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Literature review

Mental and behavioral disorders due to substances during the COVID-19 Pandemic: Prevalence, diagnosis, and management

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ABSTRACT

COVID-19 (Coronavirus Disease 2019) is still a significant problem; therefore, mental health issues and COVID-19 are starting to get attention because of the increasing psychological impact and mainly because of Substance Use Disorder (SUD). Further study is required on this issue. This paper aimed to determine the prevalence, diagnosis, and treatment of SUD during the COVID-19 pandemic. This literature review is gained from scientific articles with a range of publication years from 2016 to 2021 about SUD During the COVID-19 pandemic based on Prevalence, Diagnosis, and psychotherapy of the published journal using Pubmed, Google Scholar, and SAGE Journals, and then critically reviewed. The prevalence of SUD patients during the COVID-19 pandemic has increased; however, digital psychotherapy strategies for SUD patients have been found and proved effective during the pandemic. In conclusion, the COVID-19 pandemic impacts a person's mental and behavior and could be a high-risk opportunity for substance abuse. Therefore health workers must improve health services for SUD patients to receive the health access needed even in a pandemic.



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INTRODUCTION

The COVID-19 Pandemic had a significant impact on lives around the world. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. To reduce the spread of the virus and help health workers to contain it, the government began imposing a “quarantine” starting in March. Efforts have been made, among others, by urging the public to stay at home, limiting physical distance, and closing public facilities such as schools, restaurants, and entertainment venues (Cucinotta & Vanelli, 2020). Since the policy came into effect, mental health and COVID-19 issues have begun to receive attention due to increasing concerns about the psychological and mental health impacts. Several studies have found an increasing prevalence of various psychological disorders such as anxiety, depression, stress, and insomnia (Dietze et al., 2020; Wang et al., 2020; Zhou et al., 2020). To Overcome these psychological problems, people tend to engage in addictive behaviors such as substance use and other addictive behaviors (Dietze et al., 2020; Elhai, Yang, McKay, & Asmundson, 2020; Spitzer, Kroenke, Williams, & Löwe, 2006)

According to data CDC’s National Center for Health Statistics shows approximately 93,331 drug overdose deaths in the United States in 2020, an increase of 29.4% from the predicted 72,151 deaths in 2019 (Cucinotta & Vanelli, 2020). As of June 2020, 40.9% of 5,412 United States adults experienced adverse mental health or behavioral symptoms, including anxiety or depression disorders (30.9%), trauma and stress-related disorders associated with COVID-19 (26.3%), initiating or increasing substance use (e.g., alcohol, legal or illegal drugs, or prescription drugs taken in a manner not recommended by a doctor) to manage stress or emotions related to COVID-19 (13.3%), and seriously considered suicide

(10.7%). The prevalence of anxiety symptoms and depressive disorders was 3 and 4 times higher, respectively than those experienced during the second quarter of 2019 (anxiety disorders = 25.5% versus 8.1%; depressive disorders = 24.3% versus 6.5%), and Ideation suicides more than doubled in 2018 (10,7% versus 4,3%) (Dietze et al., 2020).

According to research by Marel et al. in 2021, a cohort study showed that patients with mental disorders who use Substance Use Disorder (SUD) increase the risk (80%) and complications of Covid-19. In addition, the consequences of Covid-19, especially physical distancing, increase the risk for patients with mental disorders to harm themselves with drugs and substances. Loneliness, independent isolation, financial problems, and stress of economic factors can also make a person experience mental disorders (such as depression, anxiety, self-harm, and suicidal ideation). Therefore this makes the prevalence of SUD (Substance Use Disorder) high (Marel, Mills, & Teesson, 2021). The COVID-19 pandemic has made people with substance abuse disorders reluctant to come for consultations to health facilities which has led to a decrease in treatment compliance so that the latest anticipation and management are needed for people with mental health and substance abuse (López-Pelayo et al., 2020)

Based on that phenomenon, there are differences in mental conditions and behavior in people who abuse substances before and during the COVID-19 pandemic. Therefore, the authors are interested in collecting information on the prevalence, diagnosis, and management of substance-induced mental and behavioral disorders in the COVID-19 pandemic so that patterns of substance use and treatment challenges can be identified in the COVID-19 pandemic. Mental and behavioral disorders due to substances during the COVID-19 pandemic. Narrative Literature Review by title “Mental and Behavioral Disorders Due to Substances



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(SUD) During the COVID-19 Pandemic: Prevalence, Diagnosis, and Management” is expected to be a reference and reading material for further research.

METHOD

The making of this Literature Review is done by seeking information from sources following the formulation of the problem from search engines such as Pubmed, Google Scholar, and SAGE Journals with the year of publication from 2016 to 2021. The keywords used in this Literature Review are (((Mental and Behavioral Disorders)) AND substance use during the COVID-19 Pandemic) AND substance use before the COVID-19 Pandemic) AND (prevalence, diagnosis, and management). The selected articles and journals according to inclusion and exclusion criteria to make a Literature Review. Twenty relevant articles were managed using the Mendeley reference manager application, then tabulated and discussed through the information.

RESULTS

In making this literature review, we searched some information based on our keywords with a literature search engine such as PubMed, Google Scholar, and *Sage Journal*. Our keywords (((*Mental and Behavioral Disorders*)) AND *substance use during the COVID-19 Pandemic*) AND *substance use before the COVID-19 Pandemic*) AND (*prevalence, diagnosis, and management*), overall had found 26,791 articles. Then we did screen the articles to 5 years time span and selected some types of articles, including *research articles, literature reviews, clinical research & reviews* (n=196). Not all of the journals we found could be accessed (accessed journals n=32). Then we selected some articles that matched our inclusion which is related to substance-induced mental and behavioral disorders during the COVID-19 pandemic based on prevalence, diagnosis, and management in English. Final articles that meet the inclusion criteria (n=20) was chosen from *Pubmed* (n=18), *Google scholar* (n=1), *Sage Journal* (n=1) and managed with *Mendeley Reference Manager*. Quantitative and Qualitative data was extracted manually to Microsoft Word, selecting important points based on our PICO.

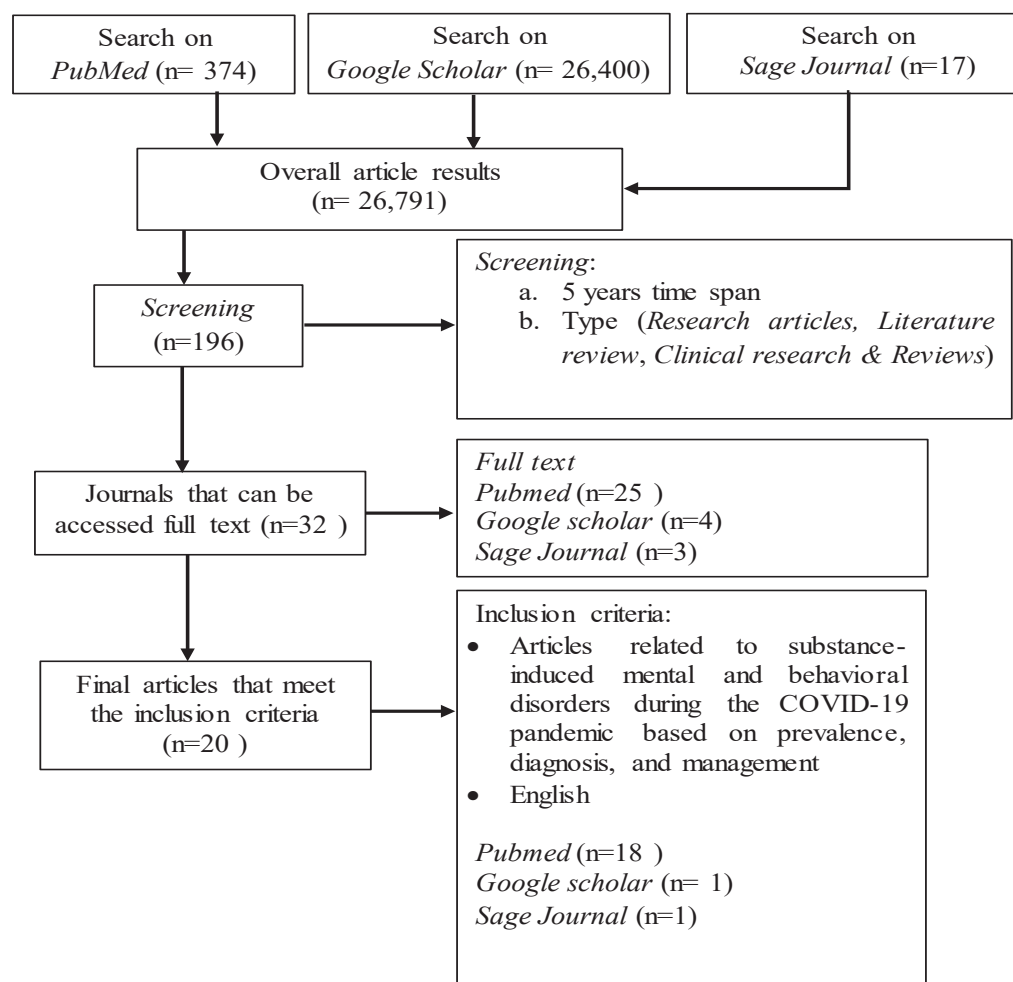


Figure 1. Workflow of literature searching

DISCUSSION

Mental and behavioral disorders due to substance use are health problems that need attention in the era of the COVID-19 pandemic. Abuse of alcohol and drugs can worsen the quality of health, education system, and social life that can bring dangers such as cases of alcohol-related car accidents, drug-related violence, and drug overdose. In this case, the substance is defined as a psychoactive compound that has the potential to cause health and social problems, including addiction, for example, substances that may be legal such as alcohol and tobacco; illegal

(heroin and cocaine); or medications prescribed for medical purposes such as hydrocodone or oxycodone (for example, Oxycontin, Vicodin, and Lortab) (Thomas McLellan, 2017).

Impact of the COVID-19 Pandemic on Prevalence and Diagnosis in Mental and Behavioral Disorders Due to Substance

Several studies have revealed that there has been a significant increase in the prevalence of various psychological disorders such as anxiety, depression, stress, and insomnia in the era of the COVID-19 pandemic. When there is an increase in psychological stress, people



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tend to overcome these problems by engaging in addictive behaviors such as substance use, excessive internet use and other addictive behaviors (Dietze et al., 2020; Elhai et al., 2020; Spitzer et al., 2006). This behavior is known as a coping mechanism which is defined as an action to prevent and adjust in stressful situations on themselves and the environment to reduce stress levels (Vaida, Todor, Bertossi, & Corega, 2015). This increase is likely due to several factors, such as the implementation of the quarantine system, physical distancing restrictions, changes in the health care system, and economic difficulties that occur in various countries in the world. These changes in circumstances forced everyone to stay at home, the loss of daily routines and pleasures, and the closure of schools, restaurants, businesses, and entertainment venues, resulting in various concerns such as anxiety and fear of contracting the COVID-19 virus, losing jobs, and other problems. Education will affect a person's mental health (Avena, Simkus, Lewandowski, Gold, & Potenza, 2021; López-Pelayo et al., 2020). This situation is also at risk for making people who previously wanted to stop using substances experience a relapse and tend to increase their use to self-medicate their mental conditions (Dietze & Peacock, 2020).

Based on research by Dietze et al. in the United States in June 2020, it was said that drug use and suicidal ideation had increased, which could affect mental health conditions. In addition, the prevalence of symptoms of anxiety disorders has increased threefold from that reported in the second quarter of 2019 around (25.5% versus 8.1%), and the prevalence of depressive disorders has increased fourfold based on reports in the second quarter of 2017. 2019 (24.3% versus 6.5%) (Dietze et al., 2020). Based on surveys and research conducted by *Perhimpunan Dokter Spesialis Kedokteran Jiwa Indonesia* (PDSKJI), it was found that 1,522 respondents showed mental health problems. Around 64.8%

of people experienced anxiety symptoms, depression (61.5%), and past trauma (75%) in Covid-19 Pandemic. A follow-up examination in the second study had 2,364 respondents in 34 provinces was not much different from the first result, with about 68% experiencing anxiety, 67% experiencing depression, and 77% experiencing psychological trauma (PDSKJI, 2020).

Then based on the World Drug Report 2020, obtained from 269 million people who use drugs, there are 35 million people who experience SUD due to substance use. A person with SUD is at higher risk of contracting COVID-19 and having more severe complications. Long-term drug use can put you at risk for cardiovascular problems and chronic obstructive pulmonary disease, which can worsen COVID-19 symptoms and increase the risk of death. Other risk factors for transmission and worsening of COVID-19 symptoms include people with poor immune systems, chronic alcoholics, drug use, blood-borne or sexually transmitted diseases, poor nutritional status, socioeconomic factors, and free sex. Drug users also have a very high risk of COVID-19 (Radfar et al., 2021).

A study conducted by Pollard, Tucker, and Green (2020) found a positive correlation between exposure to stress and alcohol and substance use. The frequency of alcohol consumption among adults in the United States increased by 14% from 2019 to 2020. Then episodes of heavy drinking increased by 41% in women since quarantine (Pollard, Tucker, & Green, 2020). A 2020 study reported that students in Russia who underwent strict quarantine during the COVID-19 pandemic showed a higher increase in alcohol use than students under the supervision of an educational institution (Gritsenko et al., 2020). *American Medical Association* also reported that Between March and May 2020, people who tested positive for fentanyl, methamphetamine, cocaine, and



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heroin increased by 32%, 20%, 10%, and 12%, respectively (American Medical Association, 2020). The analysis also shows that with the quarantine policy during the COVID-19 pandemic, overdose cases increased by 17.59 compared to before the quarantine (Alter & Yeager, 2020).

The diagnosis of mental and behavioral disorders due to substances is made if a history of using substances can cause significant symptoms. Besides that, it is also supported by laboratory tests such as urine or blood specimens. The discovery of other evidence, such as the presence of tools or drugs that were found and the existence of information from the family or the local community, so that the diagnosis of mental and behavioral disorders requires strong evidence (Saunders., 2017).

The application of lockdown during the pandemic for a long time can result in difficulty controlling emotions and mood swings among teenagers, mainly when abusing substances on an ongoing basis. Government efforts to prevent the spread of COVID-19 infection by staying at home, withdrawal can allow a person to hide and use substances. In addition, when a person tries to hide to leave the house with friends, it can be a factor for teenagers to abuse substances. A strange smell in a teen's room can be a sign that you are abusing certain substances, for example, marijuana has a distinct skunk-like odor when smoked, an unusually sweet smell can result from vaping or from sugary drinks mixed with alcohol (Lundahl, 2020).

Interventions and Approaches to Support Mental Health During the COVID-19 Pandemic

The approach is taken to treat patients with mental and behavioral disorders (SUD) because substances are certainly different

during and before the COVID-19 pandemic. Due to the many regulations that cause people to have to keep their distance to self-isolation at home, a lack of interaction and social activities leads to other difficulties in terms of economy, religion, etc. This also impacts patients with SUD who find it challenging to do counseling or psychotherapy, gain access to health care or get treatment if symptoms recur or worsen (Marel et al., 2021).

Many studies and journals have discussed attempts at therapeutic approaches in patients with mental disorders to help reduce substance use and prevent suicide during and after the COVID-19 Pandemic (Samhsa, 2021). During the pandemic, the Center for Academic Development in Drug Addiction (CEDRO) of the Medical University of Havana (UCMH) has applied the implementation method of telephone, email, and social networks (especially Whatsapp) to monitor therapy from individuals who want health services. This method is recommended when physical distancing conditions are applied and is very useful in reducing the negative impact on mental health. Findings from Fabelo-Roche, *et al* (2021) show that despite the potential negatives that self-isolation can cause as a preventive activity in times of pandemic, individual coping mechanisms developed by this method in patients. They can increase self-control, allowing to a large extent, to avoid the setbacks that have affected recovery. However, patients have faced various challenges during their recovery period, exacerbated by difficulties in specific situations, myths related to addictive substances and activities, tendencies to think irrationally, or lack of emotional self-control (Fabelo-Roche et al., 2021).

These findings also indicate that patients can face challenges because COVID-19 is influenced by: 1) Individual methods of self-control (commitment to study, projects, and working with therapists) aimed at self-restraint (78.4%);



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2) Facing difficulties in specific opportunities or situations (doubt, uncertainty, disagreement, isolation, and time) (67.5%); 3) Preservation and realization of myths related to addictive substances and activities (poor original benefits of tobacco, marijuana, alcohol, and overuse of social media) (51.3%); 4) Tendency to think irrationally and lack of emotional control (fear, sadness, anger, constant anxiety and self-imposed demands (43.2%) (Fabelo-Roche et al., 2021).

CONCLUSION

The COVID-19 pandemic has a significant impact on various aspects ranging from economic, educational, social, and others that can affect a person's mental health and behavior to be at high risk for substance abuse. Our study found a significant increase in prevalence in people with substance-induced mental and behavioral disorders (SUD) during the pandemic. Therefore, health workers must improve health services so that people with SUD can receive access to the health they need even in a pandemic. The management strategy for substance-induced SUD patients that are carried out digitally and supported by the closest person has proven to be effective even though psychotherapy is carried out remotely during a pandemic.

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