

# The Role of Pharmacotherapy in the Treatment of Adolescent Substance Use Disorders



Christopher J. Hammond, MD

## KEYWORDS

- Adolescence • Development • Substance use disorder • Addiction
- Pharmacotherapy • Medication

## KEY POINTS

- Pharmacotherapy, when used in conjunction with psychosocial substance use disorder (SUD) treatment interventions, may improve outcomes compared with psychosocial treatment alone.
- Compared with ample research in adults, relatively few randomized controlled medication trials have been conducted in adolescents with SUD.
- Results suggest that a number of medications may improve adolescent SUD treatment outcomes, including nicotine replacement therapy and bupropion (tobacco use disorders), N-acetylcysteine (cannabis use disorders), and buprenorphine-naloxone (opioid use disorders).

## INTRODUCTION

Despite national efforts, substance use disorders (SUDs) and the excessive use of alcohol and other drugs remains a significant public health issue that has been estimated to cost the United States over \$400 billion annually.<sup>1</sup> More than 90% of US adults who develop SUDs started using alcohol and other drugs during adolescence.<sup>2,3</sup> Growing evidence suggests that SUDs can be viewed as developmental disorders with genetic, temperamental, and environmental antecedents that emerge

---

Conflict of Interest and Financial Disclosures: Dr C.J. Hammond currently receives research support from the American Academy of Child and Adolescent Psychiatry (AACAP) and the National Institute on Drug Abuse (NIDA) in the form of a career development award (K12DA000357).

Behavioral Pharmacology Research Unit, Johns Hopkins Bayview Medical Campus, 50 Nathan Shock Drive, Baltimore, MD 21224, USA

E-mail address: [chammo20@jhmi.edu](mailto:chammo20@jhmi.edu)

Child Adolesc Psychiatric Clin N Am 25 (2016) 685–711

<http://dx.doi.org/10.1016/j.chc.2016.05.004>

[childpsych.theclinics.com](http://childpsych.theclinics.com)

1056-4993/16/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

Abbreviations	
AUD	Alcohol use disorder
AWS	Alcohol withdrawal syndrome
CM	Contingency management
CO	Carbon monoxide
CUD	Cannabis use disorder
DSM	<i>Diagnostic and Statistical Manual of Mental Disorders</i>
FDA	US Food and Drug Administration
GABA	Gamma-aminobutyric acid
MI	Motivational interviewing
MMT	Methadone maintenance therapy
NAC	<i>N</i> -acetylcysteine
NRT	Nicotine replacement therapy
OD	Opioid use disorder
OWS	Opioid withdrawal syndrome
RCT	Randomized, controlled trial
SR	Sustained release
SUD	Substance use disorder
XL	Extended release

during early childhood.<sup>4</sup> Substance use initiation, progression to regular use, and the development of SUDs peaks during adolescence and young adulthood, and decreases throughout the rest of the lifespan.<sup>5,6</sup> SUDs represent a major source of morbidity and mortality in the teenage years.<sup>7–11</sup>

Many youth meet criteria for SUDs and a major treatment gap exists, with fewer than 1 in 10 adolescents who are in need of treatment receiving it.<sup>12</sup> Data on national admissions to substance use treatment between 2002 and 2012 found that 75% of all adolescent SUD treatment admissions were related to cannabis, 13% to alcohol, 3% to opioids, 3% to methamphetamines or amphetamines, and 1% to cocaine.<sup>13</sup>

A number of psychosocial interventions have demonstrated short-term efficacy in clinical trials, but effect sizes for these interventions remain small to moderate, and few youth achieve sustained abstinence.<sup>14–20</sup> In light of the limited treatment response and increased morbidity and mortality associated with adolescent SUDs, the field of addiction science is focused on expanding treatment approaches that may enhance treatment response and improve outcomes.<sup>15</sup> A potential approach to improve treatment response is to use adjunctive pharmacotherapy.

Growing evidence indicates that pharmacotherapy when added to psychosocial interventions improves treatment outcomes in adult SUDs.<sup>21,22</sup> As such, a primary question for the field is can pharmacotherapies, when added to psychosocial interventions, improve outcomes for adolescent SUDs. To address this question, this article presents a comprehensive clinical review of the state of the evidence of pharmacotherapy for adolescent SUDs. It focuses on recent randomized, controlled trials (RCTs) using medications in combination with psychosocial interventions to treat SUDs in individuals aged 13 to 25 years (Table 1).

**The Role of Pharmacotherapy in the Treatment of Substance Use Disorders**

Medication assisted treatments are defined as the use of a US Food and Drug Administration (FDA)-approved medication in combination with evidence-based psychosocial intervention to provide a ‘whole patient’ approach to the treatment of SUDs.<sup>21</sup> Numerous controlled trials in adults have shown that medications targeting alcohol use disorders (AUD),<sup>23</sup> tobacco use disorders,<sup>24</sup> and opioid use disorders (OD)<sup>25,26</sup> have been associated with improved treatment outcomes,<sup>23–25</sup> reductions

Download English Version:

<https://daneshyari.com/en/article/4150354>

Download Persian Version:

<https://daneshyari.com/article/4150354>

[Daneshyari.com](https://daneshyari.com)