### INFORMATION BULLETIN

# THE IMPACT OF THE COVID-19 PANDEMIC ON THE DRUG PROBLEM IN THE AMERICAS: A MIXED METHOD INQUIRY



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# **EXECUTIVE SUMMARY**

The coronavirus disease 2019 (COVID-19) was produced by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease spread rapidly throughout the world and was declared a global pandemic by the World Health Organization (WHO) on March 11, 2020, and declared over on May 5, 2023. Countries of Latin America and the Caribbean (LAC) have been harshly affected by the pandemic mainly due to healthcare systems unprepared for the large influx of patients and fragmented social safety nets.

Measures implemented to contain the spread of COVID-19 have had a negative impact on drug use and aggravated health risks for people who use drugs. According to the evidence available to date, the lockdown measures implemented to contain the spread of COVID-19 and the subsequent unemployment, stress, physical distancing, and related isolation and mental health effects, as well as changes in the availability of certain substances contributed to some measurable changes in drug use behavior across the world, particularly during the first year of the pandemic included the acceleration of drug overdoses, the increase in cannabis use and the non-medical use of pharmaceutical drugs. At the same time, a reduction in the use of drugs that are consumed mainly in social or recreational settings and contexts, such as cocaine or "party drugs" such as MDMA was observed. Additionally, the COVID-19 pandemic disproportionately affected persons with substance use disorders (SUDs) as they experienced higher infection rates and limited access to healthcare among other negative outcomes.

While these findings may appear bleak, researchers found that the COVID-19 pandemic was an ideal opportunity to study the interrelationship between mental health and substance use. This mixed-method analysis provides substantial context and evidence in helping to understand the ongoing impact of the pandemic on substance use in the Americas.

## **BACKGROUND**

The coronavirus disease 2019 (COVID-19) pandemic, produced by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), spread rapidly throughout the world. LAC countries have been affected by the pandemic due to overwhelmed public health systems and inadequate programs that support persons during times of crisis. In its May 3, 2022, weekly epidemiological update on the pandemic, the Pan American Health Organization (PAHO) reported that the Coronavirus Disease 2019 (COVID-19) pandemic was having widespread economic, social, and political effects on Latin America and the Caribbean. As of May 3, 2022, the region had nearly 1.7 million deaths (over 27% of deaths worldwide).

# INTRODUCTION

In an attempt to control the COVID-19 pandemic, physical distancing and hygiene measures, including regular hand washing and covering of nose and mouth when sneezing or coughing, were implemented worldwide. In several countries, sudden and dramatic social changes were implemented to slow contagion and "flatten the curve" of the pandemic to preserve the capacity of healthcare resources, which included asking people to stay at home as much as possible.<sup>2</sup>

In the LAC countries, for the most part, national quarantines, curfews, and shelter-inplace policies were implemented to decrease the spread of the virus. Quarantine or social isolation is stressful and associated with psychological problems, especially in older adults, females, individuals from lower socio-economic groups, and those with underlying mental health conditions. Psychological problems can include anxiety, depression, acute stress disorder, substance abuse, insomnia, and post-traumatic stress disorder.<sup>3</sup>

A review of the impact of the major infectious disease outbreak of SARS in 2003 showed that the psychological impact was primarily associated with occupational roles, high-risk work environment, quarantine, social support, and the impact on one's personal and professional life.

The almost global lockdown was unique, and little was known about the consumption of substances during social isolation; however, Vanderbruggen, et al. hypothesized that individuals in social isolation due to lockdown measures would consume more substances. Mapping the changes in substance use and the reasons for these changes during large-scale general social isolation is important. It reveals the response of the general population in times of stress and may, therefore, be of value to provide appropriate care in post-COVID times and indicate possible preventive actions in case of similar events.

As we learn about the effects of the COVID-19 pandemic on our societies, it is clear that the effects are often felt most deeply in disadvantaged and marginalized communities. This public health crisis has exposed the systemic weaknesses that affect these populations, illuminating clear directions for addressing them now and highlighting the need to rethink our future strategies, policies, and services. §

Especially vulnerable during this crisis were those affected by substance use disorders (SUD). In the face of the demands on our healthcare system and policies that protect against virus spread, it is nonetheless essential that treatment and intervention, recovery services, and prevention mechanisms remain accessible, operational, and optimized.<sup>6</sup>

One primary question that continues to dominate is whether people who use substances or have an addiction or substance use disorder are at greater risk for contracting COVID-19 - Dr. Nora Volkow, Director of the US National Institute on Drug Abuse (NIDA), believes the answer is yes. While research on how substance use affects susceptibility to COVID-19 is evolving, smoking and substance use disorders are on a list of underlying medical conditions associated with an elevated risk for severe COVID-19 illness compiled by the US Centers for Disease Control and Prevention (CDC). Having a substance use disorder (such as alcohol, opioid, or cocaine use disorder) can make you more likely to get very sick from COVID-19.7

Individuals with SUDs commonly experience respiratory and cardiovascular disorders, including hypertension and Chronic Obstructive Pulmonary Disease (COPD), and have undermined immune systems, making them particularly vulnerable to COVID-19. A significant portion of individuals with SUDs have underlying medical conditions and are more likely to be marginalized. SUDs complicate and impair the respiratory system directly and can intensify the severity of the disease through cardiovascular damage and immune abnormality. There are increasing concerns about the negative effects of Acute Respiratory Distress Syndrome (ARDS) associated with capillary endothelial damage by COVID-19 and SUDs, including the harmful effects on the blood-brain barrier (BBB) integrity. If the coronavirus is allowed to migrate across the BBB and infect the brain, long-term neurological degeneracy is expected, and the treatment will be deemed challenging.

Commonly abused substances may lead to COVID-19 complications and severity in several ways. Smoking tobacco and marijuana could cause direct damage to the respiratory system, such as COPD. Other substances (cocaine, opioids, amphetamine stimulants) mostly work through modulating brain and immune functions, including promoting pro-inflammatory factors, suppressing immune responses, and impairment of the BBB.9 Neuroinflammation induced by several substances of abuse and inflammatory activities caused by COVID-19 in the peripheral tissues may mutually intensify the adverse effects of one another, leading to the negative progression of the disease.8

This mixed-methods study was undertaken to explore and provide feedback on the impact of the COVID-19 pandemic on aspects of the drug phenomenon in OAS member states.

Most of the evidence available on the impact of the COVID-19 crisis on drug use is based on rapid assessments or web surveys among people who use drugs or the general population. Typically, these instruments have not allowed for an in-depth assessment of patterns of frequency, consumption, or prevalence of use. They have broadly assessed changes in general drug use without focusing on specific information on patterns or extrapolating the findings to the general population. Frequently, participants in these studies were recruited opportunistically, for example, through the Internet, therefore reducing the representativeness of the surveys, as certain groups of people who use drugs may have been less likely to be included.

# **MATERIAL AND METHODS**

For the first method of inquiry, two online surveys [first round (2020) and second round (2021)] were deployed to CICAD commissioners in 33 member states. The surveys were designed to collect feedback on the impact of the COVID-19 pandemic on aspects of the drug phenomenon in member states. The surveys were designed and deployed using the online platform hosted by Survey Monkey. The first round of implementation of the survey consisted of six questions and the countries were asked to fill out the questionnaire only once in response to the survey.

In the second round, the survey consisted of 14 questions, and the countries were asked to fill out the questionnaire only once in response to the survey. Compared to the first round of the survey, the CICAD Executive Secretariat added eight more questions. These extra questions centered on the role of gender in drug use in the respective countries, as well as on the countries' participation in OID training and informative events. The survey contained both closed and open-ended questions, and countries were given the option to explain and specify their responses.

The second method of inquiry utilized a systematic review of available research to answer the questions pertinent to the impact of the COVID-19 pandemic on substance use and drug trafficking in the Americas. This methodological approach of synthesizing existing original data from primary research studies conducted during the pandemic period, 2020-2021 provided substantial context and evidence in helping to understand the ongoing impact of the pandemic on substance use in the Americas.

The systematic review served to provide a synthesis of how the COVID-19 pandemic and the measures to contain it have affected drug use and patterns of drug use, possible health consequences for drug users, and how the provision of treatment and services to people who use drugs has been affected; a number of innovations in this area, which stem from the reaction to the pandemic, are described. The key questions of focus for the systematic review were:

- What was the COVID-19 pandemic's impact on drug supply and trafficking?
- 2. What was the COVID-19 pandemic's impact on people in treatment?
- **3.** How did the COVID-19 pandemic impact young people and their substance use?
- 4. Were people using drugs more during the COVID-19 pandemic?
- 5. Is there evidence that shows increased vulnerabilities to COVID-19 among people with substance use disorders?
- **6.** How has COVID-19 impacted the frequency of drug overdose?
- 7. is the overall evidence of the impact of the COVID-19 pandemic on drug use in the region of the Americas?

# **MEASURES**

The five principal questions that recurred on both rounds of the survey and that were geared toward describing the impact of the pandemic were:

- How do you expect the Coronavirus/COVID-19 pandemic will affect substance use in your country? The response options were increase, decrease, or no change.
- 2. Do you have any specific examples or evidence of how the Coronavirus/ COVID-19 pandemic is already affecting substance use in your country? This called for a dichotomous response of yes or no and the countries were asked to provide specific evidence.
- 3. Has the provision of treatment services for substance misuse been affected by the Coronavirus/COVID-19 pandemic? This also called for a dichotomous response of yes or no and the countries were asked to describe the ways the services were affected.

- 4. How is your national drug secretariat (or equivalent) operating given the restrictions that have been put in place by your government? Countries were given seven options from which they could choose as many that applied to their country's situation. The options were: full operations in the office, partial operations in the office, reduced staff in the office, rotating schedules in the office, work from home, closed/ all operations suspended, and others.
- 5. Are you planning any studies or data analysis to look at how the Coronavirus/COVID-19 pandemic is impacting your country in the following areas? The response options were drug use, drug treatment, drug trafficking, risks associated with COVID-19 and health, and others.

# **FINDINGS**

#### Response rate and participating countries

In the first round, 27 countries responded to the survey out of a total of 34. The response rate was 79.4%. In the second round, 17 countries out of a total of 34 responded to the survey. Hence, the response rate was 50% and thus significantly lower than in the first round of the survey (79%).

#### **COVID-19 pandemic impact on substance use**

Countries were asked what they thought about the effects of COVID-19 on substance use. The possible responses were that drug use would increase, decrease, or stay the same. Table 1 shows that in the first round, 20 out of 26 countries responded that they thought that substance use would increase, five responded that there would be no change, and one country felt that there would be a decrease in substance use.

In the second round, despite the smaller number of countries that responded to the survey, a notably higher proportion of countries felt that substance use had decreased compared to 2020. Whereas there was the perception that substance use increased during the pandemic in Argentina, Jamaica, Peru, Saint Lucia, St. Vincent and the Grenadines, and Suriname. Respondents in Chile, Dominica, El Salvador, Honduras, and the Dominican Republic felt that substance use had decreased.

#### Specific evidence on how the pandemic affected substance use

Countries were asked to indicate any specific examples, citations, or evidence of how the COVID-19 pandemic affected substance use in their country. In the first round, 15 of 27 countries, or 55.6% were able to provide examples. The examples provided are indicated in Table 2.

In the second round, 14 of 17 countries (82%) had specific examples and evidence of the impact of the pandemic on drug use. Of the 14 countries that responded affirmatively, ten indicated that their evidence was based on designated surveys or studies regarding the impact of the pandemic, while the other four countries rely on other indicators, such as the number of cases of drug abuse and the number of medical consultations.

#### **COVID -19 pandemic effect on treatment services**

Countries were asked to indicate whether the provision of treatment services for substance misuse has been affected by the COVID-19 pandemic. As indicated in Table 3, the majority of countries that responded to this question answered in the affirmative. Whereas in the 2020 round of the survey 85% (23 of 27) of the countries had indicated that the pandemic affected the provision of treatment services, this figure rose to 88% (15 of 17) of countries in the 2021 survey.

Of the 15 countries that responded affirmatively in the 2021 survey, nine (60%) stated that treatment services generally decreased as a result of lockdowns, social distancing rules, and the prioritization of patients diagnosed with COVID-19. The other six countries did not elaborate on a potential decrease or increase in treatment services but described how the nature of treatment services changed during the pandemic - through a shift towards virtual and telephone consultations instead of consultations onsite.

Table 4 shows a summary of the main drivers affecting the provision of treatment services for substance misuse during the first round of administration of the survey (2020).

#### Measures affecting drug production or drug trafficking

In the second round of administration, countries were asked to indicate ways that the COVID-19 pandemic had affected drug production or drug trafficking in their country. In this open-ended question, countries responded very differently. Some indicated that they noticed an increase in the production of certain drugs, while others did not perceive changes in production (Table 5). Regarding drug trafficking, many countries noted that the border closures and trade disruptions due to the pandemic impacted drug trafficking. Whereas some countries, therefore, experienced a decrease in trafficking, other countries saw shifts in the way of transportation. For example, Jamaica and Peru noticed an uptick in maritime and courier services, indicated by increased maritime seizures.

#### **Government's COVID-19 pandemic restrictions**

In this multiple-response question, countries were asked to describe the restrictions imposed in their country during the pandemic (Thinking about the situation today, how is your national drug secretariat (or equivalent) operating given the restrictions that have been put in place by the government?). Most countries had more than one type of restriction in place at various times during the pandemic. From table 6, the most prevalent restriction indicated in the first round was working from home (table 6), 23 out of 27 countries (85%) reported that this was implemented during the pandemic. This was followed by reduced office staff and rotating schedules, each implemented by 15 countries (55.6%). Twelve countries reported partial operation in the office, three reported other arrangements were made, and only one country reported that full operation in the office was maintained during the pandemic.

Compared to 2020, a significant number of national drug secretariats had returned to full operation by the second round (approximately one year later in 2021). Nonetheless, the national drug secretariats still rely on alternative ways of working in accordance with social-distancing rules. Many secretariats still operated with reduced staff in the office, rotating schedules, and working from home, though to a lesser extent than in 2020.

# Planned studies or data analysis reflecting the impact of the COVID-19 pandemic

Countries were asked about plans to conduct specific studies related to the coronavirus pandemic and drugs - 'Are you planning any studies or data analysis to look at how the Coronavirus/COVID-19 pandemic is impacting your country in the following areas?'-was the question asked in 2020; and 'Have you carried out any studies or data analysis to look at how the Coronavirus/COVID-19 pandemic has impacted your country in the following areas?' was asked in 2021. In this multiple-response question, table 7 shows that in the first round, 20 countries indicated that they were planning studies on drug use, 17 said that they were going to do a study on drug treatment, 10 said drug trafficking, five indicated that they would do a study on COVID-19 and health risks, and seven countries indicated they would do other types of studies. The other types of studies included:

- Mental health and COVID-19
- Biopsychosocial Factors/Social Connectedness & Isolation on Health, Wellbeing, Illness, & Recovery
- Stress Management in Relation to COVID-19
- Drug overdose information
- The impact on therapeutic communities during the pandemic period

In the second-round of the survey in 2021, bearing in mind the much lower response rate, notably fewer countries indicated that they had planned drug use (7), drug treatment (6), drug trafficking (4), or risk associated with COVID-19 (4) studies or data analyses. In 2021, in response to the question, 'Have you carried out any studies or data analysis to look at how the Coronavirus/COVID-19 pandemic has impacted your country?', ten countries indicated they had done studies on drug use, five on drug treatment, four on drug trafficking, and three on the risk associated with COVID-19 (4).

# Impact of COVID-19 pandemic - Results from a systematic review of published literature

#### **Evidence of the impact of the COVID-19 pandemic on drug use**

Despite different patterns of change across regions and subregions, an increase in the use of cannabis and the non-medical use of some pharmaceutical drugs has been observed in all regions. Emerging evidence suggests that drug use patterns have shifted as a result of short-term changes in drug markets brought about by the COVID-19 pandemic. As the availability of certain drugs has increased or decreased, people who use drugs switched between substances. For example, in some regions, there have been reports of increased use of fentanyl and other alternatives to heroin among people who are opioid-dependent. In the Americas, a study in the United States among a population diagnosed with, or at risk of, substance use disorders found, based on urine samples, that the frequency of use of cocaine, fentanyl, heroin, and methamphetamine had increased in the four months following the outbreak of COVID-19, compared with the four months preceding it.<sup>11</sup>

In Colombia, in a government-led online study among 18,779 people conducted between June and December 2020, 8.2 percent of the study participants reported having used tobacco or cigarettes in the three months prior to the survey; 51 percent had consumed alcohol and 1.2 percent had used illicit drugs: mainly sedatives, cannabis, and cocaine. The analysis showed that higher levels of resilience correlated with lesser substance use, particularly tobacco, alcohol, cannabis, and sedatives. Likewise, a direct link was found between the risks of anxiety and depression and the use of any substance.<sup>12</sup>

#### How has COVID-19 impacted the frequency of drug overdose?

Provisional data show that drug overdoses have accelerated <sup>13</sup>, <sup>14</sup> during the COVID-19 pandemic. More than 93,000 drug overdose deaths were estimated to have occurred in the United States in 2020, the highest number of overdose deaths ever recorded in a 12-month period and a nearly 30% increase from 2019, according to recent provisional data from the Centers for Disease Control and Prevention. This increase follows a steady rise in overdose deaths in the United States since at least the 1980s. Since 2016, drug overdose deaths have been driven largely by fentanyl and other

synthetic opioids. Experts note that factors related to the pandemic-such as social isolation and stress, people using drugs alone, an overall increase in rates of drug use, and decreased access to substance use treatment, harm reduction services, and emergency services-likely exacerbated these trends, though more research is needed to better understand this relationship.<sup>15</sup>

# Is there evidence that shows increased vulnerabilities to COVID-19 among people with substance use disorders?

In September 2020, an analysis of electronic health records from more than 73 million patients at 360 U.S. hospitals found that while people with substance use disorders made up only 10.3% of the sample overall, they accounted for 15.6% of patients diagnosed with COVID-19. Overall, people with a previous diagnosis of a substance use disorder at any point in their lifetime were 1.5 times more likely to have COVID-19 than those who did not. The study also found people with such a diagnosis were more likely to experience severe outcomes of COVID-19 than those without, including hospitalization (41% versus 30%) and death (9.6% versus 6.6%).<sup>16</sup>

#### Were people using drugs more during the COVID-19 pandemic?

Data indicated there have been large increases in many kinds of drug use in the United States since the national emergency was declared in March 2020. Researchers have found increases in the number of positive urine drug screens ordered by healthcare providers and legal systems. In these reports, positive screens for fentanyl, cocaine, heroin, and methamphetamine have all increased from previous years. Tr, Studies in the United States and other countries also suggest many people increased their use of alcohol and cannabis (marijuana), especially people with clinical anxiety and depression and those experiencing COVID-19-related stress. P. 20

# How is the COVID-19 pandemic impacting young people and their substance use?

The COVID-19 pandemic has created significant disruptions in the lives of many children and adolescents around the world, and studies have shown many young people may be experiencing greater rates of anxiety, depression, and other mental health problems. Among adolescents, rates of cannabis use and binge drinking during the COVID-19 pandemic did not change significantly from prior years, according to a nationally representative survey of 12th graders in the United States, conducted between mid-July and mid-August 2020. The same study found nicotine vaping in high school seniors declined somewhat between 2019 and 2020. Another study found that 10-14-year-olds had similar rates of drug use before and during the first six months of the COVID-19 pandemic.

# How has the COVID-19 pandemic impacted people in treatment for substance use disorder and those currently in recovery?

People in treatment for substance use disorders faced unique challenges during the pandemic. Physical distancing, quarantine, and other public health measures have disrupted many people's access to medication and other support services. For example, people with opioid use disorder who rely on methadone dispensed at a clinic may have been unable to access this daily medication while physically distancing. In response, federal agencies in the USA took steps to expand access to needed medications during the pandemic. These include allowing people with opioid use disorder to begin treatment with buprenorphine without an initial in-person doctor visit and allowing some people on a stable methadone treatment regimen to obtain 14-28 days of take-home doses.<sup>24</sup>

For those in recovery from a substance use disorder, social support is crucial, and social isolation is a risk factor for relapse. Physical distancing measures and quarantine may be especially difficult for people in recovery because they limit access to meetings of peer-support groups and other sources of social connection. Although in-person recovery support may be limited during the pandemic, virtual meetings and telehealth counseling have expanded and may be useful for some.

#### The COVID-19 pandemic's impact on drug supply and trafficking<sup>10</sup>

Cannabis production may have expanded due to increased demand. While monitoring cannabis production is challenging and no reliable data are available, a reported increase in the quantities of cannabis seized and an increase in demand for the drug may have led to an increase in cannabis production worldwide. Unlike other plant-based drugs, for which production is concentrated in a limited number of countries, cannabis is produced in most countries worldwide. Cannabis products are often produced and distributed locally via domestic supply chains. There are no indications that these supply chains have been drastically disrupted by the COVID-19 measures. Because of the localized and often small-scale nature of cannabis production, it is difficult to monitor and challenging to evaluate how it has been affected by the COVID-19 pandemic. Data available to date on drug use during the pandemic point to a stable or increased use of cannabis in countries in many regions.

After initial disruptions, global drug production was largely unaffected by COVID-19 throughout 2020. For example, coca leaf production was not affected, but the supply chain of cocaine-related products was disrupted in the initial stages of the pandemic when buyers in Colombia and Peru could not gain access to areas of coca production. However, production recovered soon after COVID-19-related restrictions were eased. The disruption was evident in the sharp drop in coca leaf prices, which declined by some 50 percent in Colombia and Peru from the first to the second quarter of 2020. Price data on legally sold coca leaf in the Plurinational State of Bolivia point to a

similar situation in that country. Drug trafficking may have slowed significantly during initial lockdown periods but resumed at the same or even increased levels soon after restrictions were lifted.

In all regions, the quantities of drugs seized decreased significantly during the second quarter of 2020 but resumed at the same or even increased levels soon after. The decrease in global quantities of drugs seized points to reduced trafficking activities during the first months of the pandemic, although some countries reported changes in law enforcement capacity related to the COVID-19 pandemic, which may also explain the change. Seizures of drugs trafficked by air and land were most affected by the disruptions; maritime routes were less disrupted. Cannabis trafficking continued throughout the pandemic, possibly even at increased rates.

Throughout 2020, a trend towards increased use of maritime and waterway routes and the use of private aircraft was observed, while the trafficking of small drug quantities by commercial air transport decreased. The COVID-19 pandemic accelerated existing trends of increased use of sea and waterway routes for drug trafficking. Use of maritime and waterway routes was found to have increased in several regions and countries (Latin America, South-East Asia, and in some African countries), possibly related to travel restrictions and increased land border controls worldwide. In Latin America, traffickers were increasingly using private aircraft to traffic drugs as a result of greater difficulties due to land border controls. For some drugs, an increase in trafficking by mail was observed in many regions.

#### The COVID-19 pandemic's impact on drug demand

The COVID-19 pandemic and restrictions to contain the spread of the virus have limited services for people who use drugs across all regions. The restrictions have disrupted, at least partially, the treatment of drug use disorders, prevention of adverse health consequences, and treatment of comorbidities. However, the closure of non-essential health services and the reassignment of resources to manage acute COVID-19 cases resulted in sudden and uncoordinated discontinuation of services for people with drug use disorders during the initial lockdown periods.

The COVID-19 pandemic has led to important adaptations and innovations in service delivery for people who use drugs. To overcome the limitations stemming from the COVID-19 crisis in the delivery and accessibility of services to people who use drugs, many countries have developed innovative approaches to ensure the continuation of treatment and care of people who use drugs.

This includes (a) the modification of national regulations and guidelines on drug use treatment; (b) an increase in the use of telemedicine and in the flexibility of drug treatment schemes, such as the dispensation of opioid agonist treatment medications; and (c) novel ways of providing access to needles and syringes and supplies of naloxone despite mobility restrictions and reduced social contact. The effectiveness of these approaches is still to be assessed.

# DISCUSSION

COVID-19: Implications and Opportunities for Substance Use Disorder

The changes observed in drug markets, in particular during the first months of the pandemic, appear to have been largely temporary. The drug markets recovered quickly after mobility restrictions were lifted, highlighting their resilience. The immediate direct effects of the COVID-19 pandemic itself are therefore not likely to fundamentally change the scope and dynamics of existing drug markets in the long run because drug market participants adapt, and consumers may return to their previous habits once the pandemic is under control and social activities resume.

The advent of the COVID-19 pandemic meant that those with pre-existing problems became particularly vulnerable to this disease and experienced an increased risk of various adverse effects from their drug use. In some places, the typical risks associated with drug use were significantly increased due to the higher likelihood of drugs being mixed with harmful contaminants. Reports from the United States, for example, revealed an increased number of fatal overdoses in drug users in the wake of the global pandemic.

Individuals with SUDs seem to be at a disproportionately higher risk of becoming seriously ill if they contract COVID-19. This risk can further be exacerbated by individuals with SUDs who also have underlying health conditions associated with their drug use, which can further increase their chances of experiencing the severe symptoms of COVID-19.

# CONCLUSION

Measures implemented to contain the spread of COVID-19 have led to some countries reporting negative impacts on drug use and aggravated health risks for people who use drugs. Lockdown measures to contain the spread of COVID-19 and the subsequent unemployment, stress, physical distancing and related isolation and boredom, as well as changes in the availability of certain substances, have contributed to some measurable changes in drug use behavior across the world, particularly during the first phase of the pandemic.

Many countries pointed to an increase in cannabis consumption; however, epidemiological evidence also indicates that cannabis use was increasing prior to the beginning of the pandemic. Additionally, the non-medical use of pharmaceutical drugs, such as tramadol, benzodiazepines or barbiturates also appear to be increasing. A reduction was observed in the use of drugs that are consumed mainly in social or recreational settings and contexts, such as cocaine or "party drugs" such as MDMA mostly due to the widespread implementation of lockdown measures and closures in the night-time industry. For other people who use drugs, there does not seem to have been a substantial change in the patterns of use, although it is too early to draw definitive conclusions.

It is now widely accepted that some of the effects of COVID-19 may stay with some infected persons for extended periods. People with mild or no symptoms can transmit the pathogen as effectively as those with severe symptoms.<sup>25</sup> The complications and compromised immune systems associated with SUDs make drug abusers particularly vulnerable to COVID-19. During the pandemic, therapeutics and vaccines that were developed did not address these individuals' specific concerns and risk factors.

The COVID-19 pandemic has caused even greater challenges for people with SUDs, as they experienced higher infection rates, limited access to the healthcare system and support groups, inadequate food and housing, and an increased likelihood of homelessness and incarceration. They may also face excessive discrimination and have higher chances of relapses and overdose death. The research community should respond to the challenges and difficulties these individuals may experience in the pandemic, uncover scientific evidence to link COVID-19 severity and mortality with substance use, and advance effective treatment and prevention strategies for people with SUDs.

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