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Review

Opioid substitution therapy: Lowering the treatment thresholds

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ABSTRACT

Background: Opioid substitution therapy (OST) has been established as the gold standard in treating opioid use disorders. Nevertheless, there is still a debate regarding the qualitative characteristics that define the optimal OST intervention, namely the treatment threshold. The aim of this review is twofold: first, to provide a summary and definition of "treatment thresholds", and second, to outline these thresholds and describe how they related to low and high threshold treatment characteristics and outcomes.
Method: We searched the main databases of Medline, PubMed, PsycInfo, EMBASE, CINAHL and the Cochrane Library. Original published research papers, reviews, and meta-analyses, containing the eligible keywords: "opioid substitution", "OST", "low threshold", "high threshold" were searched alone and in combination, up to June, 2015.
Results: Treatment thresholds were defined as barriers a patient may face prior to and during treatment. The variables of these barriers were classified into treatment accessibility barriers and treatment design barriers. There are increasing numbers of studies implementing low threshold designs with an increasing body of evidence suggesting better treatment outcomes compared to high threshold designs.
Conclusion: Clinical characteristics of low threshold treatments that were identified to increase the effectiveness of OST intervention include increasing accessibility so as to avoid waiting lists, using personalized treatment options regarding medication choice and dose titration, flexible treatment duration, a treatment design that focuses on maintenance and harm reduction with emphasis on the retention of low adherence patients.

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1. Introduction

Opioid substitution therapy (OST) combined with psychosocial interventions is the most common treatment for opioid dependence in Europe, with over half of opioid users undergoing substitution treatment (EMCDDA, 2012a,b, 2015a,b). This practice is supported by available evidence, establishing OST as the most effective pharmacological treatment for patients suffering from opioid addiction (Amato et al., 2005; De Maeyer et al., 2010; Farré et al., 2002; WHO/UNODC/UNAIDS, 2004). Based on the principles of psychopharmacology, OSTs are far more effective than non-pharmacological approaches in retaining patients and in maintaining patient abstinence from heroin and other illicit opiates as OSTs reduce craving, death due to criminal behavior and overdose, tolerance and withdrawal symptomatology, and HIV risk behaviors (EMCDDA, 2012b; Lawrinson et al., 2008; Mattick et al., 2009; Weber et al., 2009; WHO, 2009; EMCDDA, 2015a,b). According to findings, regarding the epidemic spread of HIV in Greece and Romania, limited access to substitution treatment is one of the main factors that appears to correlate with this trend (EMCDDA, 2012a,b).

According to the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA, 2012a,b, 2015), best practices in the treatment of drug addiction include: (1) OST combined with psychosocial support; an approach which increases staying in treatment, reduces morbidity and mortality (Davstad et al., 2009). (2) Methadone and buprenorphine are both recommended pharmacological treatments, with Heroin-Assisted Treatment (HAT) recommended for patients who previously failed methadone treatment attempts (Blanken et al., 2010a). (3) OST is strongly recommended for pregnant women dependent on opioids. (4) OST and provision of clean needles for preventing HCV and HIV infections in IV drug users, as IV drug users who are receiving OST, show less risky behaviors and they inject less. Those patients who continue to inject drugs take less risks when participating in a needle and syringe exchange program or utilizing drug consumption rooms. (5) OST is particularly important in prison as it reduces opioid use, IV drug use, violence and withdrawal symptoms. OST greatly reduces mortality among drug users, which is particularly important when drug users are released from prison and in immediate need of finding continuity of treatment in the community (Degenhardt et al., 2014; Hedrich et al., 2012).

However, despite the evidence supporting OST treatments (Amato et al., 2005; Davstad et al., 2009; Gibson et al., 1999; WHO/UNODC/UNAIDS, 2004), the published literature is not yet clear on what the optimal OST clinical framework is. This knowledge would be of great benefit for policy makers and treatment providers in order to promote effective interventions. Most importantly, the availability of OST treatment, within an effective framework, would contribute towards the improvement of users' quality of life and life expectancy (Chang et al., 2015; Feelemyer et al., 2014; Nosyk et al., 2011).

The variables which determine the clinical framework of OST treatments are known as treatment thresholds. The term "treatment threshold" is used to describe the barriers a patient may face prior to and during their treatment. These barriers affect treatment outcomes and overall prognosis (Stöver, 2011). Treatment thresholds can be classified into treatment accessibility barriers and treatment design barriers. Treatment accessibility barriers are ones that make it more difficult for drug users to commence OST treatment and include highly selective or inflexible intake criteria, long waiting lists, lack of access through primary care, and the cost of the treatment (Deering et al., 2011; Stöver, 2011). Treatment design barriers are ones that make it more difficult for patients who have commenced OST treatment to remain in treatment and include inflexible discharge policies, no individualization of treatment, no patient choice on medication and dose, short or limited duration of treatment, zero tolerance OST approaches, close supervision of patients on administration of medications, frequent urine testing, lack of confidentiality and anonymity, and lack of adjuvant psychosocial intervention or obligatory counselling sessions as a prerequisite to continue the treatment (Deering et al., 2011; Stöver, 2011). Lowering the treatment threshold is necessary in order to overcome treatment barriers and improve OST quality characteristics (Table 1).

OST is considered a typical intervention for reducing harm in patients suffering from opioid addiction in the community (Amato et al., 2005; Degenhardt et al., 2015; Gowing et al., 2011a,b; Humber et al., 2011; Larney et al., 2014, 2015a, 2012; Rivlin et al., 2013). Harm reduction services are usually characterised as "high threshold" or "low threshold" (Mofizul Islam et al., 2013). The differentiation is made on the basis of variables which include: accessibility, waiting lists, access through primary care, quality standards, cost of treatment, minimum age requirements, anonymity, gender, individualisation of treatment, choice of OST drug and dose, duration of treatment, zero tolerance approaches, supervision upon drug administration, and adjuvant psychosocial interventions.

A harm reduction service could be of low or high threshold, with most low-threshold services oriented towards harm reduction (Mofizul Islam et al., 2013). In contrast to high-threshold services for drug users, low-threshold services for drug users are defined as those that do not impose abstinence from drug use as a condition of service use, in contrast to high-threshold services (Gjersing and Bretteville-Jensen, 2013). Low threshold services also aim to reduce other documented barriers to service access (Mofizul Islam et al., 2013). In current literature, the term OST is mainly used in a mid-term or long-term maintenance or relapse prevention contexts (Dennis et al., 2014; Stöver and Michels, 2010), despite the fact that the common OST drugs, such as buprenorphine and methadone, are

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