Efficacy of treatment with buprenorphine, compared to methadone, in remission of opioid use disorder

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Abstract
Over the last decade, there has been a significant rise in deaths due to drug overdoses involving opioids. Opioids are highly addictive due to the rewarding effects they produce in the brain and body. Methadone, which is administered in a clinic, and buprenorphine, which can be taken at home, are the two leading treatment options for opioid use disorder. This review analyzes the efficacy of treatment with buprenorphine, compared to methadone, in remission of opioid use disorder.

Introduction

Overview
In 2018, 10.3 million people misused prescription opioids, which led to the death of roughly 130 people per day. Opioids work by releasing dopamine in the brain.

Treatment
Methadone is a full agonist, and must be administered through an IV in a clinic. Buprenorphine is a partial agonist and can be taken orally at home. Both cause euphoria, however buprenorphine has less potential for abuse due to a low ceiling for the euphoric effect.

Methods

Literature search
- Perfomed on October 23, 2019 using Pub Med, Academic Search ultimate
- Search terms: Buprenorphine AND methadone AND adults
- Inclusion criteria: Clinical trials, humans, adult 19+, published within the last 5 years, therapeutic use
- Exclusion criteria: Systemic reviews, meta-analysis, prenatal effects, drug interactions, financial effects
- This narrowed down the search to a total of seven articles

Results

Study | Treatment retention | Mortality Rates | Other illicit drug use | Reduction of opioid use
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1 | SM | NA | NA | NS
2 | NS | NA | NA | NS
3 | SM | NA | NS | SB
4 | NS | NA | NS | NA
5 | SM | NS | NA | SM
6 | NA | NA | NA | NA
7 | SM | NA | SB | NS

Conclusion

Buprenorphine and methadone have been prescribed as treatment of opioid withdrawal, but little evidence has been conducted to evaluate which drug is more beneficial. Research, as of today, has shown methadone increases time maintained in treatment, but not an overall significant decrease in opioid reduction.

The studies were limited by small sample sizes, short lengths and minimal follow-up after the study. Future research is necessary to determine what other factors are influencing the differences in treatment retention. With buprenorphine having a higher incidence of dropouts early on in the treatment, it is crucial to understand factors contributing to this difference.