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Mental health problems in COVID-19 and the need for reliable data | Viewpoint

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Abstract: The effects of the coronavirus disease 2019 (COVID-19) pandemic on both physical and mental health are significant. While preventive measures against the spread of the novel coronavirus and the treatment of people with COVID-19 has been in the focus of health systems worldwide, the need for mental health care for patients and health professionals affected by the pandemic has been less well addressed. Mental health problems associated with the pandemic include the possibility of delirium in the acute stage of COVID-19, while depression, anxiety, fatigue and post-traumatic stress disorder may be found in the longer term. People with severe mental illness are at high risk during the COVID-19 pandemic and may be among the most vulnerable populations. In addition to an exacerbation of their mental condition, these individuals may show an increased susceptibility to COVID-19 infection and increased mortality rates, due primarily to high rates of overweight, obesity, smoking and bad diet. COVID-19 related mental health problems are not confined to those infected with the virus. Measures taken to slow the spread of the virus, such as physical distancing and business and school closures, which lead to greater isolation and potential financial distress, may result in disturbances of mental health in non-infected people. Social isolation and the uncertainties surrounding the novel coronavirus may lead to loneliness, despair, anxiety and depressive thoughts. As a consequence, psychiatric symptoms may emerge in individuals with no history of mental disorders, and pre-existing mental conditions may worsen.

Given previous experiences with large-scale disasters and the SARS epidemic of 2003, the COVID-19 pandemic is likely to increase the prevalence of anxiety, depression, substance use, self-harm and domestic violence in the general population. Moreover, school closures may result in an increase in child abuse. At present, there is no epidemiological data on either the psychiatric morbidity of those diagnosed with COVID-19 or mental health problems of their health care providers. Data on the mental health effects related to the pandemic in the general population is also lacking.

Public mental health interventions are needed during the COVID-19 pandemic in order to address the anticipated increases in the prevalence of mental disorders and poor mental health across populations. In this context, systematic information on the immediate psychosocial problems caused by the pandemic is important. Reliable data will also be required to measure the growing effects of COVID-19 on mental health and substance use. The increase in the need for mental health services may become a long-term issue even though new cases and deaths due to COVID-19 are declining.

In summary, the implications of the COVID-19 pandemic for mental health call for a greater focus on the needs of those with mental disorders and on mental health issues affecting health care workers and the general population. However, little is known concerning the nature, extent, duration and distribution of the effects of the COVID-19 pandemic on mental health. The need to collect high-quality data on the mental health effects of COVID-19 on both vulnerable groups and whole populations is therefore pressing. Longitudinal data will be needed to track the prevalence of mental health problems and the associated need for treatment and public health measures. Reliable information, which can be gained only by random sampling from the entire population, is needed in order to reduce the risk of bias and erroneous conclusions and to avoid potentially damaging interventions.

Keywords: COVID-19; mental health; psychiatric disorders; prevention; public health.

In December 2019, a previously unknown coronavirus, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged, causing the novel infectious coronavirus disease 2019 (COVID-19). Typical symptoms of COVID-19 include cough, fever, respiratory problems and gastrointestinal symptoms and, in severe cases, atypical pneumonia [1]. SARS-CoV-2 might also infect the brain or cause immune responses that could adversely affect brain function and mental health. Little is known about the effect of SARS-CoV-2 infection on the human nervous system. As is the case with other coronaviruses causing severe acute respiratory syndromes, SARS-CoV-2 is likely to be biologically neurotropic and clinically neurotoxic [2]. Neurological manifestations that have been found to be associated with COVID-19 include loss of smell (hyposmia/anosmia), loss of taste (ageusia), encephalitis, meningitis, acute cerebrovascular disease and Guillain-Barré syndrome [3,4]. The analysis of the available data for COVID-19 showed confusion and agitation in intensive care unit patients and a dysexecutive syndrome at discharge [5].

Previous outbreaks of respiratory syndromes caused by other coronaviruses closely related to SARS-CoV-2, i.e. the severe acute respiratory syndrome (SARS) in 2002–2004 and Middle East respiratory syndrome (MERS) in 2015, were found to be associated with psychiatric and neuropsychiatric presentations. In the early phase of the SARS outbreak, psychiatric morbidities observed included persistent depression, anxiety, panic attacks, psycho-motor excitement, psychotic symptoms and delirium [6,7]. A systematic review of the available literature revealed that during the acute illness, common symptoms among people admitted to hospital for SARS or MERS included confusion, depressed mood, anxiety, impaired memory and insomnia. In the post-illness stage, depression, insomnia, anxiety, irritability, memory impairment, fatigue, sleep disorder and post-traumatic stress disorder were frequently reported [5]. If COVID-19 follows a similar course to that of infection with the SARS or MERS coronaviruses, most patients should recover without experiencing mental illness. However, in the acute stage of COVID-19, delirium may occur in a significant proportion of patients and depression, anxiety, fatigue and post-traumatic stress disorder may be found in the longer term. Mental disorder comorbidities in COVID-19 patients are likely to make the treatment more challenging and potentially less effective [8].

The COVID-19 pandemic can be expected to have adverse effects on people with mental illness and on the mental health of entire populations. These effects may be exacerbated by fear, physical distancing and self-isolation [9]. Large-scale natural, environmental or traumatic disasters are almost always accompanied by increased rates of depression, post-traumatic stress disorder and substance use disorder; domestic violence and child abuse are also commonly seen [10]. Increases in psychological distress and post-traumatic stress disorder in both patients and clinicians were observed following the outbreak of the SARS epidemic of 2003 [11]. Increases in anxiety, depression, substance use and domestic violence may also be anticipated during the COVID-19 pandemic.

Mental health problems associated with COVID-19 may affect not only infected individuals but also non-infected people faced with physical distancing measures, such as quarantine, self-isolation or business and school closures. A survey performed in the United Kingdom revealed that, in the general population, a wide range of issues relating to the social and psychological aspects of the COVID-19 pandemic were of greater concern than the prospect of infection with the virus [12]. The issues raising concern included the effects of physical distancing and social isolation on wellbeing, elevated levels of anxiety, depression and stress as well as other implications of measures taken to curb the pandemic, such as loss of employment or financial problems.

The implementation of strict quarantine measures in China at the beginning of 2020 affected many aspects of people's lives. A first large-scale nationwide survey of psychological distress in the general population of China during the COVID-19 epidemic reported a wide variety of psychological problems, such as panic disorder, anxiety and depression [13]. Almost doubled rates of anxiety and depression were reported for adults from the general population affected by quarantine [14]. Population groups especially affected by the pandemic include, among others, adults with children at home, struggling to cope with work and home-schooling, and students facing economic uncertainty. Increased physical and sexual abuse of children and adolescents may occur due to school closures, and this may lead to increased suicide rates. However, school closures may also reduce academic pressure and social problems, such as bullying and peer conflicts. This may improve the mental wellbeing of some vulnerable children and could possibly decrease

suicidality. For example, reduced suicide rates during lockdown measures have been reported in Germany, The Netherlands, Japan and New Zealand [15–18].

Mental health problems associated with the pandemic appear to be increasing rapidly. The results of the Household Pulse Survey published by the U.S. Census Bureau in May 2020 found a spike in symptoms of anxiety and depression since late April, with a third of Americans reporting clinically significant symptoms during the COVID-19 pandemic [19]. In the first three months of 2019, only 11% of Americans had reported these symptoms in a similar survey.

The COVID-19 pandemic may have profound and enduring effects on mental health. Pandemics are commonly associated with an increased risk of poor mental wellbeing and mental disorders [20]. This increase is likely to be mediated by the effects of the pandemic on a wide range of risk factors, including social factors, physical distancing, quarantine, unemployment, socio-economic inequalities and poverty. In addition to the potentially fatal outcome of infection with the novel coronavirus, deaths may result from the impact of the pandemic on mental health. Recent projections have suggested that by 2029 between 27,000 and 154,000 additional deaths due to mental health issues related to the economic consequences of COVID-19, mainly alcohol and drug misuse and suicide, may occur in the United States [21]. Several factors exacerbate these “deaths of despair”: unprecedented economic failure paired with massive unemployment, mandated social isolation for months and possible residual isolation for years, and uncertainty caused by the sudden emergence of a previously unknown microbe [21].

While physical distancing may be critically important in mitigating the spread of SARS-CoV-2, it is likely to have both short- and long-term consequences for wellbeing and mental health. Prolonged loneliness is a major determinant of health [22], carrying an elevated risk of premature death [23]. Complications of loneliness may include self-harm, suicidality and substance use. Social isolation and loneliness of extended duration in elderly adults have been shown to increase the risk of depression, suicide and dementia [24]. Increased loneliness in mid-to-late life appears to be associated with elevated levels of various stress markers, and the resulting neuroendocrine effects may accelerate hippocampal neurodegeneration and thus cognitive decline [25]. During the COVID-19 pandemic, physical distancing and confinement to indoor spaces during economic lockdowns may also be associated with an increase in the prevalence of depression and suicidality among all age groups [26,27].

The global spread of COVID-19 can be expected to affect mental health at the population level, with individuals suffering from pre-existing mental disorders particularly likely to be affected. Those with severe mental illness may be among the most vulnerable populations affected by the pandemic [28]. During epidemics, people with mental health disorders are generally more susceptible to infections, including pneumonia [29]. Observations in 50 psychiatric in-patients with COVID-19 in Wuhan help to shed light on the role of mental disorders in the transmission of SARS-CoV-2 [30]. People with severe mental illness would be predicted to show increased COVID-19 infection and mortality rates, given that their life expectancy is reduced by 15–20 years compared to the general population [31]. The decrease in life expectancy is due mainly to high rates of overweight, obesity, diabetes and a relatively bad diet [32–34], which are thought to be risk factors of infection and a poor outcome of COVID-19 [35–37]. Other factors include cognitive impairment and a poorer appreciation of risks in people with mental disorders. Such people may also experience more difficulty in seeking and receiving timely mental health services. Furthermore, effective treatment may be more challenging in people with mental health disorders infected with COVID-19 [8].

Health professionals involved in caring for COVID-19 patients are vulnerable to a high risk of both infection and mental health problems. For example, health professionals and carers who worked in SARS units and hospitals during the SARS outbreak experienced post-traumatic stress symptoms, anxiety, depression and frustration [6,38,39].

The mental health effects of COVID-19 may shape population health for many years to come. The current efforts to mitigate the short-term effects of COVID-19 and to save lives are necessary. However, focusing on the long-term mental health consequences may be at least equally important. The accumulation and dissemination of accurate and reliable information on COVID-19 is therefore urgently needed [40]. The implementation of timely mental health services providing assessment, support and treatment are major goals in the COVID-19 pandemic [41]. Furthermore, special care should be provided for children, the elderly and people at risk of mental health problems, such as those with pre-existing psychiatric conditions.

The global threat of the COVID-19 pandemic to both physical and mental health offers an opportunity to advance our understanding of how best to provide prevention-focused, population-level psychological first aid and mental health care [42]. Public mental health challenges related to the COVID-19 pandemic include (1) a decrease in mental wellbeing and an increase in mental disorders across populations, (2) the protection of those with mental disorders from COVID-19 and the associated consequences and (3) the psychological needs of health professionals and caregivers [20]. It is therefore important to assess the necessity, extent and cost of public mental health interventions in COVID-19. This involves the identification of appropriate interventions and the estimation of the impact of these measures [43].

In summary (see also Table 1), the type, extent and duration of effects on mental health of the COVID-19 pandemic are unclear. Identifying the mental health impact of COVID-19 is a pressing research priority. Real-time reporting and monitoring of the rates of mental health issues are needed to understand mechanisms and to inform interventions. The collection of high-quality data across both the whole population and vulnerable groups is an immediate priority [44]. In particular, both cross-sectional and longitudinal data will be needed to identify changes in the prevalence of mental health problems, the mental health risk at population level and the need for treatment and public health measures. Reliable information can be gained only by random sampling from the entire population; this will reduce the risk of bias and erroneous conclusions and avoid potentially damaging interventions.

Table 1. Summary of mental health problems in COVID-19

• Little is known about the acute or long-term effects of SARS-CoV-2 infection and COVID-19 on brain function, cognition and mental health.
• The consequences of economic lockdowns on the type, extent, duration and distribution of mental health problems is unknown.
• In people with COVID-19, depression, anxiety, fatigue and post-traumatic stress disorder may be found in the longer term.
• People with severe mental illness are at high risk during the COVID-19 pandemic and may be among the most vulnerable populations.
• The COVID-19 pandemic is likely to increase the prevalence of anxiety, depression, substance use, domestic violence, child abuse, suicidality and self-harm in the general population.
• Health professionals caring for COVID-19 patients are at high risk of mental health problems.
• Special attention needs to be paid to people with mental disorders, health care providers and the general population.
• Real-time monitoring of the rates of mental health issues is needed.
• Epidemiological data on the psychiatric morbidity of people with COVID-19 and the mental health problems of their health care providers is not available.
• Systematic information on the immediate psychosocial problems caused by the pandemic is important.
• Representative data will be required to measure the growing effects of COVID-19 in mental health and substance use.
• High-quality data on the mental health effects of COVID-19 on vulnerable groups and whole populations is needed.
• Cross-sectional and longitudinal data on the prevalence of mental health problems, the mental health risk at population level and the need for treatment and public health measures is needed.
• Identifying the mental health impact of COVID-19 is a pressing research priority.
• Reliable data requires random sampling from the entire population.

Conflict of interest

The author declares no conflict of interest**.**

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