We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

6,900
Open access books available

185,000
International authors and editors

200M
Downloads

Our authors are among the

154
Countries delivered to

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Chapter

Consequences of the SARS-CoV-2 Pandemic on Mental Health: Integrative Review

Jucier Gonçalves Júnior, Gislene Farias de Oliviera and Modesto Leite Rolim-Neto

Abstract

The lack of specific treatment and knowledge about the exact pathophysiology of the 2019 Coronavirus disease (COVID-19) and its vaccines makes the organic aspects of the pandemic a concern and puts the psychiatric consequences and psychological effects of SARS-CoV-2, COVID-19, in second place. Hence, the psychiatric impacts of the COVID-19 pandemic have not been well established yet. We have performed an integrative literature review in three electronic databases: Medline, PsycINFO, and Published International Literature on Traumatic Stress (PILOTS). The findings were then divided into five subcategories: impacts of COVID-19 on the mental health of psychiatric patients; use of technology as an ally in combating impacts on mental health in the context of the COVID-19 pandemic; mental health promotion measures in the context of the COVID-19 pandemic for the population; mental health promotion measures in the context of the COVID-19 pandemic for health professionals; and mental health in specific groups in the context of the COVID-19 pandemic. This study has showed that the situation and measures proposed to fight the COVID-19 pandemic cause stress, anxiety, fear, and uncertainty in the population. Psychiatric patients, the elderly, refugees, and migrant workers are more vulnerable due to the stigmatization and lack of specialized support in health services and reduced access to medications. Therefore, they require care from governments and health authorities. In addition, measures to promote hospital health for health professionals seem to be essential to improve care and reduce the psychologic/psychiatric impacts on professionals. Thus, technology is a valuable ally in this process.

Keywords: Mental Health, Coronavirus infections, Pandemic, Stress, Affective Disorders

1. Introduction

A pandemic creates its own objective reality as a backdrop for all forms of psychopathology. There are economic downturns, job layoffs, prolonged school and business closings, and threatened supply chain disruptions during such period [1–5]. It also compromises the care and mental health of individuals who already have diseases.

According to the WHO [6], 792 million (10.7%) people in the global population have a mental disorder – 264 million (3.4%) with depression, 284 million (3.8%) with anxiety disorders, and 46 million (0.6%) with bipolar disorders. However, the lack of a specific treatment, knowledge about the exact pathophysiology of the disease and its vaccines makes the organic aspects of the pandemic a concern and puts the psychiatric consequences and psychological effects of COVID-19 in second place [7–9]. Thus, the psychiatry impacts by COVID-19 pandemic have not been well established yet.

We aimed to carry out an integrative literature review based on the following guiding question: What practical contributions does the current scientific literature may provide regarding the impact of COVID-19 on mental health? This review highlighted that not only previous mental illnesses are exacerbated during a pandemic, but also negative feelings. In addition, pandemic prevention and control measures can be triggers for causing the population's sickness.

2. Method

2.1 Literature review

We have performed an integrative literature review in three electronic databases: Medline, PsycINFO, and Published International Literature on Traumatic Stress (PILOTS). The electronic searches used variants of the following research terms with a syntax adjusted to each database: #1 "COVID-19" OR "Coronavirus Infections" (Medical Subject Headings – [MeSH term] AND #2 ("Health Personnel" OR "Health Care Provider" [MeSH] term); and "Mental Health" [keyword].

2.2 Data collection

Manuscripts were selected primarily through the analysis of their titles and abstracts. Two researchers collected data individually in order to ensure trustworthiness of the findings, and divergences were solved by a third senior researcher. Each sample article was thoroughly read, and the information was inserted in a spreadsheet (**Table 1**) that included the author, publishing year, journal, and main findings.

2.3 Eligibility criteria

Papers were analyzed based on the following eligibility criteria: at least one combination of the terms described in the search strategy in the title; written in English, Portuguese or Spanish; addressing the psychiatric impact of COVID-19 pandemic; original articles with the full text available through the Journal Portal of the Brazilian Coordination of Personal Improvement of Higher Level (CAPES), which is a virtual library created by the Brazilian Department of Health where content is restricted to authorized users. Monographs, dissertations, and thesis were excluded.

Manuscripts repeated in more than one of the databases were counted only once. Some papers were excluded because they approached other viruses/pandemics.

2.4 Ethical issue

Considering this is an integrative literature review, Resolution 510/16 of the Brazilian National Health Council (CNS, acronym in Portuguese) ensures the dismissal of submission to an Ethics Committee on Research (Human Beings).

Rolim-Neto et al. [10]	Psychiatry Res.	Importance of recognizing how to combat stress, anxiety, and negative symptoms such as depression in the face of death figures as a mental health strategy for healthcare workers.
Xiang et al. [11]	Int. J. Biol. Sci.	In China, the lack of psychiatrists' training in the management of infectious diseases in pandemics is a major challenge to mental health and an impasse to health promotion in the pandemic.
Mental health in specific groups in the COVID-19 pandemic context		
Zhai and Du [12]	Lancet	Exchange students may have their mental health affected due to stigmatization, bullying and mistreatment in the countries where they are studying because they could be classified as potential transmitters of the virus.
Bao et al. [13]	Lancet	Triggering of mental disorders, post-traumatic stress disorder, depression, and anxiety in healthcare workers.
Perlis [14]	JAMA	Chronic shess of COVID-19 pandemic can cause anxiety and major depression in healthcare workers.
Jawaid [15]	Science	Encouraging the spread of news with mental health benefits; mental health supports with hotline; and maintaining regular phone contact are possible measures to deal with the mental health consequences of elderly people with COVID-19.
Brasil [16]	—	List of a series of measures to promote childreifs mental health in the COYID-19 pandemic context.
Liem et al. [17]	Lancet	Impasses of the communities of intemational mi grant workers, since their pre-exposure condition is more fragile, and they are more exposed to psychiatric diseases in pandemics than the general population.
Yang et al. [18]	Lancet Psych.	The outbreak of COVID-19 has raised great challenges regarding mental health semces for older adults in the community. There seems to be insufficient and inadequate attention paid to this vulnerable population in the recently established crisis of psychological services in China.
Gonçalves Júnior et al. [19]	Psychiatry Res.	Populations as refugees have a much greater risk of developing mental disorders compared to the general population due to the precarious hygienic-sanitary conditions, nutrition, housing and access to information that they have.

Source*: Authors.*

Table 1.
Main Findings.

3. Results

The findings were then divided into five subcategories: impacts of COVID-19 on the mental health of psychiatric patients; use of technology as an ally in combating mental health impacts in the context of COVID-19 pandemic; mental health promotion measures in the context of the COVID-19 pandemic for the population; mental health promotion measures in the context of the COVID-19 pandemic for health professionals; and mental health in specific groups in the context of the COVID-19 pandemic (**Table 1**).

4. Discussion

4.1 Impacts of COVID-19 on the mental health of psychiatric patients

Patients with confirmed or suspected COVID-19 may experience fear of the consequences of being infected by a potentially harmful virus, and those in quarantine

might experience boredom, loneliness, and anger [20]. In a Chinese study with 263 participants, the majority (53.3%) of individuals did not feel helpless due to the COVID-19 pandemic. However, 52.1% of the participants felt horrified and apprehensive due to the pandemic. Additionally, most participants (57.8 to 77.9%) received more support from friends and family members, more shared feeling and caring with family [21].

Indeed, a pandemic causes profound changes in social dynamics. One example is supermarkets, which were clear of essential items and faced a rationing procedure at the beginning of the pandemic. Schools and other educational institutions have been affected, with compulsory examinations postponed and most children remaining at home. The financial implications are profound, even though governments have implemented various supportive measures [22]. This situation causes stress, anxiety, depressive symptoms, insomnia, denial, anger, and fear [23].

Moreover, such feelings may especially arise due to fake news and conspiracy theories that circulate as a result of social media "infodemic", particularly in areas with low social capital and public trust [24]. According to Gao et al. [25], the prevalence of depression, anxiety, and a combination of depression and anxiety in 4,872 participants from 31 provinces and autonomous regions in China was 48.3% (95%CI: 46.9–49.7%), 22.6% (95%CI: 21.4–23.8%) and 19.4% (95%CI: 18.3–20.6%), respectively, during COVID-19. More than 80% (95%CI: 80.9–83.1%) of the participants reported frequent exposure to social media.

This impact is more dangerous and worrying in psychiatric patients. Schizophrenia, bipolar, depression and anxiety disorders or autism have an increased risk for infection due to immunogenetic vulnerability. The elderly psychiatric patients are the most vulnerable group, and there is a high exacerbation risk of psychic disorders and an aggravation of existing psychiatric symptoms, cognitive disorders, and loss of autonomy. The elderly may have difficulties adopting "barrier measures" (behavioral measures to protect oneself and others from the virus) and complying with confinement instructions. Severe social isolation, precarious housing, restricted solidarity networks for the informal monitoring of these patients' health condition complicate this population's situation [26].

Furthermore, people with mental disorders can be exposed to more barriers in accessing timely health services due to discrimination associated with patients who have mental illness in health care settings. The elderly could be more substantially influenced by emotional responses brought on by the COVID-19 pandemic, resulting in relapses or worsening of an already existing mental health condition due to high susceptibility to stress compared with the general population. The treatment for mental disease could make that of COVID-19 more challenging [27].

4.2 Use of technology as an ally in combating impacts on mental health in the COVID-19 pandemic context

Health services around the world have been mobilized and reinvented in an attempt to meet the population's mental health demands during the COVID-19 pandemic. The literature states that technology to reduce risk is a way out of proper pandemic management [28].

In France [29], there has been a 90% shift in outpatient activity with the use of telepsychiatry. There is a hotline for psychiatry teleconsultation, and meetings with more than five people became virtual. In addition, psychiatrists alternately present themselves in the department or teleworking. According to Starace and Serrara [30], during phone check-ins, the professional provides information of open hours, changes in access to services, and public health recommendations about limiting social contacts.

In Siena, Italy, more than 90% of the outpatient consultations were transformed into telemedicine consultations, which also made use of cell phones. Hence, health workers may benefit from social contact provided via the Internet, in a group setting, at the end of a working day, from their houses, without wearing the protective garments they wore all day long. They believe that offering a space to talk electronically, to share experiences, and to provide comfort to each other can be helpful, especially for those who live alone [31].

In Croatia, the use of digital technologies in post-traumatic stress disorder (PTSD) mitigation was the main topic of the researches carried out by Cosic et al. [32]. According to the authors, based on their experience, the development of computer tools and methods for emotion elicitation, estimation and regulation, cognitive-behavioral therapy, stress inoculation/resilience training, prevention of stress-related disorders and soldiers' ability strength to cope with highly stressful situations, as well as assessments of individual and group stress resilience features, created the NATO research and development project "Multidisciplinary Metrics for Soldier Resilience Prediction and Training" with researches from Turkey, Croatia, and Austria. It can use these expertise's origin strategies to face the COVID-19 psychology and psychiatric impact.

Increasing the communication with friends, family members and loved ones, even if from a distance, from video-chats or group calls with family members, may help to reduce loneliness and precariousness. In case of insufficient social network, professional helplines are particularly useful, if managed by qualified trained professionals [33].

Mainstream media, such as television and radio, may play an important role by including content that promotes quality information and safety for the population [15]. They should get ahead and educate people about the importance and existence of not only physical health issues, but also mental health ones during a pandemic, along with medical and mental health professionals in order to sustain scientific- and fact-based presentation and suggestions while addressing the importance of COVID-19 control practices [34].

In Singapore, the government have kept the public abreast on the progress of the outbreak with regular broadcasts of news and announcements on social media. These include daily updates, such as the number of new and current infections, patients who are at critical condition or have been discharged, and preventive measures. Social media channels have also been set up by the state to curb the spread of false information and "fake news." Regular dialog with Cabinet Ministers and infectious diseases physicians is aired to clear questions [35].

4.3 Mental health promotion measures in the COVID-19 pandemic context for the population

A significant distress decrease has been associated with the nationwide quarantine, medical supports and resources from all over the country, public education, individual protection strength, medical isolation, population mobility control, reduction of gatherings to stop the virus spread, and social and spiritual support. These are very important elements of community resilience and anti-fragility during COVID-19 crisis periods [3, 36].

During the COVID-19 pandemic, the National Institutes of Health in the USA and other funders must provide administrative supplements and notifications that encourage researchers to go fully remote; assess the mental health impact of COVID-19; prioritize repurposing of psychiatric human and pharmacologic resources for COVID-19 research efforts; and continue working, leveraging the unique clinical research resources in psychiatry to help as many people as possible through the crisis [28].

China created 26 protocols and guidelines regarding mental health promotion between January and February in 2020 [37]. In these protocols, psychological crisis interventions have included three key points: understanding the mental health condition in different populations influenced by the COVID-19 outbreak, identifying people that are at high risk of suicide and aggression, and providing appropriate psychological interventions for those in need [37].

Based on Fiorillo and Gorwood [33] in Italy, some measures to face the mental impacts of the pandemic are: limiting the sources of stress, *i.e*. decrease of access to unofficial channels and uncontrolled sources; breaking isolation, by increasing communication of family and friends via social media; maintaining the usual routine rhythm; focusing on the isolation benefits and asking for professional help when needed. According to Ho, Che and Ho [35], the integration of hospital and community resources, more support for frontline health workers, accurate dissemination of health and related information to the public, identification of high-risk groups, improved screening of psychiatric morbidities, mode and content of psychological intervention encourage the use of a psychodynamic approach as a way to improve the population's adherence to preventive measures [38]. A Chinese study that evaluated 1,304 people showed that cognitive therapy can provide information or evidence to enhance confidence in the doctor's ability to diagnose COVID-19 [39].

Measures for a better health promotion and for combating the COVID-19 include the use of personal protective equipment, mainly of fluid-resistant surgical masks, telemedicine, avoiding crowds/visits, offering individual educational sessions to patients admitted at the unit, providing printed materials, and encouraging hand hygiene [30].

4.4 Mental health promotion measures in the COVID-19 pandemic context for health professionals

As if exposure to the COVID-19 during the global pandemic was not enough, healthcare workers face another risk: burnout due to overstress in an increasingly overloaded healthcare system [10]. Thus, health care professionals have accepted an overwhelming responsibility. They are coping with the psychological distress of losing patients, as well as lack of clarity and unpredictability within their work environments, while trying to protect their own health [22], particularly in countries with limited resources [24]. Health professionals have been dealing with high risk of infection and inadequate protection against contamination, overwork, frustration, discrimination, isolation, patients with negative emotions, lack of family contact, and exhaustion [23].

A study with 1,287 workers in hospitals equipped with fever clinics or wards for patients with COVID-19 in Wuhan and other regions in China reported that health workers have been experiencing psychological burden (depression, anxiety, insomnia, and distress), especially female nurses [40]. After surveying more than 1,200 nurses and physicians in 34 hospitals in the Wuhan region and across mainland China, approximately 14% of the physicians and nearly 16% of the nurses described moderate or severe depressive symptoms. There were also reports of insomnia and anxiety [14].

Some strategies for dealing with COVID-19 impacts include: routine support processes (such as peer support programs) available to the healthcare staff with a briefing on moral injuries, as well as awareness on other causes of mental ill health and what to look out for [10, 41]; training on psychological skills to deal with patients' anxiety, panic and other emotional problems, and, if possible, for mental health staff to be on hand to directly help these patients [42]; formation

of psychological intervention teams and intra hospital support for professionals [43] in public policies that aim to articulate these joint efforts in a centralized and strategic way [11, 13].

4.5 Mental health in specific groups in the COVID-19 pandemic context

During the COVID-19 pandemic, individuals at age extremes (children and the elderly) also suffer an impact on their mental health. Social isolation by COVID-19 pandemic in elderly people has been associated with increased depression and suicidality, as well as to increased pro-inflammatory and decreased anti-viral immune responses. Virtual solutions may be less comfortable for children and the elderly [15], who may also have limited access to internet services and smartphones to enter in mental health services online. Also, the current mass quarantines and restrictions to public transport make it more difficult for them to acquire medicine from previous psychiatric pathologies, which is common in this age range [18].

Some suggestions for managing mental health in institutionalized elderly people include establishing a contingency plan and strategies to deal with more serious psychiatric symptoms; maintaining transparency and trust with employees that prioritize equity and well-being with adequate training and personal protective equipment; ensuring care for the mental health of family members; reassuring them about feelings of fear, sadness and anxiety; and promoting a healthy climate of communication and empathy [44].

In the case of children, stressful and potentially traumatic situations, such as illness and hospitalization, can trigger the emergence of unusual behaviors, such as sucking finger, enuresis, or desire to sleep with parents. Therefore, encouraging the maintenance of routine and creative activities, such as painting, drawing or playing with family members, is essential to reduce psychological impacts. In the event of hospitalization, children should be maintained with constant contact and communication with the family and belongings that fulfill the function of emotional connection. No one should lie about their diagnosis and treatment, making it clear that the child is not to blame for being sick, providing an open communication channel for them [16].

As for young people in universities, the Chinese, mainly, were denied entry in many countries. They face discrimination and isolation in some countries due to being deemed as potential COVID-19 carriers, consequently, such students are at risk of hate crimes, especially when individuals consider them contagious. This situation can lead to mental health problems, such as denial, stress, anxiety, and fear [12].

Refugees and international migrant workers have a higher burden of common mental disorders (*e.g.* depression) and a lower quality of life than local populations. Many domestic workers cannot obtain masks from pharmacies because they must stay with employers and adhere to government-recommended self-quarantine [17]. Severe risk factors for COVID-19 are common for mental disorders in this population: overcrowding, disruption of sewage disposal, poor standards of hygiene, poor nutrition, negligible sanitation, and lack of access to shelter, health care, public services and safety [19, 45–48].

5. Conclusions

This study has showed that the situation and measures proposed to fight the COVID-19 pandemic cause stress, anxiety, fear, and uncertainty in the population. Psychiatric patients, the elderly, refugees, and migrant workers are more vulnerable

groups due to stigmatization and lack of specialized support in health services and reduced access to medications. Therefore, they require care from governments and health authorities. In addition, measures to promote hospital health for health professionals seem to be essential to improve care and reduce the psychologic/psychiatric impacts on professionals, and thus technology is a valuable ally in this process. Finally, the weakness of this study is the absence of more robust studies to compose the sample.

IntechOpen

Author details

Jucier Gonçalves Júnior[1*], Gislene Farias de Oliviera[2] and Modesto Leite Rolim-Neto[2]

1 Department of Rheumatology, Faculty of Medicine - University of São Paulo (FMUSP), São Paulo, Brazil

2 School of Medicine, Federal University of Cariri, Barbalha, Ceará, Brazil

*Address all correspondence to: juciergjunior@hotmail.com

IntechOpen

© 2021 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/3.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. CC BY

References

[1] Guo YR, Cao QD, Hong ZS, Tan YY, Chen SD, Jin HJ, et al. The origin, transmission, and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak – an update on the status. Mil. Med. Res. 2020; 13: 1-11 [PMID: 32169119 DOI: 10.1186/s40779-020-00240-0].

[2] Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. N. Engl. J. Med. 2020; 382: 1199-1207 [PMID: 31995857 DOI: 10.1056/NEJMoa2001316].

[3] World Health Organization – WHO. Coronavirus disease (COVID-19) outbreak situation. 2020a. Available at: https://www.who.int/emergencies/diseases/novel-coronavirus-2019 (accessed 25 March 2020).

[4] Anzai A, Kobayashi T, Linton NM, Kinoshita R, Hayashi K, Suzuki A, et al. Assessing the impact of reduced travel on exportation dynamics of novel coronavirus infection (COVID-19). J Clin Med. 2020; 9: 601 [PMID: 32102279 DOI: 10.3390/jcm9020601].

[5] Goldberg JF. Psychiatry's Niche Role in the COVID-19 Pandemic. J. Clin. Psychiatry. 2020; 81, 20com13363 [DOI: 10.4088/JCP.20com13363].

[6] World Health Organization – WHO. Mental disorders. 2020b. Available at: https://ourworldindata.org/mental-health (accessed 25 March 2020).

[7] Shigemura J, Ursano RJ, Morganstein JC, Kurosawa M, Benedek DM. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. Psychiatry Clin. Neurosci. 2020; 74: 281-282 [PMID: 32034840 DOI: 10.1111/pcn.12988].

[8] Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet. 2020; 395: 912-920 [DOI: 10.1016/S0140-6736(20)30460-8].

[9] Ahmad A, Muller C, Konstantinos T. Covid-19 pandemic: a public and global mental health opportunity for social transformation? BMJ. 2020; 369: m1383 [DOI: 10.1136/bmj.m1383].

[10] Rolim-Neto M, Almeida HG, Esmeraldo JD, Nobre CB, Pinheiro WR, de Oliveira CR, et al. When health professionals look death in the eye: the mental health of professionals who deal daily with the 2019 coronavirus outbreak. Psychiatry Res. 2020; 288: 112972 [PMID: 32302817 DOI: 10.1016/j.psychres.2020.112972].

[11] Xiang YT, Zhao YJ, Liu ZH, Li XH, Zhao N, Cheung T, et al. The COVID-19 outbreak and psychiatric hospitals in China: managing challenges through mental health service reform. Int. J. Biol. Sci. 2020b; 16: 1741-1744 [PMID: 32226293 DOI: 10.7150/ijbs.45072].

[12] Zhai Y, Du X. Mental health care for international Chinese students affected by the COVID-19 outbreak. Lancet Psychiatr. 2020; 7: e22 [PMID: 32199511 DOI: 10.1016/S2215-0366(20)30089-4].

[13] Bao Y, Sun Y, Meng S, Shi J, Lu L. 2019-nCoV epidemic: address mental health care to empower society. Lancet. 2020; 295: e37-e38 [PMID: 32043982 DOI: 10.1016/S0140-6736(20)30309-3].

[14] Perlis RH. Exercising heart and head in managing coronavirus disease 2019 in Wuha. JAMA Netw Open. 2020; 3: e204006. [PMID: 32202641 DOI: 10.1001/jamanetworkopen.2020.4006].

[15] Jawaid A. Protecting older adults during social distancing. Science. 2020; 368, 145 [PMID: 32273460 DOI: 10.1126/science.abb7885].

[16] Brasil. Ministério da Saúde. Recomendações para Cuidado das Crianças em Isolamento Hospitalar. Brasília, DF: Fundação Oswaldo Cruz; 2020. p.7.

[17] Liem A, Wang C, Wariyanti Y, Latkin CA, Hall BJ. The neglected health of international migrant workers in the COVID-19 epidemic. Lancet Psychiatr. 2020; 7: e20 [PMID: 32085842 DOI: 10.1016/S2215-0366(20)30076-6].

[18] Yang Y, Li W, Zhang Q, Zhang L, Cheung T, Xiang Y-T. Mental health services for older adults in China during the COVID-19 outbreak. Lancet Psychiat. 2020; 7: e19 [PMID: 32085843 DOI: 10.1016/S2215-0366(20)30079-1].

[19] Gonçalves Júnior J, de Sales JP, Moreira MM, Pinheiro WR, Woneska R, Lima CK, et al. A crisis within the crisis: the mental health situation of refugees in the world during the 2019 coronavirus (2019-nCoV) outbreak. Psychiatry Res. 2020; 288: 113000 [DOI: 10.1016/j.psychres.2020.113000].

[20] Xiang Y-T, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. Lancet Psychiatr. 2020a; 7: 228-229 [PMID: 32032543 DOI: 10.1016/S2215-0366(20)30046-8].

[21] Zhang Y, Ma ZF. Impact of the COVID-19 pandemic on mental health and quality of life among local residents in Liaoning Province, China: a cross-sectional study. Int. J. Environ. Res. Public Health. 2020; 17: 2381 [PMID: 32244498 DOI: 10.3390/ijerph17072381].

[22] Yahya AY, Khawaja S, Chukwuma SJ. The impact of COVID-19 in Psychiatry. Prim. Care Companion CNS Disord. 2020; 22: 20l02627 [PMID: 32302070 DOI: 10.4088/PCC.20l02627].

[23] Torales J, O'Higgins M, Castaldelli-Maia JM, Ventriglio A. The outbreak of COVID-19 coronavirus and its impact on global mental health. Int. J. Soc. Psychiatry. 2020; 66: 317-320 [PMID: 32233719 DOI: 10.1177/0020764020915212].

[24] Assari S, Habibzadeh P. The COVID-19 emergency response should include a mental health component. Arch Iran Med. 2020; 23: 281-282 [DOI: 10.34172/aim.2020.12].

[25] Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, et al. Mental health problems and social media exposure during COVID-19 outbreak. PLoS ONE. 2020; 15, e0231924 [DOI: 10.1371/journal.pone.0231924].

[26] Chevance A, Gourion D, Hoertel N, Llorca PM, Thomas P, Bocher R, et al. Ensuring mental health care during the SARS-CoV-2 epidemic in France: a narrative review. Encephale. 2020; 46: 193-201 [PMID: 32370982 DOI: 10.1016/j.encep.2020.04.005].

[27] Yao H, Chen J-H, Xu Y-F. Patients with mental health disorders in the COVID-19 epidemic. Lancet Psychiat. 2020; 7: e21 [PMID: 32199510 DOI: 10.1016/S2215-0366(20)30090-0].

[28] Nicol GE, Karp JF, Reiersen AM, Zorumski CF, Lenze EJ. "What were you before the war?" repurposing psychiatry during the COVID-19 pandemic. J. Clin. Psychiatry. 2020; 81: 20com13373 [PMID: 32271506 DOI: 10.4088/JCP.20com13373].

[29] Corrouble E. A viewpoint from Paris on the COVID-19 pandemic: a necessary turn to telepsychiatry. J. Clin. Psychiatry. 2020; 81, 20com13361 [PMID: 32237302 DOI: 10.4088/JCP.20com13361].

[30] Starace F, Ferrara M. COVID-19 disease emergency operational instructions for Mental Health Departments issued by the Italian Society of Epidemiological Psychiatry. Epidemiol Psychiatr Sci. 2020; 29: e116 [PMID: 32228737 doi: 10.1017/S2045796020000372].

[31] Fagiolini A, Cuomo A, Frank E. COVID-19 diary from a Psychiatry department in Italy. J. Clin. Psychiatry. 2020; 81, 20com13357 [PMID: 32237301 DOI: 10.4088/JCP.20com13357].

[32] Cosic K, Popovic S, Sarlija M, Kesedzic I. Impact of human disasters and covid-19 pandemic on mental health: potential of digital psychiatry. Psychiatr. Danub. 2020; 32: 25-31 [PMID: 32303026 DOI: 10.24869/psyd.2020.25].

[33] Fiorillo A, Gorwood P. The consequences of the COVID-19 pandemic on mental health and implications for clinical practice. Eur Psychiatry. 2020; 63: e32 [PMID: 32234102 DOI: 10.1192/j.eurpsy.2020.35].

[34] Shuja KH, Aqeel M, Jaffar A, Ahmed A. COVID-19 pandemic and impending global mental health implications. Psychiatr Danub. 2020; 32: 32-35 [PMID: 32303027 DOI: 10.24869/psyd.2020.32].

[35] Ho C, Che CY, Ho RCM. Mental Health Strategies to Combat the Psychological Impact of Coronavirus Disease 2019 (COVID-19) Beyond Paranoia and Panic. Ann Acad Med Singap. 2020; 49: 155-160 [PMID: 32200399].

[36] Jakovljevic M, Bjedov S, Jaksic N, Jakovljevic I. COVID-19 pandemia and public and global mental health from the perspective of global health security. Psychiatr Danub. 2020; 32, 6-14 [PMID: 32303023 DOI: 10.24869/psyd.2020.6].

[37] Li W, Yang Y, Liu Z-H, Zhao Y-J, Zhang Q, Zhang L, et al. Progression of mental health services during the COVID-19 outbreak in China. Int. J. Biol. Sci. 2020; 16: 1732-1738 [PMID: 32226291 DOI: 10.7150/ijbs.45120].

[38] Marčinko D, Jakovljevic M, Jaksic N, Bjedov S, Drakulic AM. The importance of psychodynamic approach during COVID-19 pandemic Psychiatr Danub. 2020; 32: 15-21 [PMID: 32303024 DOI: 10.24869/psyd.2020.15].

[39] Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. Int. J. Environ. Res. Public Health. 2020; 17: 1729 [PMID: 32155789 DOI: 10.3390/ijerph17051729].

[40] Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Netw Open. 2020; 3: e203976 [PMID: 32202646 DOI: 10.1001/jamanetworkopen.2020.3976].

[41] Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. BMJ. 2020; 368: m1211 [PMID: 32217624 DOI: 10.1136/bmj.m1211].

[42] Chen Q, Liang M, Li Y, Guo J, Fei D, Wang L, et al. Mental health care for medical staff in China during the COVID-19 outbreak. Lancet Psychiatry. 2020; 7: e15–e16 [PMCID: PMC7129426 DOI: 10.1016/S2215-0366(20)30078-X].

[43] Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. Lancet Psychiatr. 2020;

7: e14 [PMID: 32035030 DOI: 10.1016/S2215-0366(20)30047-X].

[44] Ornell F, Schuch JB, Sordi AO, Kessler FH. Pandemic fear and COVID-19: mental health burden and strategies. Braz J Psychiat. 2020; 42: 232-235 [PMID: 32267343 DOI: 10.1590/1516-4446-2020-0008].

[45] Duan L, Zhun G. Psychological interventions for people affected by the COVID-19 epidemic. Lancet Psych. 2020; 7: 300-302 [PMID: 32085840 DOI: 10.1016/S2215-0366(20)30073-0].

[46] Li S, Wang Y, Xue J, Zhao N, Zhu T. The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. Int. J. Environ. Res. Public Health 2020; 17 (6): 2032 [PMID: 32204411 DOI: 10.3390/ijerph17062032].

[47] Liu S, Yang L, Zhang C, Xiang Y-T, Liu Z, Hu S, et al. Online mental health services in China during the COVID-19 outbreak. Lancet Psychiatry. 2020; 7: e17-e18 [PMID: 32085841 DOI: 10.1016/S2215-0366(20)30077-8].

[48] Word Health Organization – WHO. Infection prevention and control guidance for Long-Term Care Facilities in the context of COVID-19. 2020c. Available at: https://apps.who.int/iris/handle/10665/331508 (accessed 24 April 2020).