

## Addictions and COVID-19, the pandemic impact

### *Adicciones y COVID-19, impacto de la pandemia*

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As was to be expected, the impact of the SARS-CoV2 pandemic and the months-long lockdown it caused brought about changes in the patterns of addictive psychoactive substance use, in other non-substance addictive behaviours and in the population's mental health (García-Álvarez, Fuente-Tomás, Sáiz, García-Portilla & Bobes, 2020). Since then, numerous studies have been conducted in an attempt to determine the consequences of these changes for the physical and mental health of the population, both general and clinical. This editorial presents the main findings and lessons of this abundant research.

In March 2020, the WHO declared the outbreak of SARS-CoV2, which causes the COVID-19 disease, a global pandemic. Governments enforced isolation rules and restrictions on the movement of the population to limit the rise of cases and the associated morbidity and mortality. Spain was one of the worst affected countries and the one that imposed the tightest restrictions in Europe. These restrictions affected the entire population, but the most vulnerable, such as patients with substance use disorders (SUD) or mental health problems, were affected in a way that has not yet been fully understood (Marel, Mills & Teesson, 2021).

The mental health consequences of individuals exposed to the pandemic and its consequences are manifold and can result in adverse psychological responses such as anxiety, major depression or depressive episodes, post-traumatic

stress disorder, self-harm behaviour or suicide (Dubey et al., 2020; Marel et al., 2021; Shanahan et al., 2019). Studies conducted during the pandemic in the most affected countries have shown high rates of symptoms linked to moderate-severe anxiety, fear of contagion and disorders linked to trauma and depression (Marel et al., 2021; Shanahan et al., 2019). These psychiatric symptoms have been associated with risk factors such as female sex, feelings of loneliness and financial instability, among others (Marel et al., 2021; Shanahan et al., 2019).

Such factors are also likely to affect other risk behaviours and generate changes in the consumption of alcohol and other addictive psychoactive substances (Clay & Parker, 2020). It has been shown that an increase in the level of stress and anxiety increases the motivation to use psychoactive substances as a coping mechanism; in this case, it is clear that the global pandemic was a highly stressful event (Marel et al., 2021; Shanahan et al., 2019). It has been argued that the increase in fear and concern regarding the rise of COVID-19 infections would generate an increase in consumption and in the age of onset, while others have suggested that trafficking of illicit drugs, and thus their sale and purchase, would be seriously disrupted during lockdown, thereby leading to a significant reduction in the use of such drugs and with it an increase in withdrawal syndromes (Cisneros & Cunningham, 2021; Dubey et al., 2020; Kumar et al., 2022; Mallet, Dubertret & Le Strat, 2021). It is also understood that COVID-19 disrupts the treatment of

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patients suffering from substance use disorder and thus increases relapse potential (Blithikioti, Nuno, Paniello, Gual & Miquel, 2021; Tracy, Wachtel & Friedman, 2021).

### Substance use disorders, mental disorders and COVID-19 illness

SUD patients are particularly susceptible to the effects of the pandemic as they are at higher risk of suffering the serious consequences of COVID-19 infection (Cisneros & Cunningham, 2021; Dorjee, Kim, Bonomo & Dolma, 2020; Dubey et al., 2020; Kumar et al., 2022; Mallet et al., 2021). The following factors make SUD patients more vulnerable to higher morbidity and mortality (Dorjee et al., 2020) in relation to COVID-19 infection (Dubey et al., 2020):

- Presence of cardiopulmonary diseases.
- Metabolic disorders and obesity.
- Weakened immunity.
- Malnutrition.
- Liver diseases.
- Drug-induced cardiorespiratory depression.
- Alcohol and tobacco use increase the production of the enzyme ACE 2 (angiotensin-converting enzyme type 2), which is a target of SARS-CoV2.
- Difficulties in socio-health integration that delay help seeking.

Furthermore, COVID-19 infection has been described as impacting kynurenine, a product of the tryptophan metabolism pathway, whose functionality is closely related to inflammatory processes, and whose main activity in the central nervous system is to regulate the glutamergic, dopaminergic and serotonergic systems involved in SUD and psychiatric problems (Attademo & Bernardini, 2021; Cisneros & Cunningham, 2021). This could imply an increased direct risk of greater loss of control in patients with SUD and a heightened risk of exacerbating their psychiatric comorbidity. In addition, SARS-CoV2 has been shown to be capable of invading neuronal tissue, which could involve an alteration in cerebral homeostasis and, in turn, a risk of relapse in patients with SUD (Cisneros & Cunningham, 2021).

The comorbidity of SUD and mental disorders among substance users is very high. A cross-sectional survey of a cohort of 1,266 patients in a study conducted in the health services of Madrid, Barcelona and Seville found that a mental disorder was diagnosed in 43% of the sample. The most frequent diagnoses were depression (37.5%) and specific phobia (6.8%) (Herrero, Domingo-Salvany, Brugal & Torrens, 2011). Another example is the COPSAD study in the addiction treatment network of Galicia. This cross-sectional study with 2,300 outpatient participants found that 56.3% had psychiatric comorbidity, with depressive and anxiety disorders again being the most prevalent (Pereiro, Pino, Flórez, Arrojo & Becoña, 2013).

These studies demonstrate the high prevalence of psychiatric comorbidity among patients with SUD, which therefore puts these patients at higher risk of worsening comorbid mental disorders when infected and suffering from COVID-19 (Marel et al., 2021) given the physical and psychological stress caused by infection and lockdown. The following factors may be crucial in generating stress and worsening mental health with an increase in hopelessness and suicidal ideation (Marel et al., 2021):

- Isolation and loss of social cohesion.
- Loneliness.
- Loss of employment and financial difficulties.
- Increase in domestic violence.
- Reduction in the availability of social and health resources.

### Changes in consumption during lockdown

From the earliest days of the pandemic caused by SARS-CoV2, there was a certain concern regarding possible increases in the use of alcohol and other addictive psychoactive substances. However, evidence gathered in studies conducted during previous pandemics suggests that such substance use can change in two directions: it may increase in the population suffering emotional or psychological distress, or it may decrease due to restrictions on movement and the accompanying economic crisis (Lapeyre-Mestre et al., 2020). While representing a reality that we have already imagined, the numerous studies carried out to date also provide additional information that may be considered interesting for the future. In the following, the results obtained for the different substances of abuse, and for non-substance addictive behaviours are outlined.

#### Alcohol

Focusing on the studies which have been conducted in the countries suffering most strongly from the impact of the pandemic (United States, Canada, Italy, Spain, Russia, France and the United Kingdom), and comparing moments of lockdown with the same period of the year before the pandemic, results show that drink-related problems worsened during lockdown, with increased statistics of high-risk drinking (Llorens, Brime & Molina, 2021). A study with data from hospitals in Italy showed that, in contrast with a notable decrease in total visits to emergency departments, the absolute number of emergency admissions involving alcohol poisoning rose strongly compared to the same time period in 2019. This statistic rose still further after restrictions on movement were lifted (Grigoletto et al., 2020). In addition, there was an increase in the number of emergency admission with alcohol withdrawal symptoms (Grigoletto et al., 2020).

Studies carried out across lockdown in Spain and in other countries indicate a reduction in drinking overall, including the total cases of alcohol poisoning. This fall in

consumption was more significant in those aged under 25 years (Avena, Simkus, Lewandowski, Gold & Potenza, 2021; Clay & Parker, 2020; Imtiaz et al., 2021; Kyaw Hla et al., 2021; Llorens et al., 2021; Roberts et al., 2021; Vanderbruggen et al., 2020).

The paradoxical results obtained in the studies, with a drop in global alcohol use on the one hand and a rise in the problems caused by drinking on the other, can be understood thus: more extreme phenomena (more abstinence yet also more acute alcohol poisoning), as well as the temporary break in specialized services for patients with both consumption patterns, trigger more hospital emergency treatments at the individual level for drink-related problems (both withdrawal syndromes and acute alcohol poisoning), despite surveys showing an overall decrease in alcohol use. That is to say that the change lies above all in the way individuals use alcohol depending on their level of vulnerability; in total, less alcohol was drunk during lockdown for different reasons (accompaniment at home, movement restrictions, problems in accessing alcohol) but some vulnerable people experienced an extreme increase or decrease (increased use due to feelings of loneliness, social helplessness, difficulties at work, coping etc., or decreased use because of continuous accompaniment at home, lack of options to obtain alcohol, etc.), resulting in a large number of vulnerable patients requiring urgent medical attention (Grigoletto et al., 2020; Llorens et al., 2021).

Risk factors for increased alcohol use during COVID-19 include:

- Loneliness.
- Male gender.
- Advanced age.
- Having children.
- High educational level.
- Loss of purchasing power or unemployment.
- Poor physical health.
- Impulsiveness.
- Isolation.
- Mental disorders: Mental health factors were the most common triggers for increased alcohol use. The mental disorder most strongly involved in the increase in drinking was depression (Blithikioti et al., 2021).

Conversely, the factors associated with a reduction in alcohol use are:

- Religion.
- A high level of social support.
- Being a student: The low alcohol consumption of students is easily understood considering that their drinking takes place at specific moments and can be extreme, with high rates of social drinking. The closure of university campuses limited the sale of alcohol and many students went home with their parents, which is linked to lower alcohol use compared to those who remained on campus (Lundahl & Cannoy, 2021).

### ***Other non-alcoholic addictive psychoactive substances***

Studies indicate that the following substances were used less during lockdown: alcohol, nicotinic agents, cannabis, opiates and cocaine (Avena et al., 2021; Clay & Parker, 2020; Imtiaz et al., 2021; Llorens et al., 2021; Roberts et al., 2021; Vanderbruggen et al., 2020); the only reported increase was in the use of over-the-counter sedative-hypnotics. These are benzodiazepine agents that can cause tolerance, withdrawal and addiction. The data reflected in the studies indicate that this increase in the use of sedative-hypnotics occurred mainly in the population aged between 25 and 54 years, and in women. Consumption rose from 1.9% to 3.1% in less than a year (Avena et al., 2021; Clay & Parker, 2020; Imtiaz et al., 2021; Llorens et al., 2021; Roberts et al., 2021; Vanderbruggen et al., 2020). On the other hand, the number of deaths related to overdosing on these substances rose as the vulnerable addicted population responded to pandemic-induced stress by increasing their consumption, while the capacity for social and health care of specialized treatment services was reduced (Imtiaz et al., 2021; Tracy et al., 2021).

Data indicate that these sedative agents were not any less accessible during lockdown, thereby enabling a rise in consumption as a method of self-medication against the stress that the pandemic generated at its peak (Llorens et al., 2021). However, for the other substances, consumption decreased since lockdown and curfews made them more difficult to obtain. All this evidence demonstrates something that we already knew: consumption falls in the general population if accessibility to substances is severely affected, but stress generated by the social scenario of reduced accessibility raises consumption in vulnerable people and in addicts with mental disorders and social difficulties.

### ***Gambling for money online and offline***

Unsurprisingly, offline gambling was considerably reduced during lockdown, while online gambling maintained its prevalence rates, mainly involving the young male population, the group that most uses this gambling method (Hodgins & Stevens, 2021; Llorens et al., 2021). Not surprisingly, the prevalence of problem online gamblers grew, with accessibility again determining the results observed with respect to gambling.

### **Internet and social network use and abuse in adolescents during lockdown**

The use and abuse of the internet, social networks and mobile phones continues to increase beyond the existence of worldwide social-health problems such as a pandemic; the latter merely acted as a natural catalyst to accelerate a process that had already been underway throughout the last decade (Gjoneska et al., 2022; Marciano, Ostroumova, Schulz & Camerini, 2021).

Digital tools served to facilitate the new normality of living with restrictions and requiring changes in essential habits. The most important, according to the studies conducted, occurred in education, in teleworking, in the incorporation of technologies in the fields of health, in entertainment and in electronic commerce. Although these are the digital fields that were most affected by the pandemic and lockdown, it was social networks and their abusive use that attracted the most negative consequences for the mental health of today's adolescents and young adults (Gjoneska et al., 2022; Marciano et al., 2021).

From the first minute of the pandemic, we were told of the need for social distancing, reinforced by home lockdown. The youngest were forced to carry out a large part of their daily, academic and social life online and this led to a greater use of social networks on their part (Gjoneska et al., 2022; Marciano et al., 2021).

In this way, social networks took on the function of that fundamental space in which a young person forms, creates and moulds their relationships, profiles their identity, and expresses themselves and gets to know the world "around them".

The highest incidence of social media use occurred among young people aged between 16 and 24 years, a very important and crucial moment for the emotional and psychosocial development of human beings. The consequences of increased use of these networks, with a strong impact on the mental health of our young people, were anxiety and depression (Sampasa-Kanyinga & Lewis, 2015). Studies show that four out of five young people reported that the use of social networks caused them anxiety or made it worse (Sampasa-Kanyinga & Lewis, 2015; Shannon, Bush, Villeneuve, Hellemans & Guimond, 2022).

Regarding sleep, 1 in 3 students said they woke in the middle of the night and checked their mobile phones and social networks, worsening the quality of their sleep, with the subsequent problems of daytime sleepiness and difficulties in attention, concentration and memory leading to poorer academic performance (Shannon et al., 2022).

Anxiety and insomnia are joined by distortion of body image and eating behaviour disorders. The internet is a framework in which ideal lifestyles are promoted, as well as extreme physical characteristics already well known in the world of fashion, but this time in the hands of our young people, who tend to compare, copy and even compete (Fardouly, Diedrichs, Vartanian & Halliwell, 2015). The strong impact caused by certain social networks such as *Instagram* or *Tik Tok*, where adolescents compete and copy each other to lose weight quickly and share their progress on the networks so that others can see their achievements (Al-Hazzaa et al., 2022).

There is also concern that internet and social network use increases the loneliness and hopelessness of the youngest, exacerbating the risk of self-harm and suicidal behaviour (Khatcherian, Zullino, De Leo & Achab, 2022).

## Conclusions

These are the key conclusions that we can draw from the main studies linking addictions to COVID-19:

1. The reduction in the use of certain substances such as alcohol, nicotinic derivatives, cocaine, opiates or cannabis during lockdown can be explained by the fact that a large percentage of the consuming population is young, and during lockdown these young people had to return to their parents' home and leave their places of study, thereby decreasing the use of these substances given their reduced accessibility. This reduction in accessibility not only affected the youngest but also, although less intensely, the older adult population (Llorens et al., 2021).
2. The reduction in health care in addiction treatment services meant that a clinical population already isolated and with frequent psychiatric comorbidities, which used substances as a way of coping with their loneliness and pandemic-induced fears, was left unattended for some time. It is this most vulnerable population that increased substance use, resulting in a polarized scenario. Thus, while global consumption fell, a smaller percentage of the population increased consumption as they were more vulnerable to stress and used addictive psychoactive substances as their main coping strategy. If we add to this that addiction involves a loss of control over consumption, it is easy to understand why polarization occurred (Kyaw Hla et al., 2021). This polarization caused an increase in emergency health care due both to withdrawal syndromes and severe poisoning from severe substance abuse as a form of coping (Grigoletto et al., 2020).
3. Patients with SUD are more vulnerable to COVID-19 due to the direct and indirect mechanisms already mentioned (Attademo & Bernardini, 2021; Dorjee et al., 2020). For this reason, they require closer supervision by the health services, but this supervision was curtailed during the pandemic as isolation measures restricted the capacity of specialized units, an essential link between such patients and the health system, to monitor and treat these most vulnerable patients (Blithikioti et al., 2021; Tracy et al., 2021).
4. The increase in internet and social network use that lockdown engendered in young people and adolescents is of particular concern. While the effect that these technologies have on the mental health of the most vulnerable adolescents and young people was already recognised, we now also know that this vulnerability increased during lockdown by causing isolation and hopelessness in the youngest (Gjoneska et al., 2022; Khatcherian et al., 2022; Marciano et al., 2021; Shannon et al., 2022).

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