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Original article

## Ensuring mental health care during the SARS-CoV-2 epidemic in France: A narrative review



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### ABSTRACT

**Objective.** – The lack of resources and coordination to face the coronavirus epidemic raises concerns for the health of patients with mental disorders in a country where we still have memories of the dramatic experience of famine in psychiatric hospitals during the Second World War. This article aims to propose guidance to ensure mental health care during the SARS-CoV epidemic in France.

**Methods.** – The authors performed a narrative review identifying relevant results in the scientific and medical literature and in local initiatives in France.

**Results.** – We identified four types of major vulnerabilities among patients with mental disorders during this pandemic: (1) medical comorbidities that are more frequently found among patients with mental disorders (cardiovascular and pulmonary pathologies, diabetes, obesity, etc.) which are risk factors for severe covid-19 infection; (2) age (the elderly form the population most vulnerable to the coronavirus); (3) cognitive and behavioural disorders, which can hamper compliance with confinement and hygiene measures and finally and (4) psychosocial vulnerability as a result of stigmatization and/or socio-economic difficulties. Furthermore, the mental health healthcare system is more vulnerable than other healthcare systems. Current government plans are poorly suited to psychiatric establishments in a context of major shortages of organizational, material and human resources. In addition, a certain number of structural aspects make the psychiatric institution particularly vulnerable: many beds have been closed, wards have high densities of patients, mental health community facilities are closed, and medical teams are understaffed and poorly trained to face infectious diseases. There are also major issues when referring patients with acute mental disorders to intensive care units. To maintain the continuity of psychiatric care in this pandemic situation, several directions can be considered, in particular with the creation of “COVID+ units”. These units are under the dual supervision of a psychiatrist and an internist/infectious disease specialist; all new entrants are placed in quarantine for 14 days; the nursing staff receives specific training, daily medical check-ups and close psychological support. Family visits are prohibited and replaced by

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videoconference. At the end of hospitalization, in particular for the population of patients in compulsory ambulatory care situations, specific case-management are organized with the possibility of home visits, in order to support patients when they get back home and to help them cope with the experience of confinement, which is liable to induce recurrences of mental disorders. The total or partial closure of community mental health facilities is particularly disturbing for patients, but a regular follow-up is possible with telemedicine and should include the monitoring of suicide risk and psycho-education strategies; developing support platforms could also be very helpful in this context. Private practice psychiatrists also have a crucial role of information towards their patients on confinement and barrier measures, and also on measures to prevent the psychological risks inherent in confinement: maintenance of regular sleep, physical exercise, social interactions, stress management and coping strategies, prevention of addictions, etc. They should also be trained to prevent, detect and treat early warning symptoms of post-traumatic stress disorder, because their prevalence was high in the regions of China most affected by the pandemic.

*Discussion.* – French mental healthcare is now facing a great and urgent need for reorganization and must also prepare in the coming days and weeks to face an epidemic of emotional disorders due to the confinement of the general population.

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## Introduction

Many countries including France are facing an unprecedented health crisis: the coronavirus SARS-CoV-2 epidemic, raging since December 2019, and which rapidly became a pandemic. The WHO named the syndrome linked to this virus COVID-19 (coronavirus disease 2019). On the 21st February 2020, 12 cases and 1 death were reported in France. However, just one month later, the numbers had increased to 25600 cases and 1331 deaths [1].

The absence of preparation and coordination and the lack of means to face this coronavirus SARS-CoV-2 epidemic, in a context of pre-existing difficulties in psychiatry, raises significant concerns for the health of patients with mental disorders. On the 6th March, “the Plan Blanc” was activated for all general hospitals, a plan that was not suited to realities in psychiatric hospitals and that neglected mental health on a broader scale [2]. The experience of famine in psychiatric hospitals during the Second World War in France is an example of the heavy price paid by the most vulnerable in times of crisis [3,4]. Between 1940 and 1945, 76 000 people died in psychiatric hospitals, among whom 45 000 because of hunger and its complications. After a historical investigation, the hypothesis of active extermination dominated over the abandonment of psychiatric populations by a society living under a rationing regime. The historical research also highlighted psychiatrists’ determination in this context of general powerlessness to return to the idea of healing, and to remove the “insane”, deprived of the most basic needs, from the asylum at all costs [4,5]. Insulin and cardiazol shortages from 1940 promoted sismotherapy which is better tolerated than the two previous treatments. “Test outings” (called “permissions”, or periods of leave, today) appeared in this context where food was much more likely to be found outside than inside the asylum. To briefly sum up, the founding elements of contemporary psychiatry were initiated in a context of war.

Starting from this recall, in the context of a historic health crisis, this article aims to review present knowledge concerning the medical care of patients with mental disorders in an epidemic context, identifying hitherto unanswered questions, and sharing the experiences and initiatives of certain facilities/practitioners in the country to ensure continuity of medical care and preserve patient health. To illustrate the unpreparedness of our medical care system to face an epidemic, and particularly the psychiatric sector, it was not until very late, on 23rd March 2020, that the ministry of health and solidarity published recommendations and a leaflet applicable to medical care organization in psychiatry departments and health facilities authorized in psychiatry. Furthermore, the *Contrôleur Général des lieux de Privation*

*de Libertés* (CGLPL—in charge of prisons and compulsory hospitalisation facilities) demanded specific measures for psychiatry from the Minister of Health [6,7]. In the midst of this exceptional situation, a “sacred union” of all mental health contributors is essential to enable the development of care practices in record time to preserve patients and their caregivers as far as possible.

## The vulnerability of psychiatric patients towards COVID-19

The risk of infection, the situation of confinement and the absence of preparation to face this epidemic wave are three constraints that weigh even more heavily on psychiatric care than on other medical disciplines. Amongst the hundreds of articles on mental health and the pandemic, we have identified two letters to the editor about patients hospitalized in psychiatry in China [8,9]. The Chinese colleagues warn about the fate of populations with psychiatric disorders and share their experience, deploring the lack of interest towards them among the authorities and the scientific community.

### *Individual vulnerability of psychiatric patients to coronavirus*

In this pandemic setting, patients with psychic disorders have three specific areas of vulnerability towards the epidemic:

- vulnerability linked to comorbidities. Outside the epidemic context, hospitalized patients in psychiatry with schizophrenia, bipolar disorders, depression, anxiety disorders or autism are at increased risk for pneumococcal infection [10]. More broadly, because of immuno-genetic vulnerability, these patients often have a poorer ability to defend themselves against infections, as shown by the epidemiological associations between psychiatric disorders and a very large number of infections (toxoplasmosis, herpes, etc.) in the course of psychiatric pathologies [11]. In addition, they are much more often affected by comorbidities than the general population, which are severe risk factors of SARS-Cov-19 infections (Table 1) [12]. Indeed, the prevalence of cardiovascular disease ranges from 30 to 60%, with a prevalence 1.5 to 2 times higher for people suffering from psychiatric pathologies compared to the general population. The same rates are observed for obesity in these populations [13]. These comorbidities, often insufficiently screened and treated, are largely responsible for a decrease in life expectancy of 10 to 15 years for patients with chronic psychiatric disorders compared to the general population [14];

**Table 1**  
Covid-19: The specific problems of addictions.

COVID-19: The specific problems of addictions

Tobacco:

There is a high prevalence of smoking amongst patients with psychoactive substance use disorders. Within the context of COVID-19, current consumption of tobacco has been associated with a 1.4 increased risk of developing a severe form of the disease and a 2.4 increase in the likelihood of requiring intensive care [32]. The data also shows a smaller increase in risk among former smokers.

Alcohol:

Patients with alcohol use disorders (AUD) have greater vulnerability towards lung infections compared to the general population [28,33]. AUD patients are also associated with a poorer prognosis in terms of mortality and delayed medical care for pneumonia. This aggravation is probably related to a direct toxicity at pharyngeal and pulmonary levels, as well as a weaker cellular immunity at alveolar level [34]. There is concern that these same mechanisms could worsen prognosis for AUD patients in the setting of the SARS-Cov-2 epidemic. There is also a risk of diagnostic delay in case of atypical presentations of COVID-19, such as agitation, hallucinations and seizures, which can be mistakenly attributed to alcohol consumption or complex alcohol withdrawal. It has been shown that during catastrophes, the general population's alcohol consumption can increase, for anxiolytic and emotional management purposes. Although no clear increase in the incidence of AUD patients has been demonstrated so far, consumption could remain higher for several years after the event [35]. A Chinese study after the first outbreak of SARS (Severe Acute Respiratory Syndrome) in 2003 has shown that caregivers were particularly affected. They presented both post-traumatic stress-disorders related to trauma at work and alcohol-related disorders up to 3 years after the epidemic [36].

Other psychoactive substances:

There is no Chinese data related to other psychoactive substances, in particular opioids. Opioids have an impact on respiratory function, especially by inhibiting coughing reflexes and at strong doses causing a decrease in breathing rates. These patients are often not well integrated socially and are particularly suspicious of medicine. This can contribute to delays in resort to care in emergency departments. Unusual forms of COVID, with a more neuropsychiatric presentations, can also be attributed to substance use or withdrawal.

- vulnerability linked to age. The mortality rate increases with age and the number of comorbidities. The elderly are the most vulnerable, and there is a high risk of exacerbation of psychic disorders and an aggravation of existing psychiatric symptoms, cognitive disorders and a loss of autonomy (Table 2). Children under 16 years of age seem to present less serious forms than adults (171 cases in China, average age of 6.7, 22 hospitalized cases of which 3 cases in intensive care) [15]. In France, on the 26th of March, a 16-year-old adolescent without comorbidities died from respiratory failure. It can be added that children and adolescents with psychiatric disorders may be less able to tolerate confinement (Table 3);
- cognitive and behavioural vulnerability. Despite the absence of scientific data on the subject, clinical experience shows that people with severe psychiatric disorders may have difficulties adopting “barrier measures” (behavioural measures to protect oneself and protect others from the virus) and complying with confinement instructions. If a lack of compliance with confinement measures for reasons of health contributes to a decompensation episode of a psychiatric pathology, hospitalization can be considered. Surprisingly, isolated cases of hospitalisation without consent have been observed among previously psychiatrically stabilized patients, as a result of a non-compliance with confinement measures. This requires vigilance: failure to comply with civic obligations does not in itself constitute a reason for hospitalization, and there is the risk of rapidly saturating psychiatric hospitalization capacities, and more fundamentally, of failing to comply with the law and individual freedoms;
- psychosocial vulnerability: patients' socio-economic living conditions can aggravate the prognosis in settings of confinement:

**Table 2**  
The Psychiatry of the Elderly in the face of the pandemic.

The Psychiatry of the Elderly in the face of the Pandemic

Elderly people are the most affected by Covid-19 infections, and pay the highest cost in terms of mortality rates. Indeed, mortality increases with age and reaches 14.8% for individuals above 80 years of age, in contrast with the observed mortality rates for people under 40, evaluated at 0.2% [19]. Psychiatric disorders are frequent in the elderly population. The rapid transmission of Covid-19, its association with high mortality rates, the consequences of caregiver reorganisation and the confinement measures are all reasons to fear an exacerbation of psychiatric disorders and the aggravation of existing psychiatric symptoms, cognitive disorders and a loss of autonomy.

The reorganisation of hospital care requires a reinforcement of measures ensuring the protection of this population. They are vulnerable to the risk of nosocomial infection by Covid-19, which can be spread at their expense by caregivers and other patients, and the clinical expression could be partially different (confusion, falls, etc). The prevention measures include strict barriers, and also requiring caregivers to systematically wear masks and the creation of “Covid free” units. Certain Covid+ patients with severe neurocognitive impairment, sometimes incapable of respecting barrier and isolation measures, also raise ethical questions regarding their care conditions.

The elderly suffer more frequently from loneliness, which can be exacerbated in this epidemic context. They also have limited access to the technology tools developed for younger patients with psychiatric disorders. In addition, clinically stable elderly patients with psychiatric disorders generally need to regularly visit psychiatric care centers. However, the current confinement measures and the restrictions on public transport have inevitably become major obstacles to care access for these patients. Finally, the restriction of mobile psychiatric team interventions in nursing homes also compromises many patients' follow up and psychiatric care.

Within this crisis, the psychiatry of the elderly therefore has to face numerous medical and ethical issues, in a context of shortage of specialised staff, aggravated by the temporary exclusion of staff who have been infected. A rapid, well thought-out and coordinated reorganization is underway and needs to be completed as soon as possible in order to meet current needs and anticipate future needs, which will probably be even greater once the epidemic wave is over.

**Table 3**  
Child psychiatry and the risks of the pandemic.

Child psychiatry and the risks of the pandemic

The epidemic raises questions of inequalities in the face of the disease, in terms of care and resources. Vulnerable people and situations at risk include babies, children and adolescents in child psychiatric care, and their families. The concern particularly relates to children and adolescents with developmental disorders, autism spectrum disorders, ADHD and OCD, or children who exhibit oppositional behaviours for instance, and who must stay confined. For them, teleconsultations are not as efficient. In addition, confinement could further aggravate mental health disorders among adolescents with suicidal ideation or self-harming, and among young patients with schizophrenia who have difficulties accepting confinement measures, or even patients with severe eating disorders who are confronted with new relationships with food in times of epidemic. Lastly, there is also another category of vulnerable children, those coming under the French child welfare system (Aide Sociale à l'Enfance) or unaccompanied minors. Indeed, the coronavirus has begun to affect children and adolescents, and there is a need to anticipate these populations' care needs in the child psychiatry services and the “Covid-psy” units. But concern arises as to the possible mismatch between available resources and the levels of need. Child psychiatry services have been adapting (or are in the process of doing so) to organize ambulatory care by telephone or videoconference, and hospitalizations have been refocused on emergencies. However, the evaluation of needs is often difficult to achieve in situations of confinement where inter-familial tensions are sometimes exacerbated and where the reality of disease and death reinforce behavioural vulnerabilities and manifestations. Several services already offer guides to help parents and all those close to them, and are available to all health professionals. This is a step forward for the aftermath, but much remains to be done to help them resist. This crisis also reveals the strengths and weaknesses of our health care system. Child psychiatry, is in a situation of tension, and this pandemic will not fail to underline it once again.

**Table 4**  
Psychiatry in Prison.

<p>Psychiatry in prison</p> <p>French prison health care unit teams and prison staff preparing to receive detainees with covid-19. The links with teams in charge of general medical care need to be strengthened for the identification and management of these patients within detention facilities. Care provision in prisons is organised around measures aiming to reduce the risks of infection, as in health establishments receiving people placed under judicial supervision in the context of complete hospitalization in hospitals (university, general or mono-disciplinary) and in "specially organized hospital units" (UHSA). The 9 UHSA across the national French territory all have dedicated sectors to help maintain the provision of psychiatric care for prisoners requiring full hospitalization.</p>
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severe social isolation, precarious housing, restricted solidarity networks for the informal monitoring of these patients' health status. In addition, Chinese colleagues reported that in case of severe forms of COVID-19, stigmatization delays these patients' access to care and alters its quality [8]. This phenomenon has been observed for every severe psychiatric disorder in every country [16,17]. The vulnerability of psychiatric populations in prison is even greater, and specific measures should be anticipated (Table 4) [18].

Other questions arise and remain so far unanswered. Our vigilance should be particularly heightened in this situation of uncertainty:

- the possibility of specific clinical forms: while several respiratory virus infections, including SARS-CoV-1, can produce neurological profiles (encephalitis, seizures), there is no data for SARS-CoV-2 [20,21]. There has been a recent epidemiological alert concerning anosmia and ageusia without nasal congestion which could be linked to neurological damage [22]. In fact, coronaviruses can be neurotropic and can enter the brain via the olfactory system [23]. To date, there is no structured data available on the epidemiology, clinical presentation and prognosis of psychiatric patients with COVID-19. Experience-sharing in France draws attention to the fact that for several French patients, there was an episode of feverish confusion, with the appearance of a psychiatric decompensation (including clastic crisis), followed by a diagnosis of a SARS-CoV-2 infection. In an epidemic period, it is therefore imperative to look for symptoms of COVID-19 and to monitor vital signs systematically in case of psychiatric decompensation;
- the possibility of interaction with psychotropic drugs. COVID-19 could alter blood levels of certain psychotropic drugs, such as clozapine or lithium. Therefore, as with any acute episode, the monitoring of blood levels of narrow-margin psychotropic drugs (clozapine, lithium) appears to be a prudent measure. In addition, intracellular germ cell lung disease is known to cause hyponatremia (SIADH) as can also be the case with serotonergic antidepressants. In addition, in case of fever, tolerance towards antipsychotic drugs may be impaired, especially clozapine [24]. Finally, COVID-19 causes a respiratory syndrome, which may be aggravated by psychotropic drugs that depress the respiratory system (benzodiazepine, carbamates, opioids). The onset of respiratory symptoms should lead to a reassessment of the risk-benefit balance of these treatments. Further to this, several publications report the *in vitro* efficacy of certain psychotropic drugs on viruses similar to coronaviruses: in particular lithium and chlorpromazine (with greater efficacy than chloroquine), but this exclusively preclinical data to date does not make it possible to validate the clinical use of these treatments [25,26];
- the most important point currently is the unknown mortality rate for people with mental disorders. We only found one information: on 13 March in Italy, out of 3200 deaths identified as

COVID-related, only two people were under 40: a 39-year-old woman with a neoplasm who died in hospital and a 39-year-old man with a complicated psychiatric disorder, diabetes, and obesity, who died alone at home [27].

### The vulnerability of psychiatric care organization in meeting the pandemic

Faced with the increasing number of deaths, the government decided by a series of decrees to slow the spread of the virus in the population so as to limit the congestion of the health system. For the first time in the country's history, the confinement of the French population was decreed on 16 March 2020 [28]. Hospitals had been mobilized upstream, on March 6th, with the launch of the "White Plan" by the Minister of Health, including in particular the mobilization of the health reserve. Non-urgent activities were cancelled and logistic and human resources were concentrated on the care of people with COVID-19. Thus, scheduled surgeries were suspended, making it possible to free respirators from the operating theatres to create new intensive care beds. In the EHPADs (homes for the elderly) and establishments for the disabled, the Blue Plan (created after the 2003 heat wave) was activated on the same day, enabling the reorganization of the establishments in a few days to deal with the virus.

It should be noted that, in practice, these plans are not suited to psychiatric hospitals/facilities/units. Over the past 10 years, several voices had been raised calling for the adaptation of the White Plan measures to psychiatry, the inclusion of psychiatrists in the development of these plans, and the need to create a psychological and psychiatric White Plan [2,29]. Today's responses to the pandemic fall far short of what should be deployed to protect patients and caregivers in these facilities, in a context of lack of organizational and logistic resources (in particular protective medical equipment). For instance, the Sainte Anne Hospital Centre in Paris was not included in the mask distribution plan [30].

The Chinese experience has highlighted factors of vulnerability for psychiatric hospitals towards the risk of transmission of Covid-19, reporting a cluster in a psychiatric hospital in Wuhan with 50 patients and 30 caregivers affected [9]:

- the fact that the psychiatric wards are closed environments, densely populated, and that life is structured for community life (in particular double rooms, shared meals, activity rooms);
- the lack of equipment and the inadequate training of staff to deal with infectious pathologies in general and more specifically with respiratory pathologies (lack of oxygen in particular);
- the difficulty in educating patients and encouraging them to adopt barrier measures and isolation from infection;
- many members of the healthcare personnel showed signs of burnout.

To this we can add the remoteness of psychiatric hospitals from somatic medicine facilities, and in particular from intensive care units, both geographically and in terms of professional culture. The persistent stigma attached to patients under psychiatric care, and the difficulty for the medical and surgical departments to take in patients presenting decompensated mental disorders in the absence of a liaison psychiatric team are chronic difficulties. Thus, following a myocardial infarction, patients with schizophrenia less often undergo revascularization procedures, with the rate of interventions lower by 47% [31]. In times of crisis this difficulty is exacerbated.

**Table 5**

Signs of complications requiring a transfer to hospitalization in a medicine department.

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Breathing rate > 24/min
SpO2 < 95% in ambient air or patient requiring oxygen
Dyspnea progressively or rapidly inflating
Tachycardia above basic level
Faintness/dizziness
Marked alteration of a general condition
Somatic decompensation of an underlying somatic disorder

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### Reorganization of psychiatric institutions in the healthcare effort to fight the epidemic – the example of COVID+ units

On the basis of the observation of these vulnerabilities, we report here the international experience reported in the literature and French experiences in psychiatric institutions in containing the epidemic and maintaining psychiatric care.

In China, the mental health centres were rapidly confined:

- all new entrants were quarantined for 14 days in a pre-admission unit organized specifically for the outbreak;
- an investigation of potential contacts (less than one meter for more than 15 minutes) was carried out to contact the people concerned and place them in quarantine;
- hospital staff (caregivers, hospital workers, etc.) were to be kept to a minimum and their temperature was taken on entry and exit, on a daily basis;
- visits were prohibited and replaced by video conferences. The supply of food and clothing was forbidden. Families were kept informed of the health and comfort of their hospitalised loved-ones on a regular basis by telephone;
- online psychological support was offered to caregivers.

Currently in France, several psychiatric institutions have very quickly created dedicated units (floors or even buildings in isolation) to care for patients suffering from mental disorders and COVID-19. Some are supervised by psychiatrists, in the presence of a somatic doctor. Others are somatic and psychiatric units. At the Nancy Psychotherapy Centre, a 20-bed COVID+ unit was created on 20 March 2020 on account of the advanced epidemic situation in the Grand Est region. Located in a building isolated from the other departments, it integrates medical and paramedical staff from psychiatry and general medicine. At the Nantes University hospital, the 30-bed unit, divided into two separate wings, is supervised by two internists, two medical interns and one pharmacy intern.

In some of these units dedicated to the care of patients with psychological disorders and COVID-19, staff are tested for COVID before taking up their duties in the unit (to date by PCR, while the use of serological tests would be more appropriate). They are required to self-monitor for the appearance of symptoms on a daily basis. Staff are specifically trained for the care of COVID (droplet and contact isolation, specific care, monitoring). The criteria for hospitalization in these units are a formal diagnosis of SARS-CoV-2 infection by PCR, a clinical profile suggestive of COVID-19 (because the test is not available everywhere and produces high rates of false negatives) without signs of somatic severity (Table 5), and a need for inpatient psychiatric care. Patients are discharged after the 14 days required to reduce contagiousness, if the psychiatric condition is stabilized and the patient is assessed as able to comply with confinement measures. Within the unit, a patient circuit and a care circuit make it possible to limit the risk of transmission, with dressing lockers for the caregivers, disposable overalls, a surgical mask and regular disinfection of all equipment, including non-medical equipment (keys, telephone, etc.). Rooms are emptied of all unnecessary equipment and theoretically each patient has his

or her own dedicated medical equipment. If this is not possible, the equipment is disinfected between patients. Serving plates are for single use only and the linen is treated via the infected linen line. Before each entry into the room, the caregiver dresses with a hat, a gown, protective goggles, over-shoes and gloves overlapping the gown. A clinical and paraclinical assessment and a specific surveillance sheet have been developed for this unit. The main difficulty currently is to ensure that patients comply with the measures of isolation in their rooms, with the need to resort to sedation, which can aggravate respiratory symptoms. A telephone is left with the patient, who can contact the nursing station directly, as for example in the psychiatric department of La Pitié-Salpêtrière.

At the Centre Hospitalier du Vinatier in Lyon, two COVID+ psychiatric units, one of which is dedicated to patients with signs of severity without the need for intensive care, have been created. A system coordinated by psychiatrists and psychologists makes it possible to provide telephone support to professionals who are themselves on the front line of exposure to the infection risk and to difficult therapeutic and ethical decisions in these units.

In the psychiatric departments within General Hospitals (university and non-university), the situation is also complex. Psychiatric departments (patients and carers) also suffer from stigmatization. While medical departments are funded by an activity pricing system, psychiatric departments are funded by an annual allowance, thus leading psychiatric departments to be considered as budget adjustment variables. This is a frequent cause of under-budgeting of psychiatric departments compared to medical and surgical departments. This situation has been submitted to Parliament [37]. At Clermont-Ferrand University Hospital, paradoxically, it is the psychiatry units' lack of resources, in particular the absence of individual wards and the considerable preponderance of double rooms that has - for once - had a positive effect in terms of care for COVID+ patients. Indeed, the impossibility of positioning a COVID unit within the psychiatry ward has required the creation of an integrated COVID + medical/psychiatric system within the medical units, which have been reorganized, thus offering the most appropriate medical and psychiatric care for patients. This organization remains tenable because for the moment (March 26, 2020) the epidemic pressure in Auvergne is not the same as in some other French regions, but it could prove to be insufficient or even catastrophic if the number of patients were to increase rapidly.

Within Non-University Hospitals such as Le Vinatier, University Hospitals such as Clermont Ferrand and Assistance-Publique-Hôpitaux de Paris, a coordination of psychiatrists and psychologists from the different facilities has enabled the rapid deployment of a support platform for professionals from the institutions working in all units (medical, surgical, obstetric and psychiatric), faced with the major stress of this epidemic of unknown scale. On the one hand, this underlines the operational mobilization capacity of mental health professionals, and also highlights the role that we can and must play in periods of crisis in "somatic" care structures to support and protect professionals.

Concerning electroconvulsive therapy (ECT) sessions, as long as anaesthetists are not called in as reinforcements in the intensive care units, it is advisable to maintain them, ensuring the disinfection of the equipment between each patient, and the protection of the nursing staff. In all cases, ECTs should be preserved in their urgent indications. If ECTs are unavailable, the adaptation of psychotropic treatments should be given priority. For severe depression, ketamine infusions or the administration of esketamine intra-nasally or rTMS can be offered. For catatonia, the use of benzodiazepines or derivatives (lorazepam, zolpidem) and the substitution of dopaminergic treatments by non-dopaminergic sedative molecules (promethazine type) can be considered.

## Ensuring the follow-up of psychiatric patients in a forced ambulatory situation

Because of the need to free hospitalization units to cope with the epidemic, a number of patients have been discharged early from the hospital in favour of ambulatory follow-up in recent days. Interruptions in psychiatric care are frequent in the context of the usual functioning of the psychiatric care system [38,39]. They lead to a large number of negative consequences for people with psychological disorders (relapses, suicidal behaviour, lack of access to medical care, psychosocial disintegration, isolation, etc.) [40]. Moreover, confinement measures are also associated with depressive, anxious and compulsive symptoms that can favour the relapse/recurrence of psychological disorders [41]. A case-management type of remote transitional follow-up could be provided for this high-risk population. The aim would be to accompany patients in their experience of a twofold reality: early hospital discharge and the experience of confinement at home [42–45]. Patients discharged from the hospital have not had the opportunity to anticipate confinement and may find themselves in situations of major stress and discomfort. Intensive telephone follow-up should be offered in the days and weeks following hospital discharge in order to prevent the risk of suicide, limit the risk of care interruption and relapse, while promoting the least unfavourable experience of confinement via adapted psycho-educational tools (information leaflets, telephone evaluation of the confinement experience, support for caregivers).

The risk of psychiatric decompensation at home is a major issue in psychiatric care, in a context of major demands on the usual home intervention systems. In some centres, the general emergency services refuse psychiatric emergencies because their beds are used for COVID+ patients. However, psychiatric emergencies have increased following the closure of certain consultation centres (CMP) and day care facilities (HDJs, CATTs), the reduction in the number of psychiatric beds to allow redeployment to Medical-Surgical-Obstetric services and more generally early discharge decisions. Home intervention units organised on an emergency or semi-emergency basis could provide specialised, targeted and tailored interventions for the most severe cases. The telephone collection of requests makes it possible to distinguish between situations requiring telephone care and more severe situations requiring intervention in the home. In the case of interventions in the home, the recommendations on protective measures related to the risk of COVID-19 infection should be applied (wearing a mask and gown, compliance with barrier gestures, etc.), in addition to the usual safety measures for caregivers intervening in the home. Protective measures should also be applied to the persons receiving the interventions (prevention of self- and hetero-harm risks, prevention of the traumatic risk related to coercive interventions). The “Psymobile” unit, located within the Le Vinatier hospital in Lyon, has thus refocused its activity in the home towards identifying and intervening in cases of severe acute psychiatric decompensation requiring emergency hospitalisation. A medical and nursing team can thus travel to the homes of patients, known or unknown to psychiatry, presenting a state of acute psychiatric decompensation in order to assess and refer in an emergency. In the parisian region, adult patients with autism can receive home visits thanks to a partnership between the Parisian resource center for autism and the adult autism team at the Pitié-Salpêtrière hospital. The upstream preparation of interventions, combined with precise coordination of the care trajectory, is a central point in the system.

Whenever possible, patients who are usually followed on an outpatient basis should receive continuing of care organized by their referral service. With the decree of March 15th, pharmacies are authorized to accept expired prescriptions in cases of chronic illness and treatment prescribed for at least 3 months, until May 31st to limit interruptions in treatment [46]. This measure was

completed on March 19th to be applicable for Opioid Substitution Treatments, anxiolytics and hypnotics [47]. The consultation centres and day care facilities that had to close to comply with health instructions are organizing nursing and medical remote consultations, while maintaining the possibility of face-to-face reception for the most risk-prone situations. The closure of these care facilities is particularly disruptive for patients with psychotic disorders, who require adapted and repeated explanations of the interest of the confinement measures for themselves and for others. It is advisable as far as possible to intensify the frequency of interventions of this sort, particularly in the event of early discharge, impossibility of hospitalisation and stress linked to confinement. In particular, the assessment of the suicide risk should be repeated during follow-up, as the isolation created by the confinement may initially reduce the suicide risk by reducing access to the means, but may increase it in case of prolonged confinement. In particular, the creation of telephone hotlines dedicated to the care of people in suicidal crises is recommended, based on existing systems (suicide prevention centres, “VigilanS” systems) or the creation of further dedicated systems. The Prevention Suicide Centre at Le Vinatier Hospital has thus reorganised itself into a telephone hotline that receives calls from people in a suicidal crisis, or from their personal or professional entourage, in order to assess the intensity of the suicide risk and offer appropriate remote monitoring, based on the model of the brief contact interventions [48]. In addition, psycho-education should be a central point for patients followed on an outpatient basis, and could take the form of prevention leaflets on the precautions to be taken to preserve mental health in a period of confinement, and on the continuity of treatment. For people with an addiction, the risk of withdrawal must be anticipated and prevented.

## Ensuring continuity of care for private practice patients

For patients under private practice, psychiatrists have a crucial role in informing patients about confinement and barrier measures to limit the spread of the epidemic. In addition, psychiatry is facing a new requirement: that of measures to prevent and combat the stress linked to the pandemic itself. The recommendations of international organizations, learned societies and the international literature highlight the following [49]:

- maintaining sleep hygiene and regularity of daily routines, with meals at regular times and a healthy and balanced diet;
- scheduling of activities, with the establishment of a certain daily routine;
- physical exercise;
- the maintenance of daily social links (without neglecting the usefulness of virtual social networks, but avoiding them becoming overly exclusive);
- relaxation and meditation techniques; websites or applications can be suggested when access to a psychologist is difficult;
- avoiding initiating or increasing substance use (tobacco, alcohol, etc.);
- awareness of available assistance and resources (government and WHO websites, fact leaflets, etc.);
- avoiding following television news non-stop and avoiding exposure to misinformation (fake news and unverified information on social networks);
- ensuring the dignity of isolated and/or elderly patients, support and adequate access to food and care. Their families must be kept informed regularly and mobilized when possible;
- avoiding “coronaphobia” and the stigmatization of sick people and Asian populations, which fuels stress and xenophobia [50].

This work on health education is not only a useful contribution in terms of public health, but it is psychologically reassuring for patients and their relatives. The integration of the altruistic component of confinement is liable to promote its acceptance and compliance [51,52].

Health authorities strongly encourage remote consultation and in particular videoconferencing, for which a systematic review has not revealed any significant difference in patient satisfaction and reliability of diagnosis compared to face-to-face consultations [53].

The psychological consequences of the pandemic are difficult to predict and will depend on numerous individual and collective parameters (prior vulnerability, duration of quarantine, resilience, access to care, quality of care, etc.), but patients should be informed that it is natural to experience fear of contamination, temporary sleep disturbances, worry for loved ones, irritability, feelings of frustration, helplessness and boredom, and the range of negative emotions frequently experienced in this type of situation [49,54]. These moderate short-term symptoms are nevertheless liable to evolve in the long term into adjustment disorders, anxious and depressive disorders, addictions, and post-traumatic stress disorder; they therefore require both downplaying and monitoring.

The appearance of significant symptoms that are repetitive over time, such as panic attacks, persistent insomnia - especially if accompanied by nightmares and/or daytime hyper-vigilance, cognitive impairment, increased substance use, anhedonia or even the development of suicidal ideation, should not be trivialized, but diagnosed and treated appropriately.

Indeed, given the current epidemic situation, news about COVID-19 will continue to dominate the media headlines, with counts of the number of deaths on a daily basis, which is a source of stress and anxiety for those who are intensely exposed to it. Furthermore, because the quarantine will not be lifted in the near future, we have reason to believe that the prevalence of psycho-traumatic symptoms in the general public will potentially be significant.

A Chinese study showed that the prevalence of significant symptoms of post-traumatic stress disorder (PTSD) at one month after the start of the COVID-19 epidemic in the most affected areas was 7% [55]. Predictors of PTSD were female gender (in this study, women suffered more from intrusive memories, negative cognitive or mood alterations and hyper-vigilance) and poor sleep quality, the latter factor being, according to the authors, related to both the onset and maintenance of PTSD.

Private psychiatrists can also play an important role in optimizing the medical care received by patients with mental disorders. These disorders can generate both social and medical stigma. This involves collaboration between the community and the hospital, but also awareness-raising and education of medical teams from other specialties about the implications for mental health. The crucial challenge is to enable patients to receive medical interventions as early as possible and of as good quality as for people without mental disorders.

The experience of psychiatrists abroad who had to deal with the first wave of the pandemic should guide governments in developing crisis management plans. In Sichuan province, a psychological support plan was developed with the provision of a self-help manual for the public to deal with the stress generated by the coronavirus [54]. The authors presented several self-help methods specifically adapted to 11 different populations (general public, anxious individuals, patients suspected of being infected with CoV-2 SARS, confirmed infected patients, family members of patients with psychological disorders, family members of confirmed cases, medical staff, psychologists, administrative staff, police officers and administrative staff). Then from 6th February, Sichuan Province opened several free 24-hour helplines to the general public with the help of volunteers, along with online psychological consultations

coordinated by several Sichuan Province hospitals, which may well have played an important role in maintaining the mental health of people with COVID-19 isolated in their homes. Finally, in order to better understand the state of mind of the population, an online survey on the mental health status of medical staff, suspected and confirmed cases was conducted. All participants were to receive counselling based on their survey scores [54].

Among children and adolescents, the usual emotional responses to stress include irritability, need for isolation or, on the contrary, “clinging” behaviour or aggressiveness, which can be misinterpreted as “regressive” behaviours that should be resisted, whereas they are often simply adaptive; in this young population, it is just as crucial to clearly distinguish what falls within the normal stress response from what corresponds to a genuine psychopathology to be managed.

The time has come for psychiatrists not only to ensure that our patients can fully access health services, but also to go further in the future, placing mental health at the very centre of the health system, and to show that early identification of psychological distress and timely medical-psycho-social interventions can not only prevent the crisis in times of pandemic, but also help to contain its spread [56].

### Immediate and longer-term perspectives

In this article, we have stressed the potential fear of excess morbidity and mortality among patients followed in psychiatry as a result of individual and institutional vulnerabilities. The need to reorganize in extreme emergency in a context of unpreparedness and insufficient means to combat the risk of infection exposes patients and caregivers to an increased risk of infection, and patients to a risk of disruption of psychiatric care. On 23 March 2020, the Ministry of Health and Solidarity issued instructions and recommendations for psychiatric establishments which, on the one hand often remain very general and, on the other are not accompanied by concrete means for their implementation [6]. The Chinese experience makes it possible to provide guidelines, which need to be adapted to the French context.

The care of people with mental disorders in a context where the SARS-CoV-2 epidemic is making other demands on psychiatrists and mental health professionals is an important issue, as the Chinese experience has shown [41,54–57]:

- the health care personnel mobilized to fight the epidemic are at risk of infection, psychological trauma and psychiatric decompensation,
- patients and families of patients with Covid-19 who, because of the ban on hospital visits, are in distress, require the intervention of psychiatrists and psychologists,
- at national level, confinement measures are likely to create a strong demand for immediate psychological or even psychiatric assistance during the crisis.

In this unprecedented health situation, and in the absence of international data, it is crucial to rapidly accumulate scientific knowledge in order to:

- optimise clinical, therapeutic and organisational decision-making as this crisis unfolds;
- draw lessons for probable future epidemic waves.

Thus, an epidemiological monitoring system is currently being set up concerning COVID units in psychiatry, with the support of the National Coordination of Regional Clinical Research Mechanisms in Psychiatry and Mental Health, in order to measure the



effectiveness of the measures put in place, morbidity, mortality and access to resuscitation care. More broadly, it seems to be a priority to set up epidemiological monitoring dedicated to all psychiatric patients in order to identify potential clinical particularities of the infection, to map the evolution of infectious morbidity/mortality, to monitor psychotropic treatments, and the number of psychiatric decompensation episodes/complications.

Concerning the mobilization of public authorities, there is an urgent need for awareness at the highest level of the very great vulnerability of these populations and of psychiatric institutions in limiting the morbidity and mortality directly related to the infection and indirectly to the adaptation of psychiatric care to the health constraints of confinement.

## Conclusion

In the context of the COVID-19 epidemic, French psychiatry finds itself in a situation of reorganizing its care offer and creating emergency care, while at the same time having to prepare to prevent and manage the expected negative effects of confinement on mental health that may not stop at the end of the pandemic. For French psychiatry, the first week of confinement was a situation of emergency adaptation, and the following weeks need to be weeks of coordination among all the players. At a distance from the crisis, it will be necessary to move on to a logic of preparation for these epidemics, ensuring that psychiatry is included in the design of emergency plans, notably through the involvement of psychiatrists, directors of psychiatric establishments and other mental health actors. The major difficulties in coordinating and managing this crisis highlight the absolute necessity of a common voice for French psychiatry with the health authorities, for example through an academic society legitimately recognized by all, in the interest of our patients.

## Disclosure of interest

The authors declare that they have no competing interest.

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