"The World Will End and No One Can Save Us": A Case Series of COVID-Related Exacerbation of Psychosis During the COVID-19 Pandemic

Samuel Rothman, MD[a]; Souparno Mitra, MD[a,*]; and Panagiota Korenis, MD[a]

Coronavirus disease 2019 (COVID-19), which was first noted in Wuhan, China in December 2019, has since become a global pandemic. The virus has affected all facets of society, including health care, economics, and politics. While there is talk regarding "flattening the curve," the mental health ramifications will increase as the initial outbreak improves. Anxiety and fear have been exponentially elevated and in some may reach levels requiring psychiatric intervention.[1] In the early stages of the pandemic in China, the mental health burden was surveyed, and the results showed that younger people as well as those in the health care field were most prone to higher levels of anxiety and depressive symptoms.[2] Similar findings were noted in prior infectious outbreaks including severe acute respiratory syndrome (SARS), Middle Eastern respiratory syndrome (MERS), and Ebola.[2] We present a series of 3 cases of exacerbation of psychiatric illness leading to inpatient psychiatric hospitalization that were related to COVID-19.

Case 1

Mr A is a 23-year-old, unmarried Hispanic man with no past psychiatric history who was transferred to the psychiatric emergency department (ED) from the medical ED. His father had called emergency medical services (EMS) due to Mr A's aggressive behavior.

The patient had been self-isolating at home with his grandmother and parents, staying away from close friends with whom he spent most of his time prior to social-distancing policies being enacted in New York City. Prior to these abrupt changes, he had been working 2 jobs but had been furloughed due to the economic hardships stemming from COVID-19. Per patient and collateral information from his sister, he had been experiencing insomnia and "behaving strangely" for 5 days prior to coming to the ED and had become obsessed with the pandemic. He was watching the news constantly and worrying that he would somehow catch the virus and inadvertently infect his elderly grandmother. As his worrying became more obsessive, he started to have strange thoughts about himself and reality and was attributing unwarranted significance to names and numbers he was hearing on the news. He began making aggressive remarks to family members when they were trying to calm him down or speak rationally about the virus, culminating in his father calling EMS to have him brought to the hospital for evaluation.

At the first contact in the psychiatric ED, Mr A acknowledged that he had been "talking crazy," which caused him to be sent to the hospital. He was unable to answer most of the questions due to disorganization but was able to deny any psychiatric history, substance abuse, or medical issues. The next morning in the ED, he was able to speak more about how social media was "controlling" him as well as paranoia about COVID-19, auditory hallucinations, and poor reality testing. He was admitted to the inpatient unit later that evening wherein he continued to voice a variety of delusional thoughts centered on COVID-19 and his role in the spread of the virus.

During his admission, Mr A was tested for possible etiologies for his psychotic and disorganized behaviors. His laboratory tests, which included complete blood count, comprehensive metabolic panel, thyroid panel, rapid plasma reagin, ceruloplasmin, vitamin B_{12}, and folate, were within normal limits. His only pertinent result was a positive urine toxicology report for marijuana. He stated, and his family confirmed, that he was a habitual marijuana smoker, although because of social distancing, he had been smoking less than usual over the few days prior to admission. He denied smoking any other substances, including K2 or other additives, that would not be detectable in the urine toxicology report. Magnetic resonance imaging of his brain was obtained, which was unremarkable.

Regarding medication management, during his admission he was initially treated with a 4-day course of zolpidem for insomnia. He was also started on the antipsychotic haloperidol, which was titrated up to a dose of 15 mg 2 times/day, with benztropine 1 mg 2 times/day added to mitigate the side effect profile. In addition to his psychosis, his mood was labile with inappropriate laughter and provocative comments with pressured speech, so the mood stabilizer valproate was added to his regimen. It was titrated up to

[a]Department of Psychiatry, Bronxcare Health Systems, Bronx, New York

*Corresponding author: Souparno Mitra, MD, Department of Psychiatry, Bronxcare Health Systems, 1276 Fulton Ave, 5th Floor South, Bronx, NY 10460 (mitrasouparnodr@gmail.com).

Prim Care Companion CNS Disord 2022;24(1):21cr03121

To cite: Rothman S, Mitra S, Korenis P. "The world will end and no one can save us": a case series of COVID-related exacerbation of psychosis during the COVID-19 pandemic. *Prim Care Companion CNS Disord.* 2022;24(1):21cr03121.

To share: https://doi.org/10.4088/PCC.21cr03121

a dose of 750 mg 2 times/day, and at discharge his level was 73 mcg/mL. As his symptoms improved, he agreed to take long-acting antipsychotic medication in the form of haloperidol, which was administered in 2 separate 100-mg injections over the course of 5 days. By the day of discharge, his delusional beliefs were less fixed, and his mood lability was well controlled. His anxiety about the virus and its ability to affect him and his family was much less pronounced, and his sleep was markedly improved. He and his family were educated about his symptoms and the importance of medication and treatment compliance. Mr A was discharged with a follow-up appointment with outpatient psychiatry.

Case 2

Ms B is a 40-year-old Hispanic woman with a history of schizoaffective disorder who lives alone and is unemployed. She was an outpatient at the psychiatry clinic. Her mother had contacted EMS due to her bizarre behavior, and she was brought to the ED. Her mother reported that Ms B was trying to remove her son from her neighbor's house, whom she believed was COVID positive. When confronted, she had become aggressive and tried to attack them.

On initial evaluation, Ms B had extreme psychomotor retardation and refused to be interviewed stating, "I don't want to talk." Information was obtained from collaterals and chart review. As per her outpatient psychiatrist, she had been diagnosed with schizoaffective disorder and had not been complaint with medication or follow-up recently. She had been tried on multiple antipsychotics in the past, which were not effective. She was last seen 2 months ago. She was irritable and aggressive. A decision to admit Ms B for stabilization was made. She was last prescribed olanzapine 15 mg/day and fluoxetine 20 mg/day. At baseline, she was well groomed, interacted well, and was pleasant. Ms B's last previous hospitalization was in 2017 for a prolonged period. At this time, she had the stressor of an ongoing case with the child services administration.

Ms B was admitted to the psychiatry unit with extreme negative symptoms, impoverished speech, flat affect, internal preoccupation, psychomotor retardation, and flushing of skin. She had an elevated temperature during her admission, and testing for COVID-19 markers showed nonspecific results. The medical consultant recommended close monitoring.

Throughout her admission, Ms B had minimal responsiveness during interviews, either answering "yes/no" or stating, "I don't want to talk." She initially refused to take medication and would only get up to eat or drink. Treatment over objection was prepared and submitted. After a few days, the patient refused to get out of bed and was not eating or drinking. She was given lorazepam 2 mg intramuscular for catatonic features, which led to restoration of psychomotor activity. Subsequently, she started to take her medications. She interacted with staff during medication administration and meals. She was taking olanzapine 25 mg and fluoxetine 60 mg. She began to respond slightly more spontaneously and showed improved psychomotor function. At the time of this writing, the treatment team was considering initiation of clozapine.

Case 3

Mr C is a 44-year-old man with a history of schizophrenia who lives in a shelter and was brought to the hospital for agitated behavior. On initial evaluation in the comprehensive psychiatric emergency program (CPEP), Mr C had stated, "The end of the world is close, Jesus told me that this will happen, we should not sleep since the devil will take everything." He was aggressive, trying to attack staff, and had to be emergently medicated. Mr C was hostile and threatening, banging on the walls and religiously preoccupied, and a decision was made to admit him to the inpatient unit.

During assessment, Mr C continued to have impoverished speech and a disorganized thought process and stated, "If you ask me to open my eyes, I will end the conversation and go back to zero" and "You know Einstein he said 1 equals 0." However, he was compliant with medications (haloperidol and lithium). After 2 days on the unit, Mr C stated, "I have the virus." When asked which virus, he stated, "coronavirus." He stated that he was in the hospital because he was scared that he had the coronavirus and was depressed. He further went on to state that he had caused the COVID-19 pandemic, and this was causing his depression. He showed significant improvement with medication titration and was being planned for discharge. Psychotherapy was focused on developing insight, and Mr C began to express that he was not the cause of the pandemic. On the day of discharge, Mr C had increasing anxiety and stated, "It is not safe to go anywhere," and refused to leave. Considering the likelihood of decompensation, he was retained in the unit. Medications were further titrated, and the patient continued to improve and was able to participate in planning for protecting himself against contracting COVID-19 in the community, including wearing a mask and washing his hands. He expressed confidence in his ability to protect himself from the infection. He was provided with information about the reality of the pandemic along with supportive psychotherapy. His lithium level was therapeutic, and he accepted treatment with haloperidol. Following a period of sustained improvement, Mr C was discharged with outpatient follow-up.

Discussion

These 3 cases provide insight into the impact that the COVID-19 pandemic is having on mental health in the community. There have been instances of first-episode psychosis, exacerbation of paranoia, religious delusions with patients considering the pandemic as judgment day or the Apocalypse, exacerbation of symptoms and readmissions in otherwise stable patients after a sustained period of outpatient follow-up, and increased traumatic stress symptoms and anxiety.

In the first case, the patient did experience first-episode psychosis during the height of the COVID-19 outbreak in New York City. Prior to this presentation, he had never

had this level of disorganization, paranoia, auditory hallucinations, or delusional thinking. This case shows that while social/physical distancing is a means of effectively preventing the spread of the virus, this method can also be linked to exacerbation of psychiatric symptoms, which may include, fear, anxiety, worry, and psychotic breaks.[3]

The second case shows the importance of outpatient follow-up. This patient had not been admitted to the inpatient unit in 3 years. However, the pandemic presented with many patients being lost to follow-up in the outpatient setting, which in the case of our patient exacerbated her symptoms. She had been stable on the same dose of medications for over a year. However, with outpatient services being scant and the present stressors, the patient became noncompliant with medications, decompensated, and required readmission. Additionally, this admission necessitated the use of more than 1 antipsychotic, as the patient's symptoms were resistant to 1 psychotropic medication. This case stresses the importance of close follow-up of patients with a history of paranoia.

The third case presents a unique clinical challenge, wherein the patient felt he was to blame for COVID-19. The patient was initially highly disorganized, but with titration of medications and supportive psychotherapy, he experienced remission of symptoms. This case shows the importance of striking a balance between exposing patients to the reality of a pandemic and addressing their paranoia and anxiety.

Research from past pandemics and traumatic events such as SARS, MERS, H1N1, and 9/11 have shown an exacerbation of psychiatric symptoms as well as the novel expression of first-break symptoms.[5] An important point from this research is that psychotic symptoms have been documented in many patients suffering from viral illness.[5] While different mechanisms of action have been posed for this being an effect of the virus, it can also be linked to steroid usage, which can be a part of the medication regimen for viral infections.[3] Additionally, a Malaysian case report[4] described a 31-year-old man with an acute psychotic episode seemingly precipitated solely from fear and distress associated with COVID-19. The patient described in the present case series resembles the man from that report, as Mr A was both fearful of contracting the disease and in distress about the possibility of infecting his elderly grandmother. Multiple studies have proposed that media coverage and sensationalism on both traditional news reports and social media platforms can serve to amplify psychosocial stress in new ways.[3] Rushing and Jean-Baptise[6] discuss cases of psychosis in the immediate aftermath of the 9/11 terrorist attacks. Both patients in their report[6] also had no prior psychotic episodes and soon developed paranoia and delusional thinking and focused their beliefs on terrorism and more imminent attacks. Media coverage was hypothesized to have played a role in the patients' psychosis,[6] as it likely did in past reports of similar symptoms after other highly televised traumatic events including the 1986 Challenger explosion[5] and the 1999 Oklahoma City bombing.[7] While media coverage is essential to help people navigate public health crises and get news on day-to-day life, more studies are needed to look at the impact on mental health, especially as news sources, particularly through social media, are so readily accessible at all times.

Conclusion

The COVID-19 pandemic has strained health care resources worldwide. Beds allocated to other specialties are being pulled to care for COVID patients as are health care staff. However, it is evident that mental health has been adversely affected during the past and present pandemic. From a community health point of view, it is important to have adequate resources in the form of outpatient follow-up, inpatient beds, and a psychiatric ED to address these needs. Close follow-up by outpatient providers, supportive psychotherapy, and titration of medications may be key to prevent decompensation, maintain functionality, and avoid adverse events such as suicide and acts of violence.

Received: August 31, 2021.
Published online: January 6, 2022.
Potential conflicts of interest: None.
Funding/support: None.

REFERENCES

1. Yi Y, Lagniton PNP, Ye S, et al. COVID-19: what has been learned and to be learned about the novel coronavirus disease. *Int J Biol Sci*. 2020;16(10):1753–1766.
2. Chen Q, Liang M, Li Y, et al. Mental health care for medical staff in China during the COVID-19 outbreak. (published correction appears in *Lancet Psychiatry*. 2020 May;7(5) (:e27) *Lancet Psychiatry*. 2020;7(4):e15–e16.
3. Brown E, Gray R, Lo Monaco S, et al. The potential impact of COVID-19 on psychosis: A rapid review of contemporary epidemic and pandemic research. *Schizophr Res*. 2020;222:79–87.
4. Zulkifli NA, Sivapatham S, Guan NC. Brief psychotic disorder in relation to coronavirus, COVID-19 outbreaks: a case report. *Malays J Psychiatry*. 2020;29(1).
5. Terr LC, Bloch DA, Michel BA, et al. Children's symptoms in the wake of Challenger: a field study of distant-traumatic effects and an outline of related conditions. *Am J Psychiatry*. 1999;156(10):1536–1544.
6. Rushing SE, Jean-Baptiste M. Two cases of brief psychotic disorder related to media coverage of the September 11, 2001 events. *J Psychiatr Pract*. 2003;9(1):87–90.
7. Pfefferbaum B, Nixon SJ, Krug RS, et al. Clinical needs assessment of middle and high school students following the 1995 Oklahoma City bombing. *Am J Psychiatry*. 1999;156(7):1069–1074.