

COVID–19 and substance consumption – a narrative review of available evidence

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Corona virus pandemic, the etiologic agent of Corona virus Disease 2019 (COVID–19), has had sanitary, socioeconomic and psychosocial consequences associated to higher levels of anxiety, stress and emotional disruption on general population. An increase on substance consumption in general population is assumed, as well as problematic consumption. In this sense, people who have substance use disorders are the most vulnerable population regarding pandemic impact, especially during lockdown periods. We performed a systematic search within the main databases regarding impact of COVID–19 pandemic on substances consumption, performing a narrative synthesis of the available evidence, based on the main substances addressed by these publications. We discuss the trends of alcohol, tobacco, opioids and cannabis consumption, and the recommendations regarding follow–up and therapeutic support. Mostly, the level of the evidence of the articles included is low, since they describe experts’ opinions and exploratory observational studies. Most of the conclusions come from data search obtained during infectious outbreaks of previous forms of Corona virus. We suggest to perform primary studies on substance consumption and maintaining clinical surveillance of people with substance use disorders in the post–pandemic period.

Keywords: substance–related disorders, Corona virus, pandemics, mental health

INTRODUCTION

By late 2019, China reported a series of pneumonia cases happened in the city of Wuhan, Province of Hubei, further attributed to the new Corona Virus (SARS–CoV–2, English acronym for “Severe Acute Respiratory Syndrome Corona virus 2”), an etiologic agent of 2019 Corona Virus disease (COVID–19, acronym in English for Corona virus Disease 2019), which was declared as a pandemic in March, 2020, according to the WHO (World

Health Organization)⁽¹⁾. The pandemic has caused a social/political//sanitary crisis all over the world, thus causing a significant impact on family life of billions of people, from the most concrete aspects, such as disruptions on labor life and on health care, to other subjective components, such as the emergence of a cross cutting feeling of uncertainty associated to high levels of stress and anxiety⁽²⁾. Among the most immediate pandemic effects, dealing with the sanitary measures, such as social distancing or the lockdown call, are feelings of loneliness and

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social isolation⁽³⁾, which may lead to unhealthy conducts, such as a poor diet, lack of physical fitness, and substances consumption, which negatively impact on those who already have a psychiatric disorder⁽⁴⁾. Mental health, in its widest sense, is an aspect to be deemed as a priority, as most of the consequences coming from this pandemic deal with immediate and further consequences, as confirmed by some studies on SARS-CoV outbreak or SARS-CoV-1 outbreak, the first massive outbreak of an infectious pathology in the 21st century. Severe consequences were reported on population's mental health, even up to 4 years after this sanitary condition^(5,6). This is specially severe on most vulnerable social/economic/sanitary population⁽²⁾, who are expected to suffer an even higher impact, as for those who have problematic consumption of substances⁽⁷⁾ who, in many cases, had to cease use of medical care due to temporary closure of many Health Centers^(8,9). Likewise, people who use illegal drugs have a higher risk to catch and spread the virus, as their consumption is associated to social contact⁽¹⁰⁾. On the other hand, these people are less keen to find medical support, because of the stigma associated to substances consumption and trying to avoid contact with the Police, whom are today more frequently deployed in the streets⁽¹⁰⁾.

Because of the aforementioned, an increase on consumption of alcohol/tobacco/other substances could be expected in the general population, whether as a distraction or avoidance or else associated to symptoms, such as anxiety and low mood⁽¹¹⁾. This impact will be significantly higher on those people who already have a substances/consumption-related disorder. The aim of this review is to summarize the papers published describing the impact on substances consumption, due to the COVID-19 pandemic and its context.

METHODOLOGY

A systematic review of literature available in PubMed/Medline, SciELO and Cochrane Library on COVID-19 and substances consumption was made. Controlled/Non controlled search terms, such as “substance-related disorder”, “drug”, “addiction”, “dependence”, “alcohol”,

“cocaine”, “tobacco”, “opioid”, “cannabis”, “COVID-19”, “Corona virus” “SARS-CoV-2” were used. All the primary papers (no limitation, as per methodological design) secondary papers (narrative or systematic reviews) mentioning in the title /or in the abstract, words such as “substances consumption”, “COVID-19”, published till June, 2020 with no language restrictions were included. References of papers included as a second method of inclusion studies were reviewed.

RESULTS

Next, you will find the content of the papers published included in this review. Most of them are opinion articles and exploratory observational studies, all of them published abroad.

Alcohol

Alcohol abuse has been reported to alter adaptative/innate immunity, which would lead to SARS-CoV-2 infections, specially if people suffering alcohol consumption disorder are included, who usually have other medical conditions which may worsen their pathologies⁽¹²⁾. They also have a higher frequency of tobacco consumption⁽⁸⁾. Likewise, if we extrapolate the data coming from SARS-CoV outbreak, it is likely to state that people who suffer alcohol consumption disorder would be less willing to take additional measures regarding COVID-19^(8,13). In case of patients who suffer a hepatic disease associated to alcohol consumption, many of them are under treatment with corticosteroids, molecules aimed to depress the immunologic function. Besides, this population is estimated to be less willing to find medical care, even if they have severe symptoms⁽⁸⁾. This is even worse, considering that social distancing measures isolate many of these alcohol consumers from their support networks, that represent a source of hope and self esteem⁽¹⁴⁾. Levels of depression, anxiety, stress, irritability and frustration, usually leading to alcohol consumption, have increased according to various studies made during this pandemic^(15,16). Alcohol problematic consumption is a conduct negatively impacting on the possibility to keep a stable job, plus

the probability to be fired, because of the pandemic-related economic crisis. These psycho-social triggering factors of alcohol consumption would perpetuate a vicious circle of relapse and progression of the clinical picture. Despite of this, fake information about alcohol consumption has spread, on the idea that alcohol reduces contagion risk of Corona virus⁽⁸⁾ or it even eliminates such disease⁽¹⁷⁾. This fake belief has had severe consequences. For instance, in Iran more of 100 people have been reported dead, as they drank toxic alcohol believing they would be protected against Corona virus⁽¹⁷⁾. Before this situation, the WHO (World Health Organization) has issued massive newsletters on the relationship between alcohol consumption and COVID-19, including a paper on alcohol consumption disorders⁽¹⁸⁾. On the other hand, the National Institute on Drug Abuse in USA published an Article in its website about the consequences of COVID-19 on people who suffer substances abuse disorders⁽¹⁹⁾.

In USA, some cases of people who had alcohol consumption disorders and who had remained sober for a long time even years, but who have not been capable to keep sober, due to the pandemic stress, and also because they did not have a therapeutic follow up program⁽⁸⁾ have been reported. In Chile, many Health Centers providing Outpatient Care Programs for treating substances consumption have reduced their clinical attention to new users, because of the pandemic sanitary conditions. Some other Residential Centers stopped admittance of new patients or had to start outpatient treatment for patients with a severe clinical condition. Residential Outpatient Centers are fundamental for the Mental Health Network focused on holistic therapies for substances abuse disorders, as they provide medical / psychological / occupational treatment. Group behavior programs aimed to avoid relapse on consumption are quite relevant, therefore, the lack of daily hours scheduled for alcohol-free activities could lead to consumption relapse. Because of the aforementioned, it is possible to foresee an increase in alcohol problematic consumption once social distancing measures are released. In this sense, it has been proved that social/environmental conditions which

potentially could trigger a post-traumatic stress disorder are linked to alcohol abuse/dependence; therefore, is expectable that new cases of problematic alcohol consumers increase⁽¹¹⁾. In case of SARS-CoV outbreak, working as health professionals during the sanitary emergency it was linked to alcohol abuse/dependence, as they had a higher degree of exposure to the virus and as they were isolated as risk factors^(11,20). These conclusions have been corroborated by a study led by Lau et al⁽²¹⁾, who reported 4.7% of men, 14.8% of women who lived in Hong Kong and used alcohol, increased their consumption, one year after the massive outbreak of SARS-CoV, in 2002. On the other hand, in some countries, specially those with high income, alcohol sale is considered as a significant part of commercial activities; therefore, its sale has been granted, even during quarantines, which, apart from psychological stress would increase its consumption⁽²²⁾.

Even though some arguments are aimed to propose an increase on alcohol consumption rates, from the physical mobility/ financial availability point of view could this could decrease. Crisis, such as COVID-19 pandemic usually is associated to unemployment, reduction of working hours, thus leading to economic hardship preventing alcohol purchase. At the same time, social constraints, such as closure of public areas for alcohol consumption, may likewise lead to its reduction⁽²²⁾. As a summary, the evidence published is controversial regarding changes on alcohol consumption rates.

Telemedicine has turned out to be a therapeutical possibility to keep assisting people suffering alcohol consumption disorder. It has some growing level of evidence regarding its clinical pre-pandemic effectiveness^(23,24). Among the recommendations published, a more frequent follow up is recommended, by means of videoconferences for patients highly keen to relapse, specially those more impacted by social isolation. Along with that, it is recommended to pay special attention to patients who have previously remained clinically stable and sober, as they are within the highest risk of decompensation⁽¹¹⁾.

It is important to take into account that alcohol problematic consumption does not impact all

social stratum similarly. For instance, mortality increase attributable to alcohol has been linked almost exclusively to low social/economic stratum⁽²²⁾. Therefore, governments should warn about creating alcohol abuse sanitary policies during lockdown periods, in order to protect most vulnerable people⁽²⁵⁾. Another significantly impacted group is elderly people, who have been proved to have a higher suicidal risk, specially when alcohol consumption disorder is intercurrent to mood disorders⁽²⁶⁾. This age group is not keen to technology use which allows remote connections, with various remote connection platforms. This fact leads to social isolation and decreases the possibility to receive remote follow up treatment.

Tobacco

Current knowledge features COVID-19 as an acute respiratory pathology; therefore, tobacco addiction could negatively lead to it, by means of various proposed mechanisms⁽²⁷⁾. A retrospective cohort aimed to compare severe/non-severe COVID-19 patients asserted such theory. It proved that the proportion of smokers was higher among severe cases⁽²⁸⁾, while another research reported that the modifiable individual factor associated with a change in the progression of pneumonia caused by COVID-19 was tobacco addiction (odds ratio of 14,3; CI 95% 1.6–25, obtained by using a multivariable logistic regression model)⁽²⁹⁾. Tobacco consumption has been linked with psychological/social factors. It has been reported that posttraumatic depressive symptoms would increase tobacco addiction⁽³⁰⁾; therefore conditions, such as social distancing and lockdown –increasing psychological stress– may interact with the aforementioned symptomatology thus worsening the clinical picture and increasing the need to smoke; likewise, tobacco addiction is more frequent in low social classes, who also have a higher risk to catch COVID-19. Therefore, even though the message delivered by public health bodies should be aimed to general population, it must consider the specific psychological/social characteristics of the population most keen to tobacco consumption, by promoting cease of tobacco addiction and including suggestions and implementation of drug-based/conduct

interventions, according to remotely gathered evidence of the sanitary network⁽³¹⁾. However, a cross sectional study searching for changes on tobacco habits during current pandemic, proved that roughly only 20% of tobacco consumers smoking regular electronic cigarettes tried to quit consumption, caused by current pandemic risks, while roughly 30% increased consumption after pandemic was declared. Given the link between negative affections and tobacco addiction, it is possible to say that people are responding with a consumption increase due to stress, instead of reducing it, due to the associated risk perception⁽²⁷⁾. In the group of elderly people, because of the expected immune disorder/higher risk before a potential Corona virus contagion, specially among tobacco consumers, Satre et al⁽³²⁾ recommend to advice tobacco addiction cease and to promote nicotine replacement (for instance, nicotine patches) or anti-craving drug medication, such as Bupropion.

Opioids

Opioids consumption as abuse drugs is not highly frequent in Chile, but in other countries it is a severe public health problem. All over the world, opioids overdose is estimated to be one of the first causes of death associated to drugs. Patients with dependence on opioids frequently have physical/mental comorbidities⁽³³⁾. Treatment includes as a main pillar the replacement therapy or treatment with opioids agonists, by using Methadone, Buprenorphine, Naltrexone or Naloxone, specially in cases of acute intoxication. All these psychiatric medication must be strictly controlled. However, as medical care during current sanitary conditions is much more restricted, the therapy may be interrupted, which along with social isolation increases relapse risks⁽³²⁾ and search for it in black market of drugs⁽³⁴⁾. That is why, some injectable prolonged release forms of Buprenorphine have been suggested as a replacement therapy, which may be weekly/monthly administered, thus distancing physical contact with sanitary staff⁽³⁵⁾. Stowe et al⁽³⁶⁾ commented the case of South Africa, with a high amount of consumers of injected/smoked heroin who live in provisional shelters currently closed, due to the pandemic, where there is

not enough supply of replacement treatments. Therefore, it is expected that once the shelters are open after lock down are released, the risk of overdose caused by opioids will increase, due to tolerance reduction plus simultaneous use of other central nervous system depressants, such as alcohol and benzodiazepines; along with that, the potentially deadly use of synthetic opioids, such as Fentanyl –which is a much more powerful drug than heroin or Morphine– could increase as well. The authors promote government responsibility by delivering replacement therapies for those people who live in the shelters and are opioids dependent. As well as with alcohol consumption, elderly people are a brittle group among opioids consumers, as they have higher chronic pain rates; therefore opioids prescription in this group is higher, which leads to a potential dependence if its use is also chronic⁽³²⁾.

Finally, the United Nations Office on Drugs and Crime⁽³⁷⁾ wrote a document stating general guidelines for assisting people suffering substances abuse disorders, thus emphasizing the need of remote contact with patients and their inclusion as part of the sanitary system responsibilities. The importance of continuous treatment with opioids replacement therapies as something fundamental is specifically stated. Specially, when a patient with opioids abuse disorder is hospitalized, due to COVID–19, it is recommended to keep the replacement therapy and to monitor its interaction with those drugs administered in the plan for treating infectious diseases⁽³³⁾.

Cannabis

An increase on black market sales of products derived from cannabis has been reported during the first three months, 2020⁽³⁸⁾. This could determine future practices on cannabis purchase, patterns and contexts of consumption. On the other hand, studies in the USA have proved that during the last few years the amount of elderly people who use cannabis has increased, specially among those who consume alcohol or who are under some mental health treatment⁽³⁹⁾. In this group it has been suggested to follow psychological/educational counseling about falling at the same level, anxiety and dependence associated to cannabis

consumption, as its risk perception is usually low. It has been suggested to replace smoked cannabis by its eatable varieties⁽³⁹⁾. However, this specific recommendation comes from elderly people in USA, so its applicability in a local context is arguable.

FINAL CONSIDERATIONS

The social/economic crisis involve some components working simultaneously, but affecting differentially people's behavior. In this sense, individual substances consumption greatly varies, according to variables, such as social/economic stratum, record of substances abuse disorders or other psychiatric diagnosis, the existence of a support network, setting of the sanitary crisis as a psychological trauma for the person, among many others. Even though the future of the sanitary emergency is unpredictable –proper information not only about basic aspects of the pandemic, but also about proper health care to be made by people with substances abuse disorders– may fight stress and anxiety which may worsen the progress of these pictures. Most studies included in this review address alcohol/opioids consumption. Generally, a low level of evidence is reported, and it comes from foreign northern countries. These are mostly experts' opinions and exploratory observational studies: therefore, its extrapolation applicability must be carefully evaluated. Most experts' opinions are based on data obtained from SARS–CoV outbreak. No relevant papers discussing substances abuse frequency in Chile were reported, such as cocaine and cocaine base. Only one study was found addressing commercial trends of cannabis in 2020 and another one discussing –but not as a main topic– its consumption in elderly people. Therefore, it is important to perform primary studies and further secondary studies regarding this type of substances, whose use prevalence in Chile is significant, specially in case of cannabis. No investigations dealing with abuse of benzodiazepines were found either, whose increase is expectable, as it is a quick effect anxiolytic sedative medication.

The use of resources, such as telemedicine is a good tool to keep health care, but its feasibility must be weighed and it must be facilitated for

rural areas or for low social/economic strata, where substances consumption is higher. Current care of people with substances abuse disorders is a mental health must. Its permanence must be assured after pandemic, where frequency and severity of cases may be even higher.

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