Mental health outcomes of the CoViD-19 pandemic

**Gli esiti di salute mentale della pandemia di CoViD-19**

**SUMMARY.** The coronavirus disease 2019 (CoViD-19) caused by the novel Coronavirus strain SARS-CoV-2 is currently a pandemic. On January 30, 2020, the World Health Organization declared that the CoViD-19 outbreak is a public health emergency of international concern. The virus has already had a direct impact on the physical health of millions of people, and besides, it is supposed to pose a mental health threat of great magnitude globally. This review aims at synthesizing mounting evidence concerning the immediate psychological responses during the initial stage of the CoViD-19 pandemic among the general population, the health-care workers, and clinical populations. Experts point out the need to pay specific attention to other groups at risk of further distress that may need tailored interventions. Providing psychological first aid is an essential care component for populations that have been victims of emergencies and disasters, before, during and after the event. With the aim of dealing better with the urgent psychological problems of people involved in the CoViD-19 pandemic, a new psychological crisis intervention model is needed. Given the recommendation to minimize face-to-face interaction, online mental health services have been widely adopted in China and are urged in other countries.

**KEY WORDS:** CoViD-19, pandemic, mental health, psychological impact, stress, anxiety, depression.

**INTRODUCTION**

The novel coronavirus disease pandemic originated from Wuhan, China, at the end of 2019 and has now rapidly spread over the world. The CoronaVirus Disease 2019 (CoViD-19) outbreak was declared a public health emergency of international concern on Jan 30, 2020, by the World Health Organization (WHO). Clinical features of CoViD-19 range from asymptomatic state to severe acute respiratory distress syndrome and multi organ dysfunction. CoViD-19 not only threatens physical health: global public health and social systems are collapsing under coronavirus spread. Intensive care units are completely overwhelmed in some countries. Extremely strict pandemic prevention measures, the mandatory closure of schools and the suspension of all nonessential productions and commercial activities are seriously affecting people daily life, working activity, and putting economic organizations in danger. Regardless of whether it succeeds in controlling the outbreak, the widespread contagion and lockdown will inevitably have a psychological effect. These effects might represent the mental health outcomes for people affected by CoViD-19 or be associated with the prevention measures and the socio-economic impact for the general population. Furthermore, specific populations like the elderly, the children and the health-care workers might report different level of psychological distress. Experts point out the need to pay specific attention to other groups at risk of further distress that may need tailored interventions, such as people with preexisting psychiatric conditions, pregnant women, persons in detention, international migrant workers, and international students.
Therefore, in addition to efforts at various levels to prevent the spread of the disease and other worrisome conditions, the psychological crisis intervention must be part of the public health response to the CoViD-19 outbreak. With the aim of dealing better with the urgent psychological problems of people involved in the CoViD-19 pandemic, a new psychological crisis intervention model is needed. Given the recommendation to minimize face-to-face interaction, online mental health services have been widely adopted in China and are urged in other countries.

To sum up, the mental health outcomes associated with a pandemic represent a complex and multi-layered issue. Past literature reports that pandemic and measures to prevent it affect mental health of those who undergo them. Timely research reports concerning CoViD-19 outbreak are already reporting a substantial psychological impact of both the outbreak and the response, suggesting that the population may express high levels of psychopathological symptoms.

Given the developing situation with coronavirus, evidence synthesis about mental health outcomes is needed to produce guidance for the health care institutions and the public.

The aim of this review is to summarize relevant literature about the psychological impact of the CoViD-19 pandemic in the affected populations. Potential critical implications for management of mental health outcomes will be discussed. Further, critical issues for future research will be suggested.

THE PSYCHOLOGICAL IMPACT OF A PANDEMIC AND ITS RESTRICTIVE MEASURES

Pandemics and epidemics have always been an essential part of human history and only in the last century, the Spanish flu (1918-1920), the Asian flu (1956-1957), the Severe acute respiratory syndrome (SARS, 2002-2003), the “Swine” flu (2009), the Ebola (2013-2014) and others affected people worldwide.

Several researches with different study design were conducted in the past with the aim to assess the psychological symptoms arising from these and other pandemics/epidemics. Literature suggests that restrictive measures such as quarantine, isolation, and social distancing, have an impact on psychological wellbeing of people as well as emotive reactions to pandemic itself. Nevertheless, methodological drawbacks and heterogeneity of studies could limit generalizability and conclusions of the impact of such sequelae.

Psychological reactions to pandemics include maladaptive behaviours, emotional distress and defensive responses; anxiety, fear, frustration, loneliness, anger, boredom, depression, stress, avoidance behaviors. A peculiar syndrome known as “headline stress disorder” can be observed during modern pandemics: it is characterized by high emotional response, as stress and anxiety, to endless reports from the news media, that may cause physical symptoms including palpitation and insomnia; further progression to physical and mental disorders is possible.

SARS survivors (i.e., non-health care workers and health care workers) had higher stress levels during the outbreak compared with control subjects. One year after, they not only had elevated stress levels, but also high levels of depression, anxiety, and posttraumatic symptoms, and psychiatric morbidity. Health care workers had higher levels of stress and psychological distress than non-health care workers survivors. General population reported negative affects in response to quarantine: fear, nervousness, sadness, guilt, confusion, anger, numbness, and anxiety-induced insomnia. Studies of hospital staff found that having been quarantined was the most predictive factor of acute stress disorder or of posttraumatic stress symptoms even three years later. Another study found that health-care workers who had been quarantined had more severe symptoms of posttraumatic stress than members of the general public who had been quarantined; moreover, health-care workers also felt greater stigmatization, exhibited more avoidance behaviours after quarantine, reported greater lost income, and were consistently more affected psychologically. They were also substantially more likely to think they had SARS and to be concerned about infecting others. Studies on long-term effects found that three years after the SARS pandemics, alcohol abuse or dependency symptoms were positively associated with having been quarantined in health-care workers.

During the 2009 H1N1 influenza outbreak (“swine flu”), avoidance behaviours, high levels of anxiety and worries about the infection were estimated among general populations and hospital staff with large regional differences. Family members of patients showed elevated levels of perceived stress and depression, compared to a control population, and moderate levels of death anxiety. A study of mental health patients found that children and patients with neu-rotic and somatoform disorders were significantly over-represented among those expressing moderate or severe concerns about swine flu concerns.

Since 2012, an outbreak of Middle East respiratory syndrome (MERS) has affected several countries, primarily in its namesake, the Middle East. Studies on the psychological impact confirmed higher levels of anxiety, worries, social avoidance behaviours in the general population. MERS survivors of critical illness reported lower quality of life than survivors of less severe illness, showed psychiatric symptoms and received a psychiatric diagnosis and medication during their hospital stay. Stress, depression and stigma in front-line health care workers, and anxiety and anger in quarantined people having a history of mental disorder were found as well.

Researches on the psychological response to quarantine during Ebola outbreak confirmed previous findings; people reported fear, anger and anxiety-induced insomnia. Stigma from the others were found to be a major issue. Depression, anxiety and post-traumatic stress were common sequelae in Ebola survivors. Front-line health care providers reported profound sense of stigmatization, suffering, loneliness, isolation and sadness. Psychological distress, alcohol/drug misuse, post-traumatic stress disorder, depression, anxiety and insomnia were also found in military populations deployed in the emergency in West Africa.

SEARCH STRATEGY AND SELECTION CRITERIA

We searched MEDLINE, PsycINFO, and Web of Science through the combination of terms relating to CoViD-19 (eg, “coronavirus” and “CoRonaViRus Disease 19”), restrictive measures (eg, “quarantine”, “isolation” and “social distancing”), psychological outcomes (eg, “psych”, “depression”, and
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“stress”), and guidelines (eg, “guide” and “managing”). In this review, we included only original researches. The studies had to be published in peer-reviewed journals or be available as preprints, be written in English or Chinese and included data on mental illness or psychological wellbeing, or on factors associated with mental illness or psychological wellbeing (i.e., any predictors of psychological wellbeing). The initial search took place from March 28 to April 3, 2020 and yielded 104 papers, of which 15 showed relevant data and were included in this Review. The characteristics of studies that met our inclusion criteria are presented in the tables (Table 1, Table 2 and Table 3).

MENTAL HEALTH OUTCOMES ASSOCIATED WITH THE COVID-19 PANDEMIC

Non-clinical populations

Among the papers included in this review, six were primary researches focused on mental health of general populations (Table 1). All of them were online surveys on Chinese population with a cross-sectional design22,45-49. Convenience and snowball sampling strategy were used22,49. Four studies leveraged an online openly accessible platform to invite people to complete questionnaires22,46-48, one study used a mobile phone app-based questionnaire and phone interviews49, and the other study sampled and analyzed the Weibo posts from active Weibo users, using the approach of Online Ecological Recognition (OER)45. Most of the studies started after the WHO declaration of the CoVid-19 outbreak as a public health emergency of international concern (30 January)22,46-48. The studies investigated the emotive reactions of the last 746,49, 14 days22, or last month45; data collection took place from few days22, 46,47,49 to two weeks on average45.

Another cross-sectional study investigated the mental health status of the subpopulation of medical students from a college in the Hubei province50. The respondents in the target population were sampled by cluster sampling. The applied procedures have not been further described. Globally, findings showed that the most of Chinese people, from 7% to 53.8%, experienced psychological distress during the initial stage of the CoVid-19 outbreak22,45-47,49. A range of negative psychological responses were identified: besides anxiety, depression, and stress, which were the most explored conditions22,46-50, insomnia46, indignation45, worries about their

Table 1. Original researches on general population.

<table>
<thead>
<tr>
<th>Country</th>
<th>Design</th>
<th>Population</th>
<th>Period</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li et al.10</td>
<td>China Online Ecological Recognition (OER)</td>
<td>17,865 active Weibo users</td>
<td>From 13 January to 26 January 2020</td>
<td>Emotional indicators (e.g., anxiety, depression, indignation, and Oxford happiness); cognitive indicators (e.g., social risk judgment and life satisfaction)</td>
</tr>
<tr>
<td>Zhang &amp; Ma 49</td>
<td>China Cross-sectional (mobile phone app-based and phone interviews)</td>
<td>263 individuals</td>
<td>From 28 January to 5 February 2020</td>
<td>Impact of Event Scale (IES)</td>
</tr>
<tr>
<td>Liu et al. 46</td>
<td>China Cross-sectional (online survey)</td>
<td>285 residents in Wuhan and surrounding cities</td>
<td>From 30 January to 8 February 2020</td>
<td>PTSD Checklist for DSM-5 (PCL-5); items from the Pittsburgh Sleep Quality Index (PSQI)</td>
</tr>
<tr>
<td>Qiu et al. 47</td>
<td>China Cross-sectional (online survey)</td>
<td>52,730 individuals</td>
<td>From 31 January 2020</td>
<td>Covid-19 Peritraumatic Distress Index (CPDI)</td>
</tr>
<tr>
<td>Wang et al. 22</td>
<td>China Cross-sectional (online survey)</td>
<td>1210 individuals</td>
<td>From 31 January to 2 February 2020</td>
<td>Impact of Event Scale-Revised (IES-R); Depression, Anxiety and Stress Scale (DASS-21)</td>
</tr>
<tr>
<td>Wang et al. 48</td>
<td>China Cross-sectional (online survey)</td>
<td>600 individuals</td>
<td>From 6 February to 9 February 2020</td>
<td>Self-Rating Anxiety Scale (SAS); Self-Rating Depression Scale (SDS)</td>
</tr>
<tr>
<td>Cao et al. 50</td>
<td>China Cross-sectional</td>
<td>7143 medical students living in Hubei province</td>
<td>Not specified</td>
<td>Generalized Anxiety Disorder Scale (GAD-7)</td>
</tr>
</tbody>
</table>
own health and family45, sensitivity to social risks45, life dissatisfaction45, phobias47, avoidance47, compulsive behaviour47, physical symptoms22,47, and social functioning impairment47 were explored as well. The levels of stress22,47,49, anxiety22 and depression22 ranged from mild to moderate-severe. In the college student’s population, rates of mild, moderate, and severe anxiety were 21.3%, 2.7%, and 0.9%, respectively50. Only one study found that people were psychologically stable, with just the 6.33% and 17.17% of the participant reporting respective-ly anxiety and depression48. With regard to factors associated with higher level of psychological distress, consistent findings were shown, except for education level: female gender22,46-48.

Table 2. Original researches on health-care workers.

<table>
<thead>
<tr>
<th>Country</th>
<th>Design</th>
<th>Population</th>
<th>Period</th>
<th>Measures</th>
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</thead>
<tbody>
<tr>
<td>Lai et al.51</td>
<td>China</td>
<td>Cross-sectional</td>
<td>1257 health-care workers: 493 physicians and 764 nurses</td>
<td>From 29 January to 3 February 2020</td>
</tr>
<tr>
<td>Kang et al.53</td>
<td>China</td>
<td>Cross-sectional (online survey)</td>
<td>994 health-care professionals working in Wuhan: 183 doctors and 811 nurses</td>
<td>From 29 January to 4 February 2020</td>
</tr>
<tr>
<td>Huang et al.52</td>
<td>China</td>
<td>Cross-sectional</td>
<td>230 health-care professionals working in a tertiary infectious disease hospital: 70 doctors and 160 nurses</td>
<td>From 7 February to 14 February 2020</td>
</tr>
<tr>
<td>Li et al.54</td>
<td>China</td>
<td>Cross-sectional (mobile phone app-based)</td>
<td>740 individuals: 214 general public, 234 front-line nurses and 292 non-front-line nurses</td>
<td>From 17 February to 21 February 2020</td>
</tr>
<tr>
<td>Cao et al.55</td>
<td>China</td>
<td>qualitative-quantitative – letter to the Editor</td>
<td>37 health-care professionals working in a fever clinic for CoVID-19: 16 doctors, 19 nurses and 2 clinical technicians</td>
<td>February 2020</td>
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Table 3. Original researches on patients with CoVID-19.

<table>
<thead>
<tr>
<th>Country</th>
<th>Design</th>
<th>Population</th>
<th>Period</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Zhao et al.56</td>
<td>China</td>
<td>Cross-sectional (online survey)</td>
<td>106 CoVID-19 patients during isolation treatment from Tongji Hospital in Wuhan</td>
<td>From 2 February to 16 February 2020</td>
</tr>
<tr>
<td>Nguyen et al.57</td>
<td>Vietnam</td>
<td>Cross-sectional</td>
<td>3947 outpatients from departments of nine hospitals and health centers across Vietnam: 1387 with suspected CoVID-19 and 2560 without suspected CoVID-19</td>
<td>From 14 February to 2 March 2020</td>
</tr>
<tr>
<td>Bo et al.58</td>
<td>China</td>
<td>Cross-sectional (online survey)</td>
<td>714 clinically stable CoVID-19 patients prior to their discharge from “Fang Cang” hospitals in Wuhan</td>
<td>March 2020</td>
</tr>
</tbody>
</table>
young adults (aged 18-40) experienced a major negative impact. Occupation (e.g. migrant workers, student status), place of residence (hit hardest or not by epidemics), specific physical symptoms, poor self-rated health status, and having relatives or acquaintances infected with CoViD-19 were also suggested as risk factors. High and low education level were both found as risk factors for negative psychological outcomes.

Although the above-mentioned findings are consistent with previous literature, they should be interpreted carefully given the inherent methodological shortcomings of these studies: study design, sampling methods, the use of self-report questionnaires or not validated questionnaires, and machine-learning predictive models may have biased results to some extent.

**Health-care workers**

Previous literature showed that health-care providers are at particular risk of negative psychological impact during pandemics, especially if they were front-line workers.

To date, five original researches on the psychological conditions of health-care workers during CoViD-19 pandemics have been published (Tab. 2). One study has been published as a “Letter to the Editor”. They were all carried out in China over six consecutive days on average, in a period ranging from the end of January to the end of February.

As the studies on the general public, these researches were all cross-sectional, though some differences in methods exist (Table 2). Moreover, the variables explored were not the same. In fact, four studies explored the mental health outcomes among health-care workers exposed to CoViD-19, that is, anxiety, depression and psychological distress, whereas the fifth study compared the severity of vicarious traumatization in front-line nurses, non-front-line nurses, and the general public.

Lai et al. recently published a well-designed hospital-based survey, conducted via a region-stratified, 2-stage cluster sampling. Samples were stratified by their geographic location. Since Wuhan was most severely affected, more hospitals of the city were sampled. Then, one clinical department was randomly sampled from each selected hospital. Both secondary and tertiary hospitals were involved. The target sample size of participants was mathematically determined before starting the survey. The final sample consisted of 1257 respondents (response rate=68.7%), 493 medical doctors and 764 nurses, who completed well-known, internationally validated questionnaires. Another research was published in Chinese language. It involved 230 members of medical staff, 70 doctors and 160 nurses, in a tertiary infectious disease hospital for CoViD-19 of Fuyang, next to Wuhan (response rate= 93.5%). They were enrolled using a cluster sampling and were asked to complete two Chinese questionnaires. The method of administration of the questionnaires was not specified in both researches, albeit a web-based method is hinted.

Kang et al. conducted a study using an online survey tool. The sample included 183 medical doctors and 811 nurses (N=994). A total of 31.1% worked in high-risk departments in Wuhan. Cao et al. made qualitative and quantitative evaluations on health-care providers working in a 24-h fever clinic set up in an Emergency Department, in the framework of the psychological support provided through a hotline service. Interviews were conducted whenever the medical workers were free. Each medical worker was interviewed several times during their 2- to 3-week work rotation. The research on vicarious traumatization was a mobile phone app-based questionnaire survey. 214 general public and 526 nurses (i.e., 234 front-line nurses and 292 non-front-line nurses), were enrolled and assessed by the Chinese version of the vicarious traumatization evaluation scale.

Findings showed that health-care workers have been exposed to high levels of stressful or traumatic events and expressed substantial negative mental health outcomes, including stress-related symptoms, depression, anxiety, and insomnia. Depressive rate was of 50.4%, anxiety rate ranged from 23.04% to 44.6%, insomnia rate was of 34.0%, and stress rate ranged from 27.39% to 71.5%. Most of health-care workers suffered from mild-moderate disturbances.

Patients affected by CoViD-19

Previous researches focusing on pandemics confirmed that individuals who have experienced public health emergencies reported varying degrees of psychological disorders. Hence, the outbreak of the CoViD-19 is supposed to cause huge psychological problems and psychiatric morbidities in the sub-population of patients with confirmed and suspected infections. It is hypothesized that patients affected by CoViD-19 may experience psychopathological symptoms due to several reasons: clinical symptoms or disease progression, medication side effects, perceived danger, fear of virus transmission to others or social isolation, uncertainty, physical discomfort, and overwhelming negative news portrayal in mass media.
At present, the mental health problems of the patients infected with CoViD-19 have been reported in three cross-sectional studies (Table 3), of which two were carried out in Wuhan, China\textsuperscript{56-58}, and the other in Vietnam\textsuperscript{57}. The observation period was 14 days on average. These researches were heterogeneous in methods: Bo et al.\textsuperscript{56} made an online assessment of stress symptoms and patients' attitude toward crisis mental health services as part of the crisis psychological interventions for clinically stable CoViD-19 patients; Zhao et al.\textsuperscript{56} recruited CoViD-19 patients during isolation treatment through an online questionnaire measuring anxiety, depression and somatic symptoms, whereas the Vietnamese study\textsuperscript{57} enrolled CoViD-19 and no-CoViD-19 outpatients and interviewed them using printed questionnaires on depression and related factors.

Findings suggest that the psychological impact on CoViD-19 patients is relevant: the 96.2\% of clinically stable patients reported significant post-traumatic stress symptoms prior to discharge\textsuperscript{56}, likely leading to lower quality of life and impaired working performance. The remarkable prevalence of stress could be attributed to the particular illness phases (i.e., clinically stable CoViD-19 inpatients). Only half of the patients hold positive attitudes towards crisis mental health services\textsuperscript{56}; this result could be due to the difficulties of specific patients (i.e., older patients) in accessing online mental health services. Nearly 50\% of people diagnosed with CoViD-19 in the other Chinese study\textsuperscript{56} had depressive symptoms, over 55\% had anxiety and almost 70\% had somatic symptoms. Among these patients, 9\%, 15\% and 21\% were severe cases, respectively. Patients who were married and nucleic-acid-positive had more severe depression than their counterparts, whereas patients who were married and nucleic-acid-negative had more somatic symptoms\textsuperscript{56}. In this study people reported also insomnia (67.92\%) and self-mutilating or suicidal thoughts (25\%). The Vietnamese study\textsuperscript{57} found that out of all participants, 7.4\% were depressed: the prevalence of depression was significantly higher in people with CoViD-19 (64.3\%) than in people non-affected (35.7\%). The health-related quality of life score was significantly lower in the people with CoViD-19. Some demographic data were associated with higher degree of depression\textsuperscript{57}, such as older age (i.e., 60 years old or above), comorbidities, lower education attainment, lower physical activity. Health literacy was found to be a protective factor for improving depression and health-related quality of life during the CoViD-19 epidemic\textsuperscript{57}.

Findings in these studies should be interpreted carefully given their inherent methodological shortcomings.

Patients with mental disorders

Up until now, no observational studies aiming at exploring the psychological impact of the CoViD-19 pandemic of the patients with mental disorders were conducted.

There is a need for research on this field since this population is a vulnerable group for several reasons\textsuperscript{10}. First, even in normal conditions, people with established mental illness have a lower life expectancy and poorer physical health outcomes than the general population\textsuperscript{58}. When epidemics arise, these people are generally more susceptible to infections due to cognitive impairment, little awareness of risk, and diminished efforts regarding personal protection\textsuperscript{59}. Second, they can be exposed to more barriers in accessing timely health services, because of discrimination associated with mental ill-health in health-care settings\textsuperscript{60}. Additionally, mental health disorder comorbidities to CoViD-19 will make the treatment more challenging and potentially less effective\textsuperscript{60}. Third, people with mental health conditions could be more substantially influenced by the emotional responses brought on by the CoViD-19 pandemic, resulting in relapses or worsening of an already existing mental health condition because of high susceptibility to stress compared with the general population\textsuperscript{60}. Compared with patients from other departments, psychiatric patients encountered more barriers and problems\textsuperscript{10}. For instance, they were often confined to crowded living conditions in hospitals where they share common dining and bathroom spaces; their family visiting was cancelled due to fear of transmission of the novel coronavirus; smartphones and other electronic equipment were not permitted in the ward and no online information was made available\textsuperscript{10}.

As a result, they might be at increased risk of infection with CoViD-19, increased risk of having problems accessing testing and treatment, and increased risk of negative physical and psychological effects stemming from the pandemic\textsuperscript{59}.

Evidence derived from scientific research could represent a valid support for mental health-care workers and authorities to offer effective, tailored and timely psychological services for psychiatric patients.

CONCLUSIONS AND FUTURE DIRECTIONS

Taken together, evidence accumulated so far confirms that the on-going CoViD-19 pandemic is having a huge psychological impact on individuals. People experienced considerable psychological distress during the initial stage of the CoViD-19 outbreak in terms of anxiety, depression and post-traumatic symptoms. Globally, findings were relatively consistent in terms of severity: most of individuals suffered from mild-moderate disturbances, whereas subjects reporting severe symptoms were a minority. Conversely, the observed prevalence was not homogeneous: this inconsistence could be due, among other things, to differences in methodology, in administered assessment tools or examined populations. Some categories have proven to be more vulnerable, that is, health workers and patients affected by CoViD-19. Furthermore, some variables were associated with higher psychological impact, such as female gender and young age. Preliminary findings from our research project are in line with the Chinese studies. We found high rates of negative mental health outcomes, including post-traumatic stress symptoms and anxiety, in the Italian general population\textsuperscript{61} and in health-care professionals\textsuperscript{62} three weeks into the CoViD-19 lockdown measures, associated with different CoViD-19 related risk factors: female gender and younger age were associated with higher risk for mental health outcomes.

These findings support the notion that public mental health interventions should be formally integrated into public health preparedness and emergency response plans. Xiang et al.\textsuperscript{15} suggested three important steps: institution of multidisciplinary mental health teams, clear communication with appropriate updates about the CoViD-19 outbreak, and establishment of secure services to provide psychological
counseling though telemedicine (e.g., electronic devices, application, online mental health services), with improved access for disadvantaged people like older adults or psychiatric patients. Particular effort must be directed to vulnerable populations with the provision of targeted psychological interventions. For example, health workers could benefit from a continuous monitoring of psychological status, from a pre-job training on how to relax properly and on how to deal with uncooperative patients, or from the presence in hospitals of a place for rest where temporarily isolate themselves from their family if they get infected. As regards people affected by CoVID-19, interventions should be based on a comprehensive assessment of risk factors leading to psychological issues, including poor mental health before a crisis, bereavement, injury to self or family members, life-threatening Committee recommending the outbreak of novel coronavirus (2019-nCoV) in Japan: mental health consequences and targeted populations. Psychiatry Clin Neurosci 2020; 74: 281-2.


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REFERENCES


Riv Psichiatr 2020; 55(3): 137-144

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37. Um DH, Kim JS, Lee HW, Lee SH. Psychological effects on medical doctors from the Middle East Respiratory Syndrome (MERS) outbreak: a comparison of whether they worked at the MERS hospitals or not, and whether they participated in MERS diagnosis and treatment. J Korean Neuropsychiatr Assoc 2017; 56: 28-34.