Substance Use Disorders duing COVID-19 Pandemic

Subjects: Substance Abuse

Contributor: Elyse Cornett , Amber Edinoff , , Tyler Chauncy , Meredith Nelson , Adam Kaye

Both SUDs and COVID-19 separately have had, and continue to have, a widespread impact on our society. While they are two distinct entities, they are intricately related and have been shown to influence one another. Lockdown mandates intended to enhance public safety produced unintended consequences for people with SUDs by decreasing access to treatment and disrupting their current care. Telehealth could offer a solution to this disruption as its utilization expands the provider's reach and increases access to treatment in underserved populations, including those with SUDs.

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1. Introduction

The United States has seen a substantial increase in the number of people diagnosed with substance use disorder (SUD) [1]. Specifically, opioid use disorder (OUD) has exploded since the 1990s, when pharmaceutical companies aggressively marketed opioid analgesics for pain management [2]. Individuals struggling with SUDs are marginalized, stigmatized, and underserved by the United States healthcare system [3][4]. The nationwide response to the opioid crisis was beginning to progress as access to addiction treatment became more widely available [4][5]. Then, in the spring of 2020, the COVID-19 pandemic struck, and with it came a massive shift in healthcare delivery systems.

Addiction treatment has suffered during the pandemic due to reduced hours and a decrease in services that were safely available through in-person visits [3]. Lockdown mandates intended to enhance public safety also produced unintended consequences for people with SUDs by decreasing access to treatment and disrupting their current care [6]. Social isolation creates an extraordinarily dangerous situation for people with SUDs, making them more likely to relapse, use alone (increasing their overdose death risk), or engage in risky use behaviors because of exacerbated stress and loneliness [3][4][6]. Telehealth offers a solution. The remote delivery of healthcare through telemedicine has allowed providers to continue treatment while remaining compliant with the social distance mandates that began during the COVID-19 pandemic. Widespread telemedicine utilization can benefit patients because it expands the provider's reach and increases access to treatment in underserved populations, such as those with SUDs [1].

Tightly controlled legislative policies once regulated how providers were able to utilize telemedicine. However, policy adaptations made after the start of the pandemic have increased the access and delivery of telehealth

services [6]. For example, The Ryan Haight Online Pharmacy Consumer Protection Act passed in 2008 required providers to evaluate patients in person before prescribing controlled substances via telehealth avenues [6]. Following the start of the pandemic, the Federal Drug Enforcement Administration (DEA) lifted these restrictions if providers and patients used a two-way communication system with both audio and visual components. Despite the loosened requirements, the Substance Abuse and Mental Health Services Administration (SAMHSA) recognized that access to care was still limited for those without digital tools, such as computers and the internet. In response, the DEA further specified that telephone-only appointments could be utilized [6]. Low-threshold options, such as buprenorphine, can now be prescribed via telehealth without an in-person visit for OUD, owing to these newly loosened restrictions [3][6]. Medicaid and Medicare have also expanded their reimbursements to states supporting the expansion of telehealth services amid the COVID-19 pandemic [1][4].

Pilot programs, such as the Addiction Telehealth Program (ATP) in San Francisco, increased the accessibility of treatment options for patients struggling with addiction [1]. Additionally, Rhode Island established a twenty-four-hour buprenorphine hotline in response to the new guidelines after participants voiced challenges associated with obtaining treatment elsewhere and expressed anxiety about leaving their homes during the pandemic [3]. This hotline allows patients with OUD to have remote access to qualified providers who can perform assessments, prescribe medication, and connect them to outpatient services [3]. Studies have shown that a treatment delivered through telehealth is as effective as an in-person treatment, and patients are highly satisfied with the care received [1]. This manuscript will evaluate these studies by investigating telehealth services for the population suffering from an SUD.

2. Traditional Treatment of Substance Use Disorder

Traditional treatments for SUDs vary greatly based upon the specific substance of use. Pharmacotherapy is effective in certain substance users, specifically those abusing opiates, tobacco, and alcohol. First-line treatment for OUD includes either methadone, a full opioid agonist, or buprenorphine, a partial agonist of the mu-opioid receptor [7][8]. Naltrexone, a competitive opioid antagonist at the mu-opioid receptor, can also be used to treat OUD; however, the patient must be opioid-free for seven to ten days due to the antagonist mechanism of action which can precipitate withdrawal [7]. Naltrexone is also used in alcohol use disorder (AUD) to reduce cravings. Methadone remains the gold standard approach for OUD because it increases treatment compliance compared to buprenorphine and naltrexone [8]. Longer periods of a pharmacological approach to OUD are associated with a lower likelihood of returning to use and better outcomes [8]. Methadone is mainly administered under direct supervision by clinic-based programs due to the increased risk of respiratory depression and overdose compared to buprenorphine or naltrexone [8]. In the inpatient setting, providers should consider the benefits of the early initiation of buprenorphine and outpatient care coordination for OUD patients [8].

Pharmacotherapy can also promote smoking cessation in tobacco use disorder [9]. The pharmacological treatments for tobacco use disorder include varenicline, bupropion, or nicotine replacement therapy (NRT), which encompasses a transdermal patch, nicotine gum, lozenge, or nasal spray [9]. Combined NRT, with a short and long-acting nicotine replacement, or varenicline, is considered to be the first-line approach for smoking cessation

treatment [9]. AUD can also be treated pharmacologically with disulfiram, naltrexone, and acamprosate [10]. These medications increase abstinence from alcohol and have been approved by the Food and Drug Administration (FDA) for use in AUD [10]. Despite this, the pharmacological approach to AUD is considered underutilized in favor of alcohol-specific psychosocial treatments, including outpatient treatment and twelve-step programs, such as Alcoholics Anonymous [10].

Another treatment modality for SUD includes behavioral or psychosocial therapies, such as contingency management (CM), mindfulness-based interventions (MBIs), or motivational interviewing (MI). The pharmacological approach has been shown to be relatively ineffective for stimulant use disorder, specifically cocaine use [11]. Since there are no FDA-approved medications for cocaine use disorder, first-line treatment includes psychosocial therapies, such as CBT and CM [12]. CM is a behavioral therapy based on operant conditioning that uses concrete reinforcements to encourage behavioral changes [11]. CM usually occurs in a group setting and utilizes an “abstinence-delivery model” that rewards prizes, such as vouchers, for negative urine toxicology [11]. Due to the COVID-19 pandemic, the implementation and utilization of CM has been difficult since CM involves groups of participants. Virtual CM is beneficial for nicotine and alcohol use disorders; therefore, virtual CM should be considered when social distancing and other COVID-19 guidelines cannot be followed [11]. Urine toxicology can be completed at an outpatient location, and prize delivery can be conducted through electronic methods, such as a prepaid debit card [11].

Mindfulness-based interventions combine the widely-used techniques of behavioral therapy with mindfulness meditation and include mindfulness-based stress reduction (MBSR), mindfulness-based cognitive therapy (MBCT), mindfulness-based relapse prevention (MBRP), and mindfulness-oriented recovery enhancement (MORE) [13]. Mindfulness is defined as the self-awareness of thought, emotion, sensation, and perception in the present moment [13]. MBIs effectively reduce the misusage of alcohol, cigarettes, marijuana, and opioids [13]. The mental training of MBIs focuses on strengthening an individual’s awareness and the control of their attention and behavior, such as cravings, when exposed to cues related to their addiction [13]. Mindfulness-based therapies can treat addiction by increasing neuronal connections in the prefrontal area that have atrophied from the use of substances [13]. For example, patients exposed to an object that can cause cravings are taught to be aware of these cravings and resist the impulsive urge [13]. Using these techniques and behavioral modifications allows the patient to transfer these behavioral skills to reduce addiction [13].

MI is a loosely defined behavioral technique that effectively reduces alcohol, marijuana, and nicotine substance use [14]. MI techniques include open questions and affirmations that explore a patient’s thought process and elicit change by uncovering one’s underlying motivation [15]. Interestingly, in adult males and college students, a shorter duration of MI therapy was proven to be effective in reducing alcohol consumption; however, similar therapy did not significantly affect adult women [14]. MI does have limitations—it is ineffective at reducing SUDs related to opioids and stimulants [14].

3. Substance Use Disorders and the COVID-19 Pandemic

Both SUDs and COVID-19 separately have had, and continue to have, a widespread impact on the society. While they are two distinct entities, they are intricately related and have been shown to influence one another. The pandemic caused detrimental effects on mental health, with subsequent increases in substance use rates, relapses, and overdoses [16]. An overwhelming mental health burden resulted from financial insecurities, social isolation, health anxiety, and anxiety due to the uncertainty of the situation [17]. In times of stress or uncertainty, people could turn to substances to relieve those unsettling, anxiety-provoking feelings. This was exemplified in the 34.4% increase in alcohol sales and 13.2% increase in tobacco sales witnessed over three months in 2020 in comparison to the previous year [18]. In individuals with SUDs, these staggering stressors place increased hardship on their current substance use and/or recovery [16]. A daily routine's stability and active support are crucial for continued recovery, with breaks in routine causing an increased risk of relapse [19].

Because of the implementation of social distancing guidelines, many individuals began or continued to use substances in isolation, increasing their risk of a fatal overdose [20]. In particular, in terms of opioid use, individuals were administered life-saving naloxone less often in the event of an overdose due to increased isolation during the pandemic [20]. Kentucky recorded a 50% increase in suspected opioid overdoses with subsequent deaths at the scene upon EMS arrival [19]. Addiction services adhered to social distancing guidelines, resulting in the disruption of resources while making these adjustments [19]. Individuals with SUDs rely on clinics and other treatment centers for harm reduction services, including fentanyl test strips and clean needle packages [20]. In Hawaii, the pandemic resulted in a 38.4% increase in overdoses, to which fentanyl was the predominant contributor [21]. To minimize the spread of the virus in jails and prisons, many individuals with drug-related offenses were released, but without the necessary resources required to ensure adequate recovery, putting this population at a further increased risk of overdose [19]. Additionally, while the incidence of overdoses was increasing, emergency rooms were overwhelmed with COVID-19 patients, resulting in a decrease in care for patients suffering from other medical emergencies, including substance-related cases [22].

Research has also shown how individuals with SUDs are at an increased risk of exposure to and worse outcomes from COVID-19 [1]. This population is at an increased risk of exposure largely due to an overall decrease in social distancing in the activities leading up to and directly involving the use of substances [20]. In addition, individuals who utilize harm reduction services or addiction services can also have increased exposure when visiting those facilities [20][22]. Individuals experiencing homelessness are at a further increased risk of exposure due to even less control over social distancing and access to proper hygiene facilities [23]. Residing in congregate housing facilities from homes to encampments can result in barriers to following social distancing guidelines [23]. This is an important consideration for health care providers, as about 36% of individuals who are experiencing homelessness are also suffering from an SUD [23].

4. Issues with Addiction Treatment and COVID-19

COVID-19 has caused rapid modifications in the treatment of SUDs to maintain adequate social distancing guidelines. Prior pillars of treatment, including addiction centers, support group-based therapies, and peer support groups, were disrupted, leaving a vital gap in care for a patient's recovery [16]. Times of extreme stress can worsen

individuals with an SUD and their treatment [17][18]. The social aspect of care is crucial to provide decreased isolation, examples of successful recoveries, and interactions with individuals with similar experiences [16].

A promising solution to the lapse of in-person interaction from group therapy was the implementation of web-based care [16]. The incorporation of telemedicine use was vital in helping bridge this affected area of care. With only the use of a computer or cell phone, individuals could have access to the social aspect of care [16]. While this system is favorable for those who have the means, many individuals do not have access to the equipment or software needed for telemedicine to take place, creating disparities in care for this particular population [24]. Some communities have adopted prepaid cell phone donations, telemedicine kiosks, and iPads for use in shelters to help minimize this imbalance [24].

In addition to the social aspect of recovery and treatment, receiving medications was difficult for many patients during this time. For individuals with an opioid use disorder, issues arose with receiving necessary medication therapies and harm reduction services due to shutdowns, creating a potential rise in relapses and overdoses [17]. In addition, emergency rooms experienced decreases in buprenorphine administration due to the overwhelming amount of COVID-19 patients, potentially adversely affecting individuals' recoveries [17]. Many individuals also struggled with balancing the cost of treatments with increased financial insecurity due to the pandemic, forcing some patients to forgo care [19]. As explained previously, a further impact of COVID-19 on the treatment of SUDs was its capacity to increase relapse rates and overdoses due to the increased psychological burden from the pandemic, increased social isolation, and issues with care [18].

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