Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Unravelling potential severe psychiatric repercussions on healthcare professionals during the COVID-19 crisis

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ABSTRACT

The coronavirus disease 2019 (COVID-19) outbreak is putting healthcare professionals, especially those in the frontline, under extreme pressures, with a high risk of experiencing physical exhaustion, psychological disturbances, stigmatization, insomnia, depression and anxiety. We report the case of a general practitioner, without relevant somatic or psychiatric history that experienced a "brief reactive psychosis (298.8)" under stressful circumstances derived from COVID-19. She presented with delusional ideas of catastrophe regarding the current pandemic situation, delusions of self-reference, surveillance and persecution, with high affective and behavioural involvement. Physical examination and all further additional investigations did not reveal any secondary causes. She was administered olanzapine 10 mg with significant psychopathological improvement being later discharged with indications to maintain the treatment. To our knowledge this is the first reported case of severe mental illness in a healthcare professional without previous psychiatric history due to COVID-19 outbreak. Around 85% of patients presenting a brief psychotic disorder will develop a potentially disabling serious psychotic illness in the long-term. This case represents the potentially serious mental health consequences on healthcare professionals throughout the COVID-19 crisis and emphasizes the need to implement urgent measures to maintain staff mental health during the current pandemic.

1. To the editor

Since the coronavirus disease 2019 (COVID-19) outbreak, more than 4,000,000 infections have been confirmed worldwide (WHO 2020 *(COVID-19). Situation Report – 116.*, 2020). Several major public health measures have been urgently adopted by most countries affected, limiting personal freedoms (imposed quarantine, mandatory isolation of suspected and diagnosed cases and contact tracing and monitoring) and imposing a restructuration of the health systems, including prompt relocation of healthcare professionals into restructured COVID-19 hospitalization units or to different cities following assistance requirements (Tanne et al., 2020).

Healthcare professionals, especially those in the frontline, are at increased risk of being infected, work under extreme pressures, are exposed to high stress, prolonged shift times, excessive workload, sometimes without a proper training and adequate personal protective equipment, and may be even discriminated. They are also facing unprecedented situations, such as allocating scant resources to equally needy patients, providing care with constrained or inadequate resources and lack of specific drugs, with an imbalance between their own needs and those of patients (Greenberg et al., 2020).

Moreover, an increasing number of healthcare professionals are being infected with COVID-19 (The Lancet, 2020), thus generating a direct concern for the infection risk and development of consequent complications, and an indirect fear of spreading the virus to their families, friends, or colleagues, which might lead to increased isolation measures with worse psychological outcomes (Belingheri et al., 2020; Xiang et al., 2020). All this pressure may contribute to not only reduce work efficiency but to increase the risk of medical errors and to cause moral injury and/or mental health problems.

As previously reported, the impact of complex humanitarian emergencies on mental health is multi-faceted, with potential long lasting consequences that stretch far beyond the actual resolution of the emergency (Pfefferbaum and North, 2020). Indeed, healthcare professionals are highly vulnerable to experiencing physical exhaustion, fear, emotion disturbance, stigmatization, insomnia, depression and anxiety, distress, substance use, post-traumatic stress symptoms and even suicide (Kang et al., 2020; Lai et al., 2020; Liu et al., 2020; Lu et al., 2020).

2. Case presentation

We report the case of a 42-year-old woman working as a general practitioner, without relevant medical or psychiatric personal or family history and no usual treatment, admitted to our emergency room after presenting psychomotor agitation. During the past 2 weeks she had been working on her primary care center coordinating the attention of patients with suspicion of COVID-19 infection. The patient perceived this situation as highly stressful and she started presenting with anxiety and insomnia. Therefore lorazepam 2 mg/day was started. Two days before psychiatric admission, the patient began referring to her family delusional ideas of catastrophe regarding the current pandemic situation ("we are all going to die and there are not going to be ICU for me or my family"), but she also presented suspiciousness and delusions of self-reference, surveillance and persecution, with high affective and behavioural involvement.

At admission, her physical examination, including a detailed neurological examination, did not reveal any abnormalities. General blood tests were within the normal limits and urine toxic screening was negative. She was fully conscious and oriented, with decreased attention span and interaction was non-syntonic. Her speech was scarce, with stereotyped answers showing minimization of symptoms and thought blocking. She presented with delusions. There were no perceptual

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abnormalities, obsessive-compulsive symptoms or volitional abnormalities. Affect was parathymic, labile and irritable. Judgement was altered, with no insight present. She was administered olanzapine 10 mg and remained under observation.

At reevaluation after 24 hours, the patient presented significant psychopathological improvements. Speech was fluid and she persisted with overvalued ideas of catastrophe, self-reference and conspiracy, only partially criticized, but with diminished affective and behavioural involvement. Affect was euthymic, without irritability or suicidal thoughts. Judgement and insight improved, showing partial recover. She was discharged with the indication of a psychiatric outpatient follow-up 3 days later and treatment with olanzapine 5 mg/day under family supervision.

Considering the sudden psychotic onset with marked severe symptoms and functional impairment, the rapid recovery, as well as the presence of clear stressful circumstances and the absence of secondary causes, the DSM-5 diagnosis “Brief psychotic disorder with marked stressor” (298.8) or “brief reactive psychosis” (APA, 2013) was made.

3. Discussion

To our knowledge this is the first reported case of severe mental illness due to COVID-19 outbreak in a healthcare professional with no previous psychiatric history. It should be noted that around 85% of patients presenting a brief psychotic disorder will develop a potentially disabling serious psychotic illness in the long-term (Kingston et al., 2013). This case represents the potentially serious mental health consequences on healthcare professionals throughout the COVID-19 crisis, which may present an increased risk for mental health consequences compared to the general population, and emphasizes the need to implement urgent measures to preserve staff mental health during the current pandemic. However, mental health-centered support strategies in such extraordinary settings are often overlooked and poorly coordinated, with controversies on the most effective approach (Chen et al., 2020). Addressing the priority of mental health in the general population as well as in healthcare professionals is essential in addition to the infection medical care. Trained staff should identify healthcare professionals at-risk to develop psychiatric symptomatology and timely refer them to specialists for diagnosis and intervention (Pfefferbaum and North, 2020). Healthcare working teams should be reinforced providing regular contact to discuss decisions and, once the crisis begins to recede, active monitoring, support, and, if necessary, evidence-based treatments should be provided (Greenberg et al., 2020).

4. Conclusions

Mental health support must be integrated in the public health response during COVID-19 pandemic, in particular among populations at higher risk for mental health consequences, such as first-line healthcare professionals. Even more, people with pre-existing mental health disorders are particularly vulnerable to the stressful situations derived from the pandemic outbreak and the confinement situation, which may result in relapses or worsening of psychiatric pre-existing conditions leading to hospitalization (Vieta et al., 2020; Yao et al., 2020), requiring individualized treatment (Anmella et al., 2020). These populations should not be overlooked, and mental health home hospitalization care has been proposed as an alternative to address this problem (Garriga et al., 2020). Additionally, not only healthcare workers, but also other types of workers who are at increased risk of COVID-19 infection through their work, usually from being in close proximity to members of the public, should not be disregarded as they may share some of the stressors leading to severe mental illness and potential psychiatric repercussions as in the exposed case (Sim, 2020). There is an urgent need to monitor mental health and the ongoing onset and persistence of psychiatric symptoms in different populations, to understand the unmet needs and allocate resources for suitable and specific interventions (Arango, 2020).

CRediT authorship contribution statement

G. Anmella: Conceptualization, Investigation, Methodology, Validation, Visualization, Writing - original draft, Writing - review & editing. **G Fico:** Conceptualization, Investigation, Methodology, Validation, Visualization, Writing - original draft, Writing - review & editing. **A Roca:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **M Gómez-Ramiro:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **M Vázquez:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **A Murru:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **I Pacchiarotti:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **N Verdolini:** Conceptualization, Supervision, Validation, Visualization, Writing - review & editing. **E Vieta:** Conceptualization, Investigation, Methodology, Supervision, Validation, Visualization, Writing - original draft, Writing - review & editing.

Declaration of Competing Interest

Dr. Anmella has received CME-related honoraria, or consulting fees from Janssen-Cilag, Lundbeck and Angelini and reports no financial or other relationship relevant to the subject of this article. **Dr. Fico** has received CME-related honoraria, or consulting fees from Janssen-Cilag and Lundbeck. **Dra. Gómez-Ramiro** has received grants from Instituto Carlos III and ADAMED and non-financial support from Angelini, Janssen-Cilag, Lundbeck and Pfizer, non relationated with this job. **Dr. Vázquez** has received CME-related honoraria, or consulting fees from Lundbeck. All other authors declare no conflict of interests. **Dr. Pacchiarotti** has received CME-related honoraria, or consulting fees from ADAMED, Janssen-Cilag and Lundbeck and reports no financial or other relationship relevant to the subject of this article. **Dr. Vieta** has received research support from or served as consultant, adviser or speaker for AB-Biotics, Abbott, Actavis, Allergan, Angelini, AstraZeneca, Bristol-Myers Squibb, Dainippon Sumitomo Pharma, Ferrer, Forest Research Institute, Gedeon Richter, Glaxo-Smith-Kline, Janssen, Lundbeck, Otsuka, Pfizer, Roche, Sage pharmaceuticals, Sanofi-Aventis, Servier, Shire, Sunovion, Takeda, Telefónica, the Brain and Behaviour Foundation, the Spanish Ministry of Science and Innovation (CIBERSAM), the Seventh European Framework Programme (ENBREC), and the Stanley Medical Research Institute and reports no financial or other relationship relevant to the subject of this article. All other authors declare no conflict of interests.

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