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Review

Prescription opioid abuse in prison settings: A systematic review of prevalence, practice and treatment responses

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ABSTRACT

Background: To systematically review the quantitative and qualitative evidence base pertaining to the prevalence, practice of, and treatment response to the diversion of prescribed opiates in the prison setting.
Methods: Medline, Embase, CINAHL, PsycINFO, Google Scholar, ASSIA and Science Direct databases were searched for papers from 1995 to the present relevant to the abuse of prescribed opiate medication. Identified journals and their reference lists were hand searched for other relevant articles. Of the abstracts identified as relevant, full text papers were retrieved and critiqued against the inclusion criteria for the review.
Results: Three hundred and fifty-five abstracts were identified, leading to 42 full-text articles being retrieved. Of those, 10 papers were included in the review. Significant differences in abuse behaviours between different countries were reported. However, a key theme emerged from the data regarding a culture of nasal administration of prescribed sublingual buprenorphine within some prisons due to both reduced prevalence of injection within prison and reduced supplies of illicit drugs within prison. The buprenorphine/naloxone preparation appears to be less amenable to abuse. The review highlighted a paucity of empirical research pertaining to both prevalence of the phenomenon and treatment responses.
Clinical and research implications: Healthcare providers within prisons need to prescribe opioids in the least abuseable preparation since the risk of abuse is significant, despite widespread processes of supervised dispensing. Prescription medication abuse is not limited to opioids and the predominant drug of abuse in an individual prison can rapidly change according to availability.

1. Introduction

Recent estimates suggest there are between 15 and 39 million problem opioid users worldwide (Degenhardt and Hall, 2012). This is part of a much larger estimated number of between 162 million and 324 million people who, in 2012, had used any illicit drug (World Drug Report, 2014). Such users are disproportionately represented in the criminal justice system (Dolan et al., 2007; Fazel et al., 2006). For example, in America, over 200,000 opioid dependent prisoners pass through the correctional facilities annually, and it is estimated that more than 50% of prisoners in the USA have a history of substance misuse (Mumola and Karberg, 2006; Nunn, 2012). It is also widely accepted that prison is a high-risk environment, which makes some prisoners vulnerable to initiation of drug use, including heroin (Boys et al., 2002). However, upon entering prisons, many opiate users cease injecting and, due to security processes that disrupt trafficking into prisons, resort to obtaining supplies through other means, including opiates prescribed in the prison setting. Such a practice makes these prisoners vulnerable to harassment (Wright et al., 2015).

Whilst historically, prisoners have been denied opiate substitution treatment (National Quality Forum, 2007), recently in the UK there has been a significant increase in the prescribing of opiate substitution treatment in prison settings (Wright et al., 2014a). Typically, opioid substitution treatments are either methadone or buprenorphine (Nunn et al., 2009). In addition to the trend of increased prescribing of opioid substitution therapy in prison settings, many prisoners present with co-morbid physical health problems resulting in pressure for prison-based clinicians to pre-

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Table 1
Search words related to the study.

Word group 1	Word group 2	Word group 3
opioid	abuse	prison
opioids	diversion	prisoners
buprenorphine	misuse	correctional services
buprenorphine/naloxone	sale	penitentiary
morphine	addiction	jail
methadone	dependency	gaol
dihydrocodeine		criminal justice system
codeine		inmates
oxycodone		offenders
diamorphine		
opiate alkaloids/or opiate substitution treatment		
substance abuse detection/or opioid related disorders		
behaviour, addictive/or drug prescriptions/or drug and narcotic control		
Notes: Boolean operators words within groups combined with OR. Groups combined with AND.	Notes: words within groups combined with OR. Groups combined with AND.	Notes: words within groups combined with OR. Groups combined with AND.

scribe opioids and there has been increasing concern amongst both clinicians and policy leads regarding the abuse of such prescribed opioids in prison settings (Public Health England, 2013).

The US National Institute of Drug Abuse (NIDA) defines Prescription Drug Abuse as "the use of a medication without a prescription, in a way other than as prescribed, or for the experience or feelings elicited" (2014). This definition concurs with the WHO definition of Psychoactive Substance Misuse as the "use of a substance for a purpose not consistent with legal or medical guidelines, as in the non-medical use of prescription medications". The term is preferred by some in reference to abuse in the belief that it is less judgemental (World Health Organisation, 2015). Therefore, our review considered "abuse" of prescription opioids as defined by administering legally prescribed medication through unlicensed routes such as injecting, smoking or intranasal administration (commonly referred to in the literature as snorting or sniffing); or diversion which is defined as the transfer of medication from a lawful to an unlawful channel of distribution (NIDA, 2014). Diversion of prescribed opioids, particularly methadone, is a global public health problem due to increased risk of overdose fatalities (Madden and Shapiro, 2011). It has also led to an increase in the incidence of opioid dependence (particularly in regions where, or periods when, heroin availability is scarce) and therefore has compromised the public acceptance of long-term opioid prescription (Bell et al., 2009).

Diversion of prescription opioid methadone, or buprenorphine, maintenance medication is common. In community populations, self-report estimates range from 16 to 60% (Davis and Johnson, 2008; Gwin Mitchell et al., 2009; Winstock et al., 2008). Almost 20% of individuals inject opioid maintenance medication that is prescribed for either oral, or sublingual, consumption (Winstock et al., 2008).

A variety of motivations have been cited for buying illicit prescription opioids: a desire for a euphoric experience, to ameliorate symptoms of opiate withdrawal, or to control symptoms of pain. In highlighting different motivations, the authors reported that the group who used prescribed medication for euphoria were also more likely to divert such medication. They suggested concentrating criminal justice efforts on these groups rather than on users who tended to use illicit prescribed medication for amelioration of either withdrawal or pain symptoms (Davis and Johnson, 2008).

However, prescription medication abuse is not limited to community settings and has been highlighted as a major concern amongst prison populations (Hendrich et al., 2012; Singleton et al., 2003). A descriptive survey commissioned by the UK Ministry of Justice (MOJ) found that of 139 prisons in England and Wales surveyed between February and April 2007, 87 of these prisons detected buprenorphine in random and/or targeted Mandatory Drug Tests (Ministry of Justice, 2007). Buprenorphine misuse was far more widespread across the country and across prison categories than anticipated. It was identified to be the most misused drug in eleven prisons, and the third most misused drug overall (Ministry of Justice, 2007).

Commonly prescribed opioids in UK prison settings include methadone and buprenorphine. Methadone is currently prescribed in UK prisons in the liquid preparation as it is seen as less amenable to diversion than tablet preparations. Buprenorphine is currently prescribed in sublingual preparation either as the mono-buprenorphine product or as the combination buprenorphine/naloxone product (Wright et al., 2012). Internationally, there have been reports of abuse of both prescriptions in the prison and community setting. Gordon et al. (2011) report in their paper that buprenorphine prisoner patients are more likely to be terminated from their treatment in prison for potential diversion of the medication. The criminal justice system in the USA is, therefore, reluctant to prescribe opioid treatment (Kinlock et al., 2009; Nunn et al., 2009), with a strong preference of having drug-free prisons (Schwartz et al., 2011).

Therefore, in light of the growing problem relating to prescription opioid abuse in prison settings, it felt timely to undertake a review of prevalence, risk factors, and interventions for prescription medication abuse.

2. Methods

MEDLINE, CINAHL, The Cochrane Library, PsychINFO, EMBASE, ASSIA and Science Direct databases were searched in ATHENS from the period of January 1995 through October 2015 using internationally accepted MeSH headings outlined in Table 1. The date range reflects the fact that prescription opioid abuse in prisons is a relatively recent problem. Therefore, little empirical evidence had been collected before 1995. Full text articles were also hand searched by examining the reference list for other studies of relevance not identified through the electronic searches. Google Scholar was accessed to search for empirical grey literature.

2.1. Inclusion and exclusion criteria

Quantitative or qualitative empirical research studies either exploring or evaluating the risk of abuse of prescribed opioids in prison settings met the inclusion criteria.

The search was limited to human studies published in the English language.

Studies that considered the following were excluded: