Effect of COVID-19 and sociocultural milieu on the psychopathology of mental health disorders: A hospital-based study

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Background: Coronavirus disease (COVID-19) has posed a remarkable threat to mental health all around the world. This pandemic has increased the incidence of common as well as severe mental illness (SMI) all around the world. Materials and Methods: We report 10 cases presenting to the psychiatric outpatient department (OPD) of Institute of Medical Sciences, Banaras Hindu University, from August to October 2020. They were either referred by other departments (3 patients) or came primarily to psychiatric OPD (7). Results: Five out of these 10 cases presented with predominant psychotic features; 3 cases had predominant obsessive–compulsive features; and 1 case was of dissociative trance possession. Conclusion: COVID-19 can affect the psychopathology of both types of patients either with preexisting mental illness as well as new-onset SMI.

Keywords: Bipolar affective disorder, COVID-19, dissociative trance possession, obsessive compulsive disorder, psychosis, suicide, worsening of preexisting mental health

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At the end of 2019, a novel coronavirus disease (COVID-19) emerged from China. From that moment, it has spread throughout the world, causing significant mortality and morbidity along with socioeconomic instability comparable to the Spanish flu pandemic of 1918. A nationwide lockdown was imposed on March 25, 2020. Before the vaccine became available, strategies to contain viruses like social distancing and quarantines were put in place. While physical distancing can be the most effective way to break the chain of transmission, it also had negative psychological impact in the form of...
worry, fears, anxiety, and even new incidence of severe mental diseases. Increased psychological stress related to COVID 19 occurs due to various reasons such as social distancing, quarantine laws, financial concerns, frustration, boredom, lack of supplies, and poor communication. This leads to anger, confusion, anxiety, and depression.

Another impact that the disease might have is on the nature and content of psychiatric pathology in new patients or mixing of COVID-related themes in already existing suspiciousness, persecutory ideas, and even of anxious preoccupation in known psychiatric patients. There is also less literature about the relationship between COVID-19 and psychosis. Patients with psychosis are a vulnerable group in whom the unpredictable situation surrounding pandemics may have a greater impact. Apart from these common mental disorders, the exacerbation of obsessive–compulsive disorder has been noted in the past after SARS, MERS, and influenza epidemics as well as during this pandemic. There have been reports of relapse in OCD during this epidemic.

On review, there is a paucity of literature regarding cases presenting with a predominant pandemic-related sociocultural theme in their psychopathology. Through this study, we intend to highlight these issues along with an eruption in the symptomatology of preexisting psychiatric illness during this pandemic, so that better care can be provided to the patients suffering from mental health illness.

MATERIALS AND METHODS

This was a descriptive study carried out in the outpatient department (OPD) of psychiatry attached to a tertiary care teaching hospital in Banaras, UP, during the period August 16, till October 30, 2020. Ethical approval for conducting the study was obtained from the institute’s ethical committee. All subjects gave written informed consent. All patients presenting to the OPD during this period were interviewed to look for the effects of COVID 19 on their psychopathology. Patients who were screened out were interviewed in detail and the findings were recorded. Exclusion criteria included patients having a respiratory infection or being COVID-19 positive. In addition, patients with a history of head injury or accompanying neurological and metabolic illnesses, substance intoxication, or withdrawal were excluded. Diagnosis of psychiatric disorders was made as per the International Classification of Diseases (ICD-10). The case series is reported following the recommendations outlined in the Case Report guidelines.

RESULTS

During the study period, a total of about 1992 patients attended the psychiatric outpatient department of the institute. During this period, a total of 10 cases of severe mental illness (SMI) with age between 18 and 65 years with varying psychopathology were screened out and included in the study with their consent. The demographic and clinical details of these cases are given in Table 1. The frequency of different psychopathology exhibited by the patients is shown in Figure 1.

Case descriptions

Case 1
A 21 year old female, since 4–5 days presented with delusion of grandiosity claiming to be “Corona Devi (Deity)” possessing holy power that can kill the Coronavirus. A provisional diagnosis of acute polymorphic psychotic disorder without symptoms of schizophrenia (F23.0) was made, and she was treated with olanzapine gradually tapered up to a 15 mg/day and lorazepam 2 mg/day after 2 weeks; her symptoms decreased considerably.

Case 2
A 42-year-old male presented with anxious affect and hearing voices of aliens, revealing that aliens were conspiring against the people of the earth and they had sent COVID-19 to wipe out all “Dhartivaasi” (earth dwellers). The patient was a known case of paranoid schizophrenia for 8 years. The patient’s current episode started in the past 2 months because of the stoppage of his medicines during COVID-19 lockdown and restrictions. Treatment history consisted of risperidone up to 6 mg/day, aripiprazole 30/30/day, olanzapine 20 mg/day, and lurasidone 40 mg/day. Treatment was consistent with psychoeducation to family members along with clozapine 25 mg/day. The patient did not come for a follow-up.

Case 3
A 22-year-old male presented with a total duration of illness from about 3 months with complaints of burning sensation in his nose and recurrent epistaxis along with intrusive, unwanted thoughts, and imagery of “coronavirus” entering his nostrils. In response, he took excessive steam inhalation and hot water gargle. A diagnosis of mixed type of OCD (F42.2) was made and he was started on fluoxetine 20 mg, which was gradually increased up to 60 mg/day and simultaneously online cognitive behavioral therapy (CBT) was also started. The patient attended 3 sessions and was lost to follow-up.

Case 4
A 32-year-old homemaker with a history of bipolar disorder (2 episodes of mania and 1 episode of depression)
## Table 1: Demographic characteristics, clinical features, and response to medications of ten cases

| Demographic characteristics | Case 1 | Case 2 | Case 3 | Case 4 | Case 5 | Case 6 | Case 7 | Case 8 | Case 9 | Case 10* |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| Age (years)                 | 21     | 42     | 22     | 32     | 40     | 22     | 45     | 42     | 65     | 26       |
| Gender                      | Female | Male   | Male   | Female | Male   | Male   | Male   | Female | Female | Male     |
| Marital status              | Unmarried | Married | Unmarried | Married | Married | Unmarried | Married | Married | Married |
| Occupation                  | Student | Teacher | Student | Housewife | Doctor | Student | Lawyer | Housewife | Housewife | Engineer |
| Education                   | Class XII | Graduate | Graduate | Class X | BAMS | B.Tech | LLB | Class X | Class XII | B.Tech |
| Clinical characteristics    |         |         |         |         |         |         |         |         |         |          |
| Past history                | Nil     | Present | Nil     | Present | Present | Nil     | Nil    | Nil     | Nil     | Nil       |
| Family history              | Nil     | Nil     | Nil     | Present | Nil     | Nil     | Nil    | Nil     | Nil     | Nil       |
| Substance abuse             | Nil     | Nil     | Nil     | Nil     | Nil     | Nil     | Present | Present | Nil     | Nil       |
| Medical illness             | Nil     | Nil     | Nil     | Nil     | Nil     | Nil     | Ni     | Nil     | Present | Nil       |
| Psychopathology             |         |         |         |         |         |         |         |         |         |          |
| Delusions                   | Present | Present | Absent  | Present | Present | Absent  | Present | Present | Absent  | Present  |
| Hallucinations              | Absent  | Present | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Disorganised speech         | Present | Absent  | Absent  | Present | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Grossly disorganized behavior | Present | Absent  | Absent  | Present | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Obsessions and compulsions  | Absent  | Absent  | Present | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  |
| Affective symptoms          | Present | Absent  | Present | Present | Present | Present | Present | Present | Present | Present   |
| Dissociative experience     | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Sleep disturbance           | Present | Absent  | Present | Absent  | Absent  | Present | Absent  | Present | Absent  | Absent   |
| Type of onset               | Abrupt  | Insidious | Insidious | Acute | Insidious | Acute | Insidious | Abrupt | Insidious | Acute   |
| Associated suicidal behavior | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Health anxiety              | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent  | Absent   |
| Response to treatment       | Fair    | Lost to follow up | Lost to follow up | Fair    | Fair    | Fair    | Lost to follow up | Fair    | Awaiting follow up | Lost to follow up |

*Comprehensive MSE couldn’t be done as the patient had absconded from the holding area. MES – Mental status examination
Case 5
A 40-year-old male patient of OCD (mixed type) for 3 years, was maintaining well on fluoxetine 60 mg/day and buspirone 15 mg/day. His current symptoms started about 2 months back after coming in contact with a COVID-19-positive patient. He used sanitizer repeatedly (around 20 L) on his hands and lips. His GPE revealed skin lesions on the hand and in the perioral region. He had obsessive thoughts of getting ill from COVID-19 along with compulsive cleaning. His medication was restarted along with online CBT, which revealed his meta-cognitive belief (overestimation of threat was quite high). Exposure and response prevention was achieved with the help of his family members. He had relief on follow-up after 1 month.

Case 6
A 22-year-old male presented in OPD wearing a homemade gown covering his entire body along with disturbed sleep and with a delusion of persecution that his neighbors wanted to harm him by sending corona bullets from the last 2 weeks. He had a history of occasional cannabis abuse during the last year. His liver function test and chest X-ray were unremarkable. With a diagnosis of acute psychosis (F23.0) the patient was started on risperidone which was up titrated to 6 mg/day with 4 mg/day of trihexyphenidyl.

Case 7
A 45-year-old male visited psychiatry OPD with heightened worry and fear regarding contracting coronavirus. He tested (reverse transcription polymerase chain reaction [RTPCR]) himself around 20 times for COVID-19 in the last 5 months. Initially, he would be satisfied with the results, but the urge for a retest would again increase gradually and he would repeat this cycle. A diagnosis of hypochondriacal disorder (F45.2) was kept, and the patient was started on sertraline 50 mg/day and increased up to 100 mg/day and clonazepam 0.5 mg S.O.S to control anxiety. The patient did not come for a follow-up.

Case 8
A 42-year-old homemaker presented with brief episodes of being possessed by “Corona Mai” (corona deity). She expressed to be bathed in sin door (vermillion) for the protection of entire humankind; she would not remember the episode afterward. All these episodes started after her husband was hospitalized due to COVID-19 in our center. Her thoughts were preoccupied with worry about her husband’s health. Diagnosis of dissociative trance and possession disorder (F44.3) was kept, and subsequently, the patient was started on CBT along with psychoeducation to the husband about cutting down the secondary gain and how COVID-19 spreads. In the next follow-up, the episodes of possession had subsided.

Case 9
A 65-year-old homemaker presented with a complaint of coronavirus being underneath her skin associated with a crawling sensation. She also had tufts of skin, claiming it to be coronavirus. This illness started 4–5 months back. Medical history consisted of diabetes and hypertension and was using chewable tobacco for 30 years.
General physical examination showed excoriation of the skin on her hands and other exposed parts along with staining of teeth. Her mental status examination showed anxious affect with delusion in her thought process. Diagnosis of delusional parasitosis (persistent delusional disorder) (F22.0)\textsuperscript{18} was kept, and the patient was started on risperidone 3 mg/day with 2 mg trihexyphenidyl. The patient did not come for a follow-up. Case 10

A 26-year-old male presented with a complaint of attempted suicide a day before. For the past 1 week, he had insomnia, fearfulness, and was massively preoccupied with the thought that his wife is COVID-19 positive and subsequently, he thought of ending his life; however, details could not be retrieved as he absconded from the holding area in the emergency department. Later on, his RTPCR came out to be negative, but he did not collect and was lost to follow-up.

DISCUSSION

COVID-19 pandemic has been a highly stressful event and past research shows that stressful life events are more strongly associated with psychiatric illness than physical or medical illness. The susceptibility to stressful events varies from person to person and it affects all types of people.\textsuperscript{19} To the best of our knowledge, we came across case series and a report depicting brief psychosis during a pandemic, but in our center, we encountered patients with heightened anxiety, preoccupation, and paranoia regarding the possibility of contracting coronavirus.\textsuperscript{16,17} In fact, in China, during the month of origination of the pandemic, an increase in the incidence of the first episode of schizophrenia was noted.\textsuperscript{18}

Delusion in psychotic illness is influenced by sociocultural as well as an environmental milieu. According to Binswanger, delusion is a pathological type of world design. In 2020, COVID-19 was the dominant narrative around the world; patient’s views were also influenced by that.\textsuperscript{19} This was reflected in our observation in 3 patients (Case 1, Case 6, and Case 10). Stress can precipitate a relapse of psychosis in a person with history of psychotic illness. Though the association of stress and psychosis is weak, but has been consistently reported in studies (Case 2).\textsuperscript{20} Meta-cognitive beliefs of overestimation of threat and responsibility, when combined with TV news and media reporting stressful events, can result in deterioration of preexisting condition,\textsuperscript{21} and in response, patients take over-zealous measures to reduce the risk that goes far beyond the recommendations (case 3 and 5).\textsuperscript{22}

Case no 7 presented with a fear of contracting COVID-19, which is common in both severe health anxiety (SHA) and OCD, but in SHA, the person does not regard his thoughts as unwanted. Both SHA and OCD have an overestimation of threat, responsibility, and an inability to tolerate uncertainty. The behavior of case number 7 can be justified in that respect as he used this short-term strategy of checking his COVID-19 status to reduce his anxiety and consequently feel a sense of security.\textsuperscript{23}

Case 8 demonstrated symptoms of dissociative trance possession which are commonly linked with stress, trauma, and cultural norms.\textsuperscript{24} Communication theory suggests an inability to vent out difficulties in such cases; particularly, in women belonging to lower socioeconomic strata along with this factor, Hindu mythology believes in the incarnations or messengers of Hindu gods or goddesses like in our case (“CORONA MAI”).\textsuperscript{25,26}

The impact of quarantine and lockdown was especially hazardous for people with preexisting illnesses due to two reasons: stress due to pandemic itself can cause a relapse of illness\textsuperscript{13} and inability to procure medicines on time. Similarly, in case 4, relapse in mania can be attributed to an inability to procure medicines during the country-wide lockdown in India. Another study also reported similar findings of relapse in illness due to lockdown.\textsuperscript{27} Weakening of the social fabric and financial loss coupled with the fear of contracting COVID 19 and social isolation has contributed significantly to elevation of stress, anxiety and depression.\textsuperscript{28} Consequently, one study reported 72 suicide cases within this short span (Case 10).\textsuperscript{29}

Limitations and recommendations

Due to COVID-19, we could not perform a comprehensive mental status examination and we made provisional diagnoses largely on clinical criteria mentioned in ICD-10. The laboratory investigations including radiological ones could not be performed due to limited resources. We recommend that further studies should be done on sociocultural and environmental influence on the theme of psychopathology. Particularly, physicians treating COVID-19 cases should be made aware of these phenomena, so that an early diagnosis and intervention can be planned as this pandemic has posed extreme stress, which can lead to serious complications like suicide.

CONCLUSION

Based on the present case series, we can reasonably conclude that COVID-19 affects the psychopathology of patients with preexisting mental illness as well as a new-onset SMI.
Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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