Clinical pain research

Opioid tapering in patients with prescription opioid use disorder: A retrospective study

Kehua Zhou\textsuperscript{a,}\textsuperscript{*}, Peng Jia\textsuperscript{b}, Swati Bhargava\textsuperscript{a}, Yong Zhang\textsuperscript{c}, Taslima Reza\textsuperscript{d,}\textsuperscript{e}, Yuan Bo Peng\textsuperscript{f}, Gary G. Wang\textsuperscript{a,}\textsuperscript{d,}\textsuperscript{**}

\textsuperscript{a} Catholic Health System Internal Medicine Training Program, Sisters of Charity Hospital, University at Buffalo, 2157 Main Street, Buffalo, NY 14214, United States
\textsuperscript{b} Faculty of Geo-information Science and Earth Observation (ITC), University of Twente, Enschede 7500, The Netherlands
\textsuperscript{c} School of Public Health and Health Management, Chongqing Medical University, Chongqing 400016, China
\textsuperscript{d} Academic Buffaloonias in Physical Medicine and Rehabilitation, 2121 Main St #210, Buffalo, NY 14214, United States
\textsuperscript{e} Avalon University School of Medicine, Youngstown, OH, United States
\textsuperscript{f} Department of Psychology, University of Texas at Arlington, 501 S Nedderman Dr., Arlington, TX 76019-0528, United States

HIGHLIGHTS

- Opioids were successfully tapered off in 27.9\% of patients with prescription opioid use disorder.
- These patients maintained opioid abstinence over 14.3 ± 13.0 months.
- The use of mirtazapine, topiramate, and likely bupropion were associated with successful opioid tapering.
- Opioid tapering may be a practical option for managing prescription opioid use disorder.

ABSTRACT

Background and aims: Opioid use disorder (OUD) refers to a maladaptive pattern of opioid use leading to clinically significant impairment or distress. OUD causes, and vice versa, misuses and abuse of opioid medications. Clinicians face daily challenges to treat patients with prescription opioid use disorder. An evidence-based management for people who are already addicted to opioids has been identified as the national priority in the US; however, options are limited in clinical practices. In this study, we aimed to explore the success rate and important adjuvant medications in the medication assisted treatment with temporary use of methadone for opioid discontinuation in patients with prescription OUD.

Methods: This is a retrospective chart review performed at a private physician office for physical medicine and rehabilitation. We reviewed all medical records dated between December 1st, 2011 and August 30th, 2016. The initial evaluation of the included patients (N = 140) was completed between December 1st, 2011 and December 31st, 2014. They all have concurrent prescription OUD and chronic non-cancer pain. The patients (87 female and 53 male) were 46.7 ± 12.7 years old, and had a history of opioid use of 7.7 ± 6.1 years. All patients received the comprehensive opioid taper treatments (including interventional pain management techniques, psychotherapy, acupuncture, physical modalities and exercises, and adjuvant medications) on top of the medication assisted treatment using methadone (transient use). Opioid tapering was considered successful when no opioid medication was used in the last patient visit.
1. Introduction

Opioid use disorder (OUD) refers to a maladaptive pattern of opioid use leading to clinically significant impairment or distress [1]. The maladaptive pattern of prescription opioid use causes (and vice versa) misuse and abuse of opioid medications which are four times more prevalent than heroin use disorders [2]. Common OUD symptoms include a strong desire to use opioids, increased amounts of or longer-than-needed opioid use, giving up important life events due to opioid use, need for increased opioid doses, excessive time spent related to opioid use, persistent wish or unsuccessful effort to control opioid use, social impairment in fulfilling major role obligations, opioid tolerance and withdrawal, and continued opioid use despite of all these issues [1]. For the diagnosis of OUD, patients have to have at least two of the aforementioned symptoms within a 12-month period [1].

In 2012, an estimated 2.1 million people were affected by prescription opioid use worldwide [3]. In the US, prescription opioids had been linked with more than 0.18 million deaths during 1999–2015 [4]. The economic burden of prescription opioid use was estimated at $78.5 billion for the American society in 2013 [5]. Prescription OUD affects 21.5% patients with chronic opioid therapy from intervention clinics that had implemented opioid dose and risk reduction initiatives for more than 4 years and 23.9% from clinics that had not [6]. Side effects of prescription opioids and social problems related to opioids have also drawn significant social attention in recent years. The U.S. Surgeon General at the time wrote letters to health professionals in the US, calling for actions to end the opioid epidemic [7]. And recently, President Trump declared the opioid crisis a national emergency.

The potential solutions to the America’s escalating opioid epidemic may include better pain management to prevent prescription OUD [8], and an evidence-based management for people who are already addicted to opioids. The latter has been identified as a national priority in the US [7]. Currently, the US Food and Drug Administration has approved three major types of medications for the pharmacotherapy of OUD, including a full opioid agonist (methadone), partial opioid agonists (buprenorphine, buprenorphine–naloxone, and implantable buprenorphine), and opioid antagonists (oral and extended-release naltrexone) [2,9–12]. Among them, the medication-assisted treatment using methadone maintenance or buprenorphine maintenance has been widely recognized as a standard treatment, as it efficiently increases patient retention and improves opioid-abstinence outcomes, while decreasing drug use, infectious disease transmission, and criminal activities [2,10,11].

However, methadone and buprenorphine may carry similar or even additional side effects when compared with other opioid medications [13]. For example, the use of methadone requires screening and continuous monitoring of electrocardiogram, as it prolongs QTc interval and has been linked to a similar or higher risk of non-fatal or fatal overdose [14,15]. The use of buprenorphine among patients on sedatives or hypnotics (especially diazepam) may pose an increased risk of sedation and respiratory compromise [11]. In addition, the use of methadone or buprenorphine maintenance treatment for OUD is also limited by the possibility of long-standing opioid resistance (especially among patients with high doses of medication and long-term treatments), and lack of evidence on risk factors and mitigation strategies for methadone-overdose deaths [16]. On the other hand, only fewer than half of all patients with OUD have actual access to methadone or buprenorphine maintenance treatment, with lack of medical prescribers of these medications for over half of the US counties [17]. Therefore, many clinicians face the daily challenge to treat patients with OUD who experience intolerable side effects from opioids, or those who simply want to stop opioid treatment for personal or professional reasons [9–12].

Under such circumstances, medication assisted treatment using methadone or buprenorphine (transient use) for successful opioid tapering and discontinuation are increasingly appealing [9–12,17,18]. Nevertheless, relevant literature is sparse, and the results of the limited studies exploring the effectiveness of potential adjuvant treatments remain inconclusive, especially among patients with their initial opioid use for mitigating chronic pain conditions [2,19]. In this retrospective study, we aimed to explore the success rate and important adjuvant medications in the medication-assisted treatment with temporary use of methadone for opioid discontinuation in patients with prescription OUD.

2. Methods

2.1. Study background and design

A retrospective chart review was performed at the Academic Buffalonias in Physical Medicine and Rehabilitation, a private physician office specializing in outpatient rehabilitation and pain management. The Institutional Review Board at the University of Buffalo, State University of New York, approved the study protocol.

With clinical expertise and experiences, the practicing physician of the clinic has been helping tapering opioid medications among OUD patients, by using medication assisted treatment with
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات