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Brief Psychotic Disorder During the National Lockdown in Italy: An Emerging Clinical Phenomenon of the COVID-19 Pandemic

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The impact of the COVID-19 pandemic on psychosis remains to be established. Here we report 6 cases (3 male and 3 female) of first-episode psychosis (FEP) admitted to our hospital in the second month of national lockdown. All patients underwent routine laboratory tests and a standardized assessment of psychopathology. Hospitalization was required due to the severity of behavioral abnormalities in the context of a full-blown psychosis (the Brief Psychiatric Rating Scale [BPRS] = 75.8 ± 14.6). Blood tests, toxicological urine screening, and brain imaging were unremarkable, with the exception of a mild cortical atrophy in the eldest patient (male, 73 years). All patients were negative for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) throughout their stay, but 3 presented the somatic delusion of being infected. Of note, all 6 cases had religious/spiritual delusions and hallucinatory contents. Despite a generally advanced age (53.3 ± 15.6), all patients had a negative psychiatric history. Rapid discharge (length of stay = 13.8 ± 6.9) with remission of symptoms (BPRS = 27.5 ± 3.1) and satisfactory insight were possible after relatively low-dose antipsychotic treatment (Olanzapine-equivalents = 10.1 ± 5.1 mg). Brief psychotic disorder/acute and transient psychotic disorder diagnoses were confirmed during follow-up visits in all 6 cases. The youngest patient (female, 23 years) also satisfied the available criteria for brief limited intermittent psychotic symptoms. Although research on larger populations is necessary, our preliminary observation suggests that intense psychosocial stress associated with a novel, potentially fatal disease and national lockdown restrictions might be a trigger for FEP.

Key words: acute and transient psychotic episode/bouffée délirante/brief psychotic episodes/reactive psychosis/COVID-19/SARS-CoV-2

Introduction

At the time of writing, more than 10 million confirmed cases and several billion people under lockdown worldwide make the Corona VIrus Disease 2019 (COVID-19) pandemic an unprecedented crisis of contemporary history. Several authors have already shown concern over the potential consequences on global mental health that might substantially engage health systems in upcoming months.[1,2] One meta-analysis aimed to classify the psychiatric and neuropsychiatric complications of infected patients by pooling the first available findings together with previous literature on 2 recent coronavirus epidemics (Middle East respiratory syndrome [MERS] and severe acute respiratory syndrome [SARS]).[3] Results suggest that most patients should recover without mental health issues although depression, anxiety, fatigue, and posttraumatic stress disorder (PTSD) might occur in the long term.

Physical distancing remains the most effective prevention known for viral diffusion, albeit burdened by adverse psychological effects in infected and noninfected individuals.[4] Although large population studies are still unavailable, the incidence rates of depression, anxiety, and PTSD are expected to increase in the general population.[5,6] Evidence from MERS and SARS coronavirus outbreaks suggests that suicide rates are also likely to increase substantially.[7,8] Less is known on the impact of this unprecedented crisis on psychosis, although individuals with severe mental illness should perhaps be considered among those with the highest risk of infection and unfavorable outcomes.[9,10] Furthermore, several viral agents—including influenza viruses—have been associated with a risk of psychosis, with increased rates observed in the offspring of women with perinatal infections.[11] Notably,

reports of incident cases of psychosis with COVID-19-related somatic delusions have begun to emerge worldwide.[12–16] These episodes occurred in noninfected individuals and presumably reflect the intense psychosocial stress experienced during the pandemic.[17]

Stress-related psychotic episodes are commonly described within the "acute and transient psychotic disorders" (ATPDs) (International Classification of Diseases-11th revision, ICD-11)[18] or "brief psychotic disorder (BPD)" (Diagnostic and Statistical Manual of Mental Disorders-5th edition, DSM-5)[19] nosological domains. Similar clinical syndromes have been repeatedly reconceptualized as "*bouffée délirante des dégénérés*," "cycloid psychoses," "reactive psychoses," "emotional psychoses," "atypical psychoses," or "schizophreniform state" in an attempt to define their nosological boundaries in relationship to other affective and nonaffective psychoses. The difficulty of clearly defining these boundaries inevitably leads to uncertainty on the condition's epidemiology, which might also depend on unique, population-level stressors such as the ongoing pandemic.

Approximately 2 months after the COVID-19 outbreak in Lombardy and 50 days into national lockdown, we began to hospitalize patients with brief psychotic episodes at a remarkable rate. We present the first 6 here and discuss the implications of this observation.

Methods

Subjects

We report a case series of all consecutive patients admitted to the 2 psychiatric inpatient units of the San Paolo University Hospital who were discharged with a diagnosis of BPD during the COVID-19 pandemic lockdown in Milan, Italy (March 9 to May 18). This general hospital covers a catchment area of approximately 350 000 citizens in the south of the city, with a maximal capacity of 29 beds across its 2 general psychiatry wards for acute mental health conditions.[10] Clinical diagnoses made by treating physicians (A.D'A., M.L.C., and C.R.) were confirmed with DSM-5 criteria for BPD upon follow-up. ICD-11 criteria for ATPD were also examined. All patients underwent routine blood tests, CT or MR brain imaging, and toxicological urine screening for psychoactive substances. In line with the pandemic emergency hospital procedure, all patients were also tested for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) before being admitted to the ward.

Clinical Assessment

In order to standardize the evaluation criteria, the following set of instruments was employed: the Brief Psychiatric Rating Scale (BPRS)[20] was performed as a global measure of psychopathology upon admission and at discharge; the presence of stressful life events in the 12 months before the lockdown was assessed using Paykel's interview for recent life events[21]; the Structured Clinical Interview for DSM (SCID-II)[22] was performed to evaluate the presence of a personality disorder; and the Temperament and Character Inventory-240 items (TCI-240)[23] was administered to investigate personality dimensions. Personality assessment was made in the context of a follow-up visit in the 2 weeks following discharge.

Retrospective Chart Review

In order to contextualize our observation and to screen for missed cases, at the end of the lockdown, we conducted a retrospective electronic chart review of patients admitted with a first-episode psychosis (FEP) in the same time period. All patients with a discharge diagnosis of any psychotic episode on the hospital electronic record were considered for review. Only information on patients who had never presented psychotic symptoms before the current episode were retained. All diagnoses formulated by the treating physicians were confirmed by a panel of junior (S.D'A., A.C.C., and B.G.) and senior (A.D'A. and O.G) clinicians on the basis of DSM-5 criteria, taking all available information into account.

The case series was revised to comply with recommendations of the CAse REport (CARE)[24] guidelines, and informed consent to publication was obtained from the patients.

Results

Figure 1 shows a total of 10 individuals (age range 23–73) who were hospitalized with an FEP during the lockdown. BPD was the most frequently observed diagnosis, with admissions clustered in 1 week between April 25 and May 2. The 6 patients described in the series all met DSM-5 diagnostic criteria for BPD with marked stressors at hospital discharge. All patients indicated a combination of 2 main stressors as plausible causes of their illness: intense concern over the possibility of being infected with SARS-CoV-2 and compulsory home confinement.

Table 1 shows the sociodemographic and clinical characteristics of the 6 patients. All hematological, urine, and brain imaging scans were unremarkable, with the exception of a mild cortical atrophy in case 1. None of the patients tested positive for SARS-CoV-2 nor developed signs of infection during their stay. SCID-II interviews conducted after discharge yielded no personality disorder in any of the 6 patients. Three patients out of 6 have experienced major stressful life events in the 12 months prior to the lockdown.

Extensive interviews with relatives and patients revealed a normal psychosocial level of functioning prior to the reported episode and a negative psychiatric history.

Case 1

H. is a 73-year-old Caucasian, retired ex-factory worker male. During the national lockdown, his wife experienced

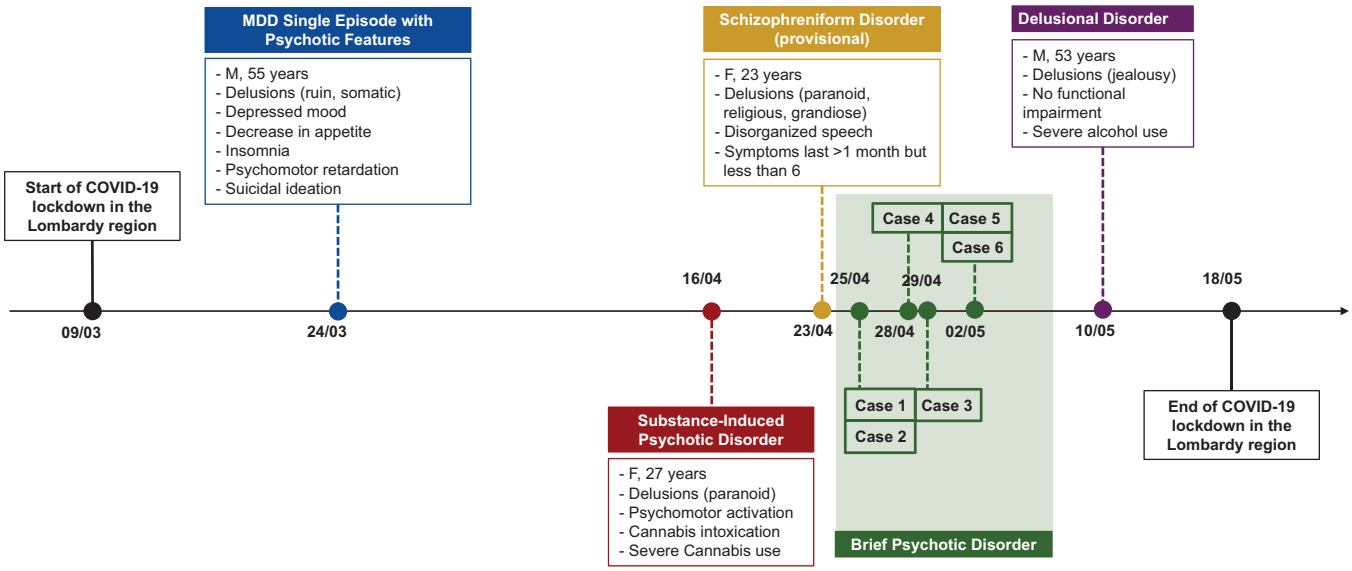

Fig. 1. The COVID-19 lockdown timeline of the Lombardy region includes a brief description of all first-episode psychosis patients admitted to the 2 psychiatric wards of the San Paolo University Hospital. The 2 wards only admit inhabitants of a 350 000–citizen urban territory in the South of Milan, the largest city in Lombardy. All patients with a discharge diagnosis of any psychotic episode on the hospital electronic record were considered for a review. A dedicated panel of clinicians confirmed diagnoses on the basis of DSM-5 criteria and excluded patients who had already presented psychotic symptoms before the current episode (see the Methods section). The extensive description of the 6 brief psychotic disorder cases can be found in the Results section and table 1.

a leg fracture due to an accidental fall at home; only after 3 days of hospitalization, she returned home in good general conditions; however, the patient began to develop polymorphic delusions with guilt, somatic, nihilistic, and religious themes. He believed that he had been infected with SARS-CoV-2 by his wife and that he was the sole survivor in the world. He also experienced a severe sleep-wake cycle inversion, panic attacks, and hyporexia with weight loss. He was taken to our emergency room (ER) after threatening to kill himself by defenestration and strangulation. After being hospitalized on our ward, in the first few days, he was oppositional, suspicious, disorganized, overtly delusional, and sometimes verbally aggressive. After the resolution of psychomotor agitation with intramuscular aripiprazole, a switch to oral melatonin and risperidone 3 mg was made. Low-dose vortioxetine was added after a week due to the negative tone of delusional themes, hyporexia, and generally low mood. Administration of intravenous fluids and nutrients was necessary during the first week due to the patient's active refusal of food and water. After approximately 2 weeks, we observed improvement of mood and a progressive reduction of psychotic symptoms with the development of initial insight. A best-estimate BPD diagnosis was made by consensus of a panel of junior (S.D'A.) and senior clinicians (A.D'A. and O.G.), and symptoms of psychosis were not deemed to be better explained by a depressive episode given the intensity of disorganization and agitation. The patient was discharged after 25 days with a clinical remission, confirmed by BPRS total score (93 upon admission and 26 at discharge). Upon follow-up, clinical stability was maintained and oral risperidone dosage halved to 1.5 mg/day until the next evaluation.

Case 2

M. is a 61-year-old Caucasian male. He is a postal office employee who lives with his wife and has 2 children. M. was admitted to our unit after he attempted suicide by defenestration in response to command auditory hallucinations and delusions with religious and nihilistic content. During the lockdown, his relatives noticed several behavioral abnormalities with insomnia, disorganization, dysphoric mood, severe anxiety, and feelings of hopelessness associated with the belief of having contracted Covid-19. The patient also communicated the delusional belief of having been in contact with the devil who had announced the end of the world and ordered him to defenestrate himself.

On our ward, the patient showed poor insight with incongruent affect, persistence of delusions, and bizarre behavior. He was treated with lurasidone up to 74 mg/day and sertraline up to 100 mg/day, with a progressive resolution of symptoms. He developed satisfactory insight and was discharged on day 14. A depressive episode was ruled out due to the rapidity of mood improvement and preponderance of disorganized and bizarre behavior. BPRS total score was 87 upon admission and 30 at discharge. Upon follow-up, the patient had successfully returned to his job, and he maintained psychotic symptom remission and full insight on the episode. However, a switch to low-dose olanzapine was proposed due to mild emotional

Table 1. Sociodemographic and Clinical Characteristics of Patients

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6
Age (years)	73	61	47	55	23	61
Gender (F/M)	M	M	F	M	F	F
DSM-5 diagnosis[a]	BPD	BPD	BPD	BPD	BPD	BPD
ICD-11 diagnosis[b]	ATPD first episode full remission	ATPD first episode partial remission	ATPD first episode full remission	ATPD first episode full remission	ATPD first episode full remission	ATPD first episode full remis- sion
Ultra-high-risk paradigm[c]	—	—	—	—	BLIPS	—
Personal psychiatric history	Negative	Negative	Negative	Negative	Negative	Negative
Psychiatric family history	Negative	Negative	Negative	Negative	Negative	Negative
First day of hospitalization	April 25	April 25	April 26	April 28	May 2	May 2
Duration of hospitalization (days)	25	14	9[d]	18	6	11
Type of delusion	Religious somatic[e] guilt nihilistic	Religious somatic[e] nihilistic	Religious somatic[e]	Religious somatic[e] paranoid	Religious paranoid	Religious paranoid guilt
Antipsychotic treatment (max dosage)	Risperidone 3 mg/day	Lurasidone 74 mg/day	Haloperidol 2.5 mg/day	Haloperidol 8 mg/day	Aripiprazole 10 mg/day	Haloperidol 3 mg/day
Dose equivalent of Olanzapine[25]	7.3 mg/day	7.6 mg/day	6 mg/day	19 mg/day	13.2 mg/day	7.3 mg/day
BPRS baseline	93	87	63	64	61	87
BPRS at discharge	26	30	24	32	25	28
Stressful events in the 12 months prior to the lockdown	Death of a close family member	None	None	None	Change of residence and job	Car accident resulting in hip fracture
SCID II	Negative	Negative	Negative	Negative	Negative	Negative
Temperament and Character Inventory-240 items (TCI 240 items)						
Novelty Seeking	Medium	Medium	Low	Medium	Medium	Medium
Harm Avoidance	Medium	Medium	Low	Medium	Medium	Medium
Reward Dependence	Medium	Medium	Medium	Medium	Medium	Medium
Persistence	Medium	Low	Medium	Medium	Medium	Medium
Self-Directedness	Medium	Low	Very high	Medium	Medium	High
Cooperativeness	Medium	Very high	Very high	High	High	High
Self-Transcendence	Medium	Low	Medium	Medium	High	Medium

[a]The DSM-5 categorized brief psychotic disorders as a disturbance that lasts less than 1 month and involves the sudden onset (within 2 weeks) of at least 1 psychotic symptom between delusions, hallucinations, disorganized speech, and grossly disorganized or catatonic behavioral. It may follow marked stressors.
[b]The ICD-11 diagnosis of acute and transient psychotic disorder concerns disturbances characterized by acute onset (within 2 weeks), early remission (complete recovery is expected within 1–3 months), presence of psychotic symptoms, such as delusions, hallucinations, and perceptual disturbances, and a severe disruption of ordinary behavior. The disorder may or may not be associated with acute stress. Specifiers are first episode or multiple episodes and currently symptomatic or in partial or full remission.
[c]Brief and limited intermittent psychotic symptoms (BLIPS): "young people with a history of fleeting psychotic experiences that spontaneously resolved within 1 week."[26]
[d]First 3 days in ICU.
[e]All somatic delusions are COVID-19 related.

detachment, perhaps related to lurasidone treatment, and hyporexia.

Case 3

S. is a 47-year-old Caucasian female. She is divorced, lives with her 12-year-old daughter, and works as a professional masseuse. Approximately 30 days after the national lockdown, she developed delusions and bizarre behavior, confirmed by her relatives, neighbors, and friends. During a short period, she ingested conspicuous amounts of fluids (mainly water and tisanes) in order to purify her body. This led to a severe hyponatremia, resulting in coma and ICU hospitalization for 3 days. During her stay in the ICU, a psychiatric consultant described the patient as "delusional with religious and mystical themes." She was treated with haloperidol 2.5 mg/die and transferred to our unit, where she rapidly developed adequate insight over the episode that lead to the hospitalization. After only 6 days on our ward, she was discharged with a full remission of symptoms. BPRS total score was 63 upon admission and 24 at discharge. Upon follow-up, S. revealed that she had discontinued medication without reexacerbation of symptoms. Global remission was confirmed by a relative, who also reported full functionality in her job as a masseuse in the week after discharge.

Case 4

T. is a 55-year-old Caucasian male who was brought to our hospital by the police after becoming aggressive toward his sister due to paranoid delusions with visual hallucinations. At 35 years, the patient had migrated to Germany where he worked as a bricklayer until the described episode. A few days before admission, he returned to Italy after his live-in partner asked him to leave due to concerns over the patient's persecutory thoughts toward her 9-year-old son. Over a fortnight, the patient had developed a delusional belief of being infected with SARS-CoV-2 and associated visual hallucinations of demons, which he attempted to contrast with bizarre rituals. He was taken to our ER due to paranoid thoughts and verbal aggressiveness toward his family members, whom he firmly believed to be possessed by demons. When asked for the reason, he verbalized the firm belief they had been possessed by demons. Despite a lack of insight, the patient accepted treatment with haloperidol, which was slowly titrated to 8 mg/day with progressive improvement of symptoms. BPRS total score was 64 upon admission and 32 at discharge. Upon follow-up, oral treatment was discontinued over a timeframe of 3 weeks due to psychomotor slowing, which has now progressively resolved without reexacerbation of psychotic symptoms.

Case 5

K. is a 23-year-old Asian female. She had moved to another Italian region from India as an international university student and moved to Milan alone for a new job that had been suspended due to the national lockdown. The patient was hospitalized after having thrown objects from her balcony in a delusional state. She also reportedly performed bizarre rituals to hold off evil spiritual forces that had possessed her apartment. She had experienced significant isolation in the weeks preceding the psychotic break, which developed over the course of 2 or 3 days in association with a decreased need for sleep and vivid nightmares. During hospitalization, a manic episode was ruled out due to the rapid normalization of sleep, lack of associated mood symptoms, disinhibition, or racing thoughts. On our ward, the patient was treated with oral aripiprazole, with a fast remission of psychotic symptoms and behavioral abnormalities. Six days after hospitalization, K. was discharged with full resolution of symptoms and satisfactory insight. BPRS total score was 61 upon admission and 25 at discharge. During the first telematic follow-up, the patient reported having discontinued medication and a full subjective well-being. The clinical observation revealed neither psychotic symptoms nor other relevant psychiatric issues, with a rapid return to full functionality.

Case 6

C. is a 61-year-old Caucasian female. The patient had suffered from an ischemic stroke when she was 30 years old and had a hip fracture during a car accident, approximately 1 year prior to the psychotic episode. After motor rehabilitation, she had returned to her regular work as a market stall seller 1 month before the lockdown. She was taken to the ER by local police officers due to behavioral abnormalities secondary to persecutory and religious delusions. In the 24 hours before hospitalization, she refused to eat and drink any fluid, based on the firm belief that her relatives were attempting to poison her. Moreover, she was intensely concerned by the lack of funerary rituals imposed by the authorities during the ongoing pandemic. In the week before admission to our ward, she reported having spent several hours per day praying and directly conversing with God. Structural brain abnormalities, including long-term consequences of the stroke, were ruled out with the aid of a neurological consultant after a brain MRI scan. The patient was treated with haloperidol up to 3 mg/day until full remission of psychiatric symptoms. During her stay, C. underwent an antibiotic therapy with fosfomycin for a urinary tract infection. She was discharged in good psychopathological conditions, with adequate insight over the episode that leads to hospitalization. BPRS was 87 upon admission and 28 at discharge. Upon follow-up, the patient presented full symptom remission and insight over the episode, so haloperidol treatment was halved until the next evaluation.

Discussion

Risk Factors, Shared Clinical Features, and Diagnosis

All reported cases had a negative psychiatric history and normal premorbid psychosocial adjustment. No shared risk factor other than the pandemic-related stress could be clearly identified. None of our patients had first-degree relatives (FDRs) with a known mental disorder. FDRs of patients with ATPDs typically have not only higher rates of ATPD but also bipolar disorder and especially schizophrenia,[27] which was not observed in our small cohort. The reported cases were hospitalized over a course of 1 week and rapidly discharged after the improvement of symptoms. All patients responded to antipsychotic treatment, developing adequate insight over the experienced distortions of reality and the severity of their behavioral abnormalities. Only in 1 case, severe psychotic symptoms and behavioral abnormalities persisted for more than a week after the beginning of antipsychotic treatment (case 1). Of note, H. was the oldest patient and had experienced a major stressful life event, ie, the death of his sister, in the 12 months before the national lockdown. He was also the only patient to show some degree of cortical atrophy and the one who presented the most severe illness, confirmed by his BPRS score upon admission.

Our cohort was characterized by a generally late age of onset [mean (SD) = 53,3 (15,6)]. Other recently reported cases of pandemic-reactive psychoses revealed a relatively younger age, confirming available evidence on ATPD/BPD first episodes, which tend to peak in early adulthood for males and in the mid-30s for females.[28] However, almost a quarter of cases has been estimated to occur above 40 years of age, and the onset above 60 has been associated with not only a high risk of mortality but also dementia.[29] Although highly likely, the association with declining cognition and/or sensory function remains to be demonstrated.[30] Of note, 3 of our cases presented an elevated risk of self-harm, 2 of which associated with a suicidal intention. This was also observed in 2 of 4 patients hospitalized during the first 2 weeks of the national lockdown in Seville, Spain.[13] Suicidal behavior in ATPD/BPD patients is quite common (36%–55%) and usually associated with mood instability and agitation.[31] Completed suicide is considered the main cause of premature death in ATPD/BPD, accounting for a quarter of the mortality.[32]

In all cases, differential diagnoses with transient psychotic symptoms in PTSD were considered, although none of the patients satisfied the current criteria for acute stress disorder or PTSD. All other common differential diagnoses were also ruled out, including mood disturbances with prominent psychotic features. Except for case 5, all patients had an age above the typical young adulthood expected for a first episode of schizophrenia. As shown in table 1, all reported cases met the formal diagnostic criteria for ATPD and BPD. Given her age and extremely rapid resolution of symptoms, K. could also be framed in the ultra-high-risk (UHR) paradigm as a patient with brief limited intermittent psychotic symptoms (BLIPS). BLIPS cases have been shown to frequently fulfill ATPD criteria, and approximately half develop a psychotic disorder during follow-up.[33,34]

Personality Traits and Psychosis

The absence of personality disorders or premorbid dysfunction in the history of BPD patients is typically reported[35–37] and reflects the characteristics of our patients. Five of the 6 patients shared high cooperativeness, a personality dimension encompassing social tolerance, empathy, compassion, and a tendency to help others. This is generally considered a protective trait that contributes to healthy personality and psychological well-being.[38] Among other dimensions, lower cooperativeness has been found in schizophrenia patients compared with healthy control individuals.[39] Low cooperativeness has also been found to significantly predict transition to psychosis in UHR individuals, possibly due to its association with social withdrawal.[40] Furthermore, Eysenck's psychoticism construct is thought to depend on a combination of low conscientiousness and agreeableness, a trait that closely resembles the cooperativeness construct in the 5-factor model of personality.[41] Although fully structured studies on broader cohorts of BPD patients are needed, findings from our case series suggest diametrically opposite relationships between cooperativeness and psychosis in BPD and schizophrenia.

Explanatory Hypothesis

All symptoms were reported to emerge in the month following the national lockdown in Italy and global emergence of the pandemic. Although no explanation of the relationship between the pandemic and our cases can be considered definitive, we hypothesize the combination of deranged daily routines during compulsory home confinement and fear of the infection itself might have triggered an intense psychobiological stress reaction leading to the psychosis onset. Reduced individual liberty, financial loss, inadequate supplies, and information associated with mandatory social isolation are also likely to contribute[3,4] and were present to varying degrees in all our cases.

Besides the overlap in most patients' somatic delusion of having contracted the SARS-CoV-2 infection, the religious/spiritual content of all reported cases is striking and was also observed in another patient from Bengaluru, India.[15]

Although commonly observed in clinical practice, fluctuating rates of religious themes have recently been reported worldwide.[42] Delusions are inevitably embedded in individuals' cultural context and rapid incorporation of historical and sociopolitical events, cultural phenomena, or contents such as new technologies is common.[43] Religious delusions include themes of

universal existential relevance and are likely to be associated with strong affect.[44] We hypothesize that the global existential threat exacerbated by an unprecedented information overload and home confinement might have fueled meaningful spiritual worries at the individual level.

After the COVID-19 Crisis: Novel Resources to Sustain/Improve Psychosis Outcome?

Many individuals with acute psychosis require hospitalization due to disorganized behavior, impaired insight, and potentially aggressive and self-injurious acts. The progressive hospitalization of patients can be considered a coarse yet sensitive epidemiological probe of ongoing changes on our territory, but only time will confirm or scale back the likelihood of a widespread diffusion of similar psychotic episodes. Several studies have shown that patients in the early stages of psychosis are typically neglected by mental health services. A recent study on 2561 ATPDs revealed that the majority are not detected by early intervention services and tend to only receive a short-term clinical follow-up,[45] whereas up to 40% have been shown to develop persistent psychotic disorders that could benefit from early detection to improve outcome.[46] Furthermore, relevant needs of care are currently unmet by preventive strategies for BLIPS individuals, who tend to disengage over time from proposed treatments, such as cognitive behavioral therapy.[47]

In our cohort, further follow-up is necessary to track the diagnostic evolution, given the current uncertainty over the condition's long-term prognosis. No specific evidence-based guidance on the treatment of these patients is available, but long-term treatment with antipsychotics should be cautiously weighed against the risk of side effects.

In line with other emerging case series,[12–16] this preliminary report suggests a rising rate of ATPD/BPD patients among incident FEP cases that needs to be confirmed with adequately sized epidemiological studies. The ongoing pandemic highlights the need for modern early detection and intervention services to improve the outcomes of psychosis.

Acknowledgment

The authors declare that there are no conflicts of interest in relation to the subject of this study.

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