-BUP: mixed results, with one study showing a reduction over time (but was not compared to methadone) (9) and another showing no difference compared to sublingual buprenorphine (10).

Overdose
- Low numbers of overdoses, but among limited number of participants

Adverse Events
- Effect assessment for XR formulations was challenging due to a wide variety of reporting mechanisms
- Were common across different samples (with up to 97% reporting at least one) and mild.

Recidivism
- In the 3 studies with sufficient data to compare XR-NTX to other treatments (methadone, placebo and TAU), all found no significant effect (6, 7, 11)
- One XR-BUP study found no significant difference cf SL-BUP (10)

Qualitative findings (11)
- Benefits: no daily attendance, less urgency for FU care post release, increased access to employment, reduced interactions with corrections officers and more anonymity.
- Negatives: apprehension about the novel formulation, opposition to needles, difficulties accessing XR-BUP in the community, loss of subjective 'boost' from daily sublingual dosing, injection site pain.

Implications

Future directions
- need for greater consistency across studies (definitions, measures, comparator groups)
- A stronger focus on XR-NTX in AUD
- larger participant numbers

Conclusion

While the body of evidence regarding XR formulations in the CJS is growing, the heterogeneity of existing studies and limitations in study design restrict the ability to strongly endorse their use.

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[1] National Drug and Alcohol Research Centre, UNSW Sydney, Sydney, Australia; [2] Drug And Alcohol Service of South Australia; [3] University of Sydney, Australia;
[4] Royal Prince Alfred Hospital, Sydney Local Health District, Camperdown, Australia; [5] Poche Centre, The University of Queensland, Brisbane, Australia