

Long-COVID Symptoms Improved after MDMA and Psilocybin Therapy: a case report

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Introduction

Coronavirus disease 2019 (COVID-19) is a highly contagious respiratory illness caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus was first identified in Wuhan, China in December 2019 and has since spread globally, leading to a worldwide pandemic. The majority of individuals who contract COVID-19 experience mild to moderate symptoms and recover within a few weeks. However, a significant proportion of individuals continue to experience symptoms long after the acute phase of the illness has resolved, a condition known as Long-COVID or post-acute sequelae of SARS-CoV-2 infection (PASC).¹ Long-COVID symptoms can be diverse and can range from mild to severe, and can include fatigue, depression, anxiety, joint pain, headaches, and cognitive impairment.

There are currently no effective or broad treatment options for Long COVID, but some symptom-related management has been trialed. Traditional treatment options, including rehabilitation, physical therapy, and medications, may not be fully effective for all individuals.² The pathophysiology of Long-COVID is still being elucidated and there is a need for alternative treatment options. A recent review has suggested that psilocybin and 3,4-Methylenedioxymethamphetamine (MDMA) may be an effective treatment option for the mental health challenges associated with COVID.³ Psychedelics have been traditionally used in spiritual and religious practices, but in recent years, there has been a resurgence of research on the therapeutic potential of psychedelics.⁴ Psychedelics have shown promise in the treatment of various medical conditions such as depression, anxiety, PTSD, and addiction.⁴ This case report describes the experience of a 44-year-old female who developed Long-COVID symptoms after contracting COVID-19 and her experience managing her symptoms and using psychedelics as a treatment. To our knowledge, this is the first case report describing the potential efficacy of psychedelics for Long-COVID symptoms.

Results

A 44-year-old female, who was previously healthy, developed Long-COVID symptoms after contracting COVID-19 in February 2022. The patient had a history of migraines, which occurred 2-4 times per month since adolescence. She had received three vaccinations (Pfizer for the first two and Moderna for the third) but still contracted the virus. The patient's symptoms at the time of diagnosis of acute COVID-19 included a sore throat, headache, fever, cough, post-nasal drip, fatigue, body aches, altered sense of taste (everything tasted extremely salty), and diminished sense of smell.

After the acute phase of the illness resolved, the patient continued to experience post-COVID symptoms,

including anxiety, depression, insomnia, joint pain (hips, knees, shoulders, jaw), cognitive issues (brain fog, poor reading comprehension and endurance, word-finding, and short-term memory), headaches, and a sharp decrease in libido. The patient also reported an intense unique headache, which was different from her migraines. This headache was a global pressure-like feeling that occurred almost daily for at least two hours without nausea, photophobia, or phonophobia. These symptoms had persisted for (fill in the blank but I think 3) months. The patient tried various traditional treatment options to manage her symptoms, including graded return to activity and medications. She was taking antihistamines (daily for 3 months) for insomnia during this time. Her headaches improved 60% with sumatriptan 85 mg and naproxen sodium 500 mg, but persisted. The patient also tried non-traditional treatments such as fasting, meditation/long-slow walks in the forest, chiropractic, acupuncture, osteopathic treatments, and massage. She found the fasting, meditation, and long slow walks only mildly helpful, and the improvement persisted only as long as the activity occurred. The patient was referred to a Long-COVID clinic, but due to long waitlists (Late August/Early September) was never seen. In the meantime, the patient decided to try psychedelics as a form of treatment under the guidance of a therapist who recommended a protocol of 3,4-Methylenedioxymethamphetamine (MDMA) and golden teacher psilocybin cubensis dried mushrooms.

The patient's first dosing session was on May 5, 2022, where she consumed 1 gram of dried whole golden teacher psilocybin cubensis mushrooms from an online store. The patient reported an improvement in her depression, fatigue, and joint pains. However, she also reported chills and shivering with a sensation of being cold while "coming up." The patient's second dosing session was 24 days later on May 29th where she consumed a single dose of MDMA 125 mg, 1 hour later 2 grams of whole dried golden teacher psilocybin cubensis mushrooms prepared in a tea, and 1 hour later a second dose of 2 grams of whole dried golden teacher psilocybin cubensis mushrooms prepared in a tea. The substances were said to be verified by getyourdrugstested.com.

The patient reported a slower build-up without shivering and reported feeling very detached from Long-COVID symptoms. The patient's experience while under the influence of MDMA and psilocybin was reported as feelings of being in a childlike state, having an intense connection to nature, and of being in an alternate reality. After this second dosing session, the patient reported significant improvement in her post-COVID symptoms including fatigue, depression, anxiety, joint pain, and headaches. The patient was able to return to work and her cognitive function improved, allowing her to resume her PhD studies. The patient's insomnia also improved, and she was able to stop taking antihistamines. The patient's unique headache, which was different from her migraines, decreased in severity and frequency. Overall, her symptom improvement was approximately 80%.

After several months of improvement, the patient reported experiencing a relapse of her post-COVID symptoms associated with a non-COVID flu-like illness including fatigue, depression, and anxiety. Additionally, her unique headache returned, although it was less severe and not as frequent as before. The patient decided to try another dosing session with psychedelics, this time, 2 g of dried golden teacher psilocybin cubensis mushrooms which led to a significant improvement in her symptoms. The patient reported an improvement of about 90% in her overall well-being, compared to her initial presentation. The patient was again able to return to work and continue with her PhD studies.

Discussion

Long-COVID, also known as PASC, is a condition where individuals continue to experience symptoms of COVID-19 long after the acute phase of the illness has resolved. The symptoms of Long-COVID can be diverse and can range from mild to severe, making it challenging to manage and treat. Traditional treatment options for Long-COVID include rehabilitation, physical therapy, and medications for specific symptoms such as pain and fatigue.⁵ However, these treatment options may not be effective for all individuals, and there is a need for alternative treatment options.

A recent review has suggested that psychedelics could be an effective treatment option for the mental health sequelae of COVID-19.³ Psychedelics have been traditionally used in spiritual and religious practices, but in

recent years, there has been a resurgence of research on the therapeutic potential of psychedelics. Psychedelics have shown promise in the treatment of various medical conditions such as depression, anxiety, PTSD, and addiction.

The mechanisms by which psychedelics could improve Long-COVID symptoms are not understood. The pathophysiology of Long-COVID symptoms include chronic neuroinflammation and neurologic dysfunction.⁶ Psychedelics are known to modulate the activity of neurotransmitters such as serotonin and dopamine, leading to changes in brain connectivity and potentially increasing neural plasticity. Psychedelics activate areas of the brain that are involved in self-referential processing, emotional regulation, and alter connectivity within and between intrinsic brain networks such as the default mode network (DMN).⁷ It has been hypothesized that the ability of psychedelics to alter DMN connectivity infers benefit in chronic neuropathic conditions by improving efficiency of these networks.⁷ There is research showing alterations in default mode network connectivity in patients with Long-COVID symptoms.⁸ Other research has pointed to the effects of psychedelics on gene expression as a means of influencing synaptic plasticity and neural inflammation as well as decreasing acute phase reactants, which could underlie the sustained benefits seen in studies of depression and other chronic neuropathic conditions.⁹

Conclusion

Long-COVID is a complex condition that can be challenging to manage and treat. Traditional treatment options may not be effective for all individuals, and there is a need for alternative treatment options. We report a case of a patient using psychedelics and seeing dramatic improvement in her Long-COVID symptoms. Further research is needed to determine if psychedelics are safe and effective for Long-COVID and to understand the potential mechanisms of action.

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Harman Chopra: formal analysis, writing, investigation, resources. Tim Furnish: supervision, writing – review & editing. Monica Verduzco-Gutierrez: supervision, writing – review & editing. David S. Jevotovsky: writing, visualization. Joel Castellanos: resources, conceptualization, supervision, writing – review & editing.

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