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Perspective Chapter: The Impact of COVID-19 on Mental Health – The Protective Role of Resilience and Capacity for Mentalizing

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Abstract

The COVID-19 pandemic has caused enormous psychological impact worldwide, and represents an unprecedented threat to mental health. There are significant individual differences in adaptation to a stressful situation such as a pandemic, which depends on personality characteristics and psychological resources such as resilience and capacity for mentalizing. Research shows that a good capacity for mentalizing and resilience are protective factors for mental health, which can be acquired through an appropriate education and training programs. The objective of this chapter is to summarize the extant literature reporting on mental health, i.e. the prevalence of symptoms of depression, anxiety, and other forms of psychological distress during the COVID-19 pandemic. An additional objective is to identify the role of preventive factors: resilience and capacity for mentalizing, which are associated with mental health. Findings from the extensive scientific literature prove that the outbreak of the COVID-19 pandemic has increased the prevalence of mental health problems by a massive 25% worldwide and that resilience and good mental capacity play a significant role in reducing mental health disorders.

Keywords: mental health, COVID-19, resilience, capacity for mentalizing, depression, stress, fear

1. Introduction

At the end of 2019, a new type of previously unidentified coronavirus appeared in the Chinese city of Wuhan, then known as the novel coronavirus 2019, which was renamed SARS-CoV-2, severe acute respiratory syndrome coronavirus 2. The disease it causes is officially named Coronavirus Disease-2019 (COVID-19). The first cases of infection with this virus spread from animals to humans, presumably at the seafood market in the Chinese city of Wuhan, causing a terrible epidemic in many cities in China [1, 2]. Due to the growing rate of reporting cases in Chinese and international locations, on January 30, 2020, the WHO Emergency Committee declared a global health emergency [2].
Mental Health – Preventive Strategies

To slow the spread of COVID-19 and prevent health systems from becoming overloaded, many countries around the world have implemented restrictions on population movement and complete or partial lockdowns, police-enforced curfew, strict travel bans and shutted borders [3]. All of this has affected the established way of human life and caused a major psychological impact on people around the world, posing a serious threat to mental health [3].

The severity of the COVID-19 pandemic poses a new challenge to mental health. The World Health Organization defines mental health as a state of well-being in which an individual achieves his potential, can cope with normal life stress, can work productively and is able to contribute to the community. The definition of mental health leads to the conclusion that it is more than just the absence of mental illness, i.e., that good functioning within one’s own family, good relationships with other people and expressing life satisfaction are qualities of a person who is mentally healthy [4]. People with good mental health are often sad, sick, angry or unhappy, and that is part of a fully lived life for a human being. Nevertheless, mental health is often conceptualized as a purely positive impact, marked by a sense of happiness and a sense of having control over one’s environment [4].

With the outbreak of COVID-19, people faced a series of situations that changed their lives, but also the lives of their loved ones. Closing in houses, distancing oneself from other people, death of close people and general uncertainty are situations to which people were not used until then [3, 5]. The continuing stress associated with a pandemic can have serious consequences for their mental health. Stress involves physiological and psychological reactions to stressors that come from the environment, and people very often have no control over these causes of stress [6].

Depression, anxiety, and stress have been identified as basic negative indicators of mental health and some of the major health problems, and research interest has focused on understanding their nature, causes, and treatments [7]. An individual’s depression is characterized by experiences of dysphoria, hopelessness, devaluation of oneself and life as a whole, impoverishment of social life and anhedonia. Anxiety is a mental state characterized by a subjective experience of anxiety, a feeling of helplessness and a high level of arousal of the organism. Negative stress is a state of high arousal of the organism that occurs as a result of one or more threatening events, with strong negative emotions on the mental level [7]. People who are generally prone to anxiety, as a rule, often express symptoms of depression, and vice versa. Stress is also associated with depression and anxiety [7].

Studies assessing stress, anxiety and depression during quarantine caused by the spread of SARS-CoV-2 have revealed the presence of severe psychological distress and psychopathological factors and have shown that the COVID-19 pandemic is associated with very significant levels of stress, which in many cases could reach the threshold of clinical importance [8].

Further in the text of this book chapter, a more detailed review of the existing literature on mental health and associated factors during the COVID-19 pandemic will be reported, i.e., the prevalence of symptoms of depression, anxiety and other forms of psychological distress. After that, the roles of preventive factors related to mental health will be identified, with a focus on resilience and capacity for mentalizing.

2. COVID-19 pandemic and mental health disorders

The outbreak of the COVID-19 pandemic caused an increase in the prevalence of mental disorders by a massive 25%. The most common and important of these...
disorders are depression, anxiety and various types of psychological distress, which are described in more detail in this book chapter. In addition to the COVID-19 pandemic, multiple factors also caused a “pandemic of mental disorders”, i.e. a massive increase in mental health problems.

One of the main explanations for the increase in mental health problems is the unprecedented multiple stress caused by the social isolation resulting from the pandemic. Related to this were limitations in people's ability to work, seek support from loved ones and engage in their communities, loneliness, fear of infection, suffering and death for themselves and loved ones, grief after bereavement, and financial worries. These are all stressors that lead to the fundamental mental problems of anxiety and depression. Among healthcare workers, who belong to a group particularly vulnerable to the COVID-19 pandemic, exhaustion and burnout syndrome have been main triggers for suicidal thoughts [3, 5].

2.1 COVID-19 pandemic and mental health status in the general population

Numerous studies on the mental health status of people around the world have been published during the COVID-19 pandemic, reporting on different rates of mental health problems. Some differences can be attributed to methodological issues such as different instruments for measuring mental health indicators such as depression, anxiety and distress, and the range of outcomes used, while other differences probably stemmed from cultural factors about discovering mental health problems [9].

A review of research literature from China, India, Nepal, Iran, Iraq, Japan, Nigeria, the United Kingdom, Italy and Spain showed that the average prevalence of depression in 14 studies with a sample size of 44,531 people was 33.7%, the prevalence of anxiety in 17 studies with a sample size of 63,439 was 31.9%, while stress rates in 5 studies with a total sample size of 9074 individuals were 29.6% [10].

When it comes to the results of research conducted in Europe, similar findings have been obtained. The first study in Serbia examining the mental health status of the general adult population found that of the 1057 participants in the study, 28.9% reported moderate to severe depression, 36.9% moderate to severe anxiety, and 38.1% moderate to severe symptoms of stress. Fear about COVID-19 news, feelings of helplessness, the likelihood of impending death, and the presence of COVID-19 symptoms were associated with higher levels of depression, anxiety, and stress. Current smoking status was associated with a higher risk of depression and stress. Higher socioeconomic status was significantly associated with lower levels of depression, anxiety and stress, while students had significantly higher levels of depression and stress [3].

Isolation, reduced social contacts, the duration of quarantine and restrictions, and significant changes in access to higher education in response to the global COVID-19 pandemic have played an important role in increasing negative emotional symptoms and stress in students. A study conducted on a sample of 338 students in Serbia during the state of emergency due to the COVID-19 pandemic examined the relationship between depression, anxiety, stress and procrastination [11]. The results showed that the average values of depression, anxiety and stress among students were significantly higher compared to the findings of research conducted on a sample of university students before the pandemic in Serbia, but also in other European countries [11].

The psychological impact of COVID-19 on the university community has also been demonstrated in research conducted in Spain, Greece and France. According to research conducted in Spain during the first weeks of the introduction of curfew due
to the pandemic, students showed higher scores on the scales of depression, anxiety and stress, compared to the situation before the COVID-19 pandemic [12]. The authors, who conducted research in Greece during the state of emergency due to the COVID-19 pandemic, pointed to an increase in anxiety, depression and psychological distress in students compared to the time before the pandemic [13]. A cross-sectional study aimed at assessing the prevalence of anxiety and identifying anxiety-related factors among French students during the outbreak of COVID-19 found that of the 3936 students, 15.2% experienced moderate anxiety. Female gender and having relatives or acquaintances who were hospitalized for COVID-19 were major risk factors for anxiety [14].

Systematic review of three electronic databases (Google Scholar, PubMed and Medline), with 13 studies from different European countries that published data on the prevalence of anxiety, depression and stress in students, showed that the overall combined prevalence rate was 55% for anxiety, 63% for depression and 62% for stress [15]. A significant increase in anxiety, depression and stress has been identified among university students across Europe, but the long-term effect of this will need to be monitored. Governments, universities and other higher education service providers should take into account students' mental health and provide strategies to support their mental well-being [15].

A study examining mental health during the COVID-19 pandemic and key risk factors in the adult population in Croatia, on a nationally representative sample of 1201 participants, shows that 9.8% of respondents were at risk of adjustment disorders, 7.7% were at risk of developing depressive disorder, and 7.8% were at risk for anxiety disorder. In addition, 7.2% experienced high levels of stress. Key risk factors for specific negative mental health outcomes varied, but common predictive factors for some of the mental health problems included younger age, current health status, previous diagnosis of mental disorder, having an below-average income, and over-following COVID-19 news. Together, the key risk factors identified in this study indicate the need for public health interventions that address the mental health of the general population, but also for specific risk groups [16].

2.2 COVID-19 pandemic and mental health status in the population of healthcare workers

COVID-19 has a serious impact on the mental health of both the general population and healthcare workers who belong to a special risk group during a pandemic [3, 17]. The psychological impact of the outbreak of acute infections on health workers has caused significant concern to the government, the public and medical professionals. The psychological impact of COVID-19 on health workers working during a pandemic is an important consideration, as chronic exposure to stressors leads to burnout syndrome and various mental health problems [17].

One study on psychological distress, which included 958 health workers from the city of Wuhan in China, indicates that more than half of the respondents had symptoms related to depression and anxiety. Specifically, 54% of the total sample had symptoms of anxiety and 58% of depression, with the prevalence of stress being higher than previously detected in healthcare workers battling the SARS virus [18]. In the study which involved 1257 healthcare workers from China, of which 760 from Wuhan, 71.5% of respondents showed symptoms of stress, 44.6% anxiety, 50.4% depression and 34% insomnia. These symptoms were more severe in nurses, frontline staff, and those working in Wuhan, the epicenter of the COVID-19 pandemic.
outbreak [19]. Similar results have been found in European countries, such as Germany, where healthcare professionals, especially nurses, have reported a high prevalence of stress, emotional fatigue and depressive symptoms [20].

A study conducted in China found that healthcare workers at the frontline of the pandemic and who deal directly with patients confirmed or suspected of having COVID-19 have higher levels of various mental health problems than those working in regular clinical settings. In addition, these two groups had comparatively low rates of behavior seeking help and treatment for their mental health problems. Data from that study showed that the mental health of healthcare workers at the frontline is of particular concern. The rate of mental health problems, such as anxiety, depression and insomnia, has increased significantly among healthcare workers working on the front lines of the fight against COVID-19, compared to those without direct contact with COVID-19 [21].

Compared to non-frontline healthcare workers, frontline healthcare workers can be exposed to much greater physical and mental stress, which can contribute to a higher rate of mental health problems. For example, frontline healthcare workers had to be especially careful when working in respiratory units or infectious wards, ensuring that suspicious patients were identified in a timely manner and transferred to a particular hospital to reduce the risk of exposure to others [21]. These results showed poor mental health among healthcare workers at the frontline of the fight against COVID-19 [21], but contrary to expectations, no significantly higher rates of seeking help or treatment of mental health problems were observed among these individuals. The phenomenon that healthcare professionals have difficulty accepting and detecting emotions is not unique to the outbreak of the COVID-19 pandemic [22]. Emotional stress is common among hospital physicians, many of whom do not seek professional help or support from their colleagues because they either think they did not need it or are uncomfortable seeking help and are concerned about confidentiality [22]. These findings remind us that in the future, providers of psychological interventions should pay more attention to healthcare workers who have mental health problems.

Study examining healthcare workers before and during the outbreak of the COVID-19 pandemic [23], which included both those working on the front lines and those with unclear COVID-19 exposure, found that the incidence of anxiety, depression and insomnia increased over time. However, it is unclear whether the respondents were the same at both time points. During the outbreak of COVID-19, one in four healthcare professionals reported at least mild anxiety, depression or insomnia [23].

One meta-analysis showed that twenty-two studies reported one or more variables related to mental health problems in healthcare workers during the COVID-19 pandemic [24]. The most common risk factors correlated with an increased risk of mental health problems were exposure to patients with COVID-19, females [24] and concerns of health professionals that they would be infected with coronavirus [21, 24]. In three studies, concern that family members were infected was a risk factor [24]. When it comes to anxiety, data from 22 studies showed that the percentage of healthcare workers with anxiety ranged from 9 to 90% with a median of 24% [24]. For depression, there were data from 19 studies. The percentage of respondents with depression ranged from 5 to 51%, with a median of 21%. For sleep problems, there were data from six studies. The percentage of sleep problems ranged from 34 to 65%, with a median of 37%. For psychological distress, there were data from 13 studies. The percentage with distress ranged from 7 to 97%, with a median of 37% [24].
The aforementioned studies conducted around the world during the COVID-19 pandemic highlighted mental health problems and unmet needs of medical staff during the pandemic. There is an urgent need to provide further strategies to alleviate the mental health problems of health workers, and long-term monitoring of the mental health of health workers, both those at the first line and those at the second line of the COVID-19 pandemic [21].

3. Protective factors of mental health during the COVID-19

In addition to COVID-19-related mental health risk factors, which mainly include the following: female gender and age under 40 [25–27], student status, unemployment, poor economic status, lower level of education and unemployment [3, 27–29], presence of chronic illness and history of medical or psychiatric illness [20, 30, 31], as well as frequent exposure to social media and news related to COVID-19 [3, 26, 32], and inadequate information about the virus [5, 33], several studies have also identified factors that protect individuals from symptoms of mental disorders during the COVID-19 pandemic. These factors associated with COVID-19 mainly include the timely dissemination of up-to-date and accurate health information regarding COVID-19 by the competent authorities [29], the active implementation of precautionary measures to reduce the risk of infection, such as frequent hand washing, wearing masks and less contact with people, [29], as well as more social support [34], and rest time during a pandemic [35].

Besides to these factors that are specific to the COVID-19 pandemic, it has been shown that psychological symptoms during a pandemic may be related to some personality traits, such as temperament, positive stress coping mechanisms [36, 37], secure and avoidant attachment styles [29, 37], resilience [33, 38–41], and capacity for mentalizing [42].

3.1 Resilience

There are significant individual differences in adapting to stressful situations such as the COVID-19 pandemic, which depends on personality characteristics and psychological resources, such as resilience. Previous studies have found that mental health during the pandemic has been associated with positive psychological traits such as psychological resilience [38, 39] and hope [40], and that resilience positively stabilizes mental health during the COVID-19 pandemic [41].

Interest in psychological resilience has increased in recent decades [43]. Numerous scientific disciplines deal with resilience, starting from psychiatry and psychology, through sociology to medicine, genetics and neuroscience. Nevertheless, by reviewing the existing literature and the definition of this term, the only consensus exists, and that is the question “how some people can endure discomfort without negative physical and psychological consequences” [44]. This is exactly how the simplest definition of the resilience construct can be formulated - as the ability of people to function well in difficult situations, that is, to cope with the stress that often accompanies them. Synonyms such as hardiness, resistance, psychoimmunity and toughness further clarify the qualities that resilience implies. Simply put, resilience implies successful adaptation and the ability to maintain or regenerate mental health despite obstacles [45]. In addition, it can be characterized as a process of evolution of positive attitudes and strategies [46], but also as an individual’s ability to “go back to the old” [43, 47].
Multidisciplinarity in approaching this problem has made definitions change and evolve as scientific understanding and cognition changes.

When resilience is perceived as a personality trait, it refers to an individual’s ability to return to a state of normal mental functioning after stressful or threatening events, without lasting negative consequences [43].

When resilience is defined as a complex capacity of an individual, then it is understood as the result of all protective factors that act to maintain or improve an individual’s mental health after circumstances that may cause severe distress or mental trauma. These protective factors can be: 1) individual factors, such as e.g. ways of overcoming stress, cognitive capacity and strength of an individual’s character, 2) factors arising from an individual’s social network, such as e.g. emotional or material support provided by family or close friends, and 3) support from the wider community, such as support provided by government agencies, businesses, and social organizations [43, 48].

Previous studies have shown that resilience is negatively correlated with depression and anxiety [49–51]. Even before the COVID-19 pandemic, high resilience was cited as a complex trait that allows people to easily recover from a variety of difficulties, which can be acquired through an appropriate training program [52–54]. Resilience is also cited as a trait that can reduce the association between burnout syndrome and mental health difficulties, and which acts as a moderator by alleviating the association between burnout syndrome and subjective well-being [48, 55, 56].

The results of a study examining the links between resilience, hope, preventive behavior, subjective well-being and mental health in 220 adults, in the early stages of the COVID-19 pandemic, showed that hope and resilience have significant direct effects on mental health and subjective well-being. Preventive behavior showed no significant effect on these two variables other than resilience. These results suggest that more attention needs to be paid to hope and resilience to develop and improve well-being and mental health in times of crisis [40].

Research has found that resilience characteristics are associated with lower levels of anxiety and depression symptoms [57] and that resilience has mediated the relationship between stress, anxiety and depression symptoms [58]. Generally speaking, people with a higher degree of resilience also have a higher degree of well-being, and a lower degree of depression, anxiety and negative self-evaluation [54, 59].

3.2 Capacity for mentalizing

Good capacity for mentalizing is considered to play a preventive role in maintaining mental health. Mentalizing is a form of imaginative mental activity that consists of interpreting perceived human behavior based on intentional mental states such as needs, desires, feelings, beliefs, goals, purposes, and reasons. The term imaginative mental activity indicates that this process is performed by a person using imagination in his/her mind. Mentalizing is a process that enables individuals to correctly understand their own and other people’s behavior in interpersonal relationships, as well as to regulate their own emotions and impulses well [60–62].

Capacity for mentalizing the individual develops in childhood and is highly associated with a secure affective attachment to primary caregivers. Mentalizing implies at least the following four dimensions: the first refers to the question of whose behavior is being mentalized - one’s own or someone else’s; the second refers to the question of the extent to which the individual controls mentalization - at one end it is automatic
and implicit, and at the other end of that dimension it is conscious, voluntary or explicit mentalization; the third dimension refers to the use of cognitive and emotional processes, on the one hand there is the possibility to recognize mental phenomena, name and describe their causes and consequences in words, on the other is the possibility to experience these phenomena as feelings without the use of words; the fourth dimension refers to the contents that are mentalized, at one end of this dimension are the contents observed during direct communication with another person, either verbal or nonverbal channel, at the other end are assumptions that depend on the previous experience of the person being mentalizing, which among other things, is influenced by the socio-cultural environment in which that person lives [60–62]. In direct contact with another person, the basic mental actions that an individual performs when mentalizing are to make assumptions about the mental states that determine behavior and check them. Then the individual is aware that intentional mental states cannot be seen with the naked eye. During mentalization, an individual has a not knowing stance about intentional mental states and a sincere curiosity that helps him/her discover them in cooperation with another person [60–62].

Weak capacity for mentalizing has been found in patients with borderline personality disorder, but other mental disorders also include difficulties in mentalization [62, 63]. Also, in the non-clinical population, forms of impaired capacity for mentalizing were examined. Two such forms were investigated in these studies: hypomentalizing and hypermentalizing. These are two qualitatively different phenomena, not extremes of the same [42].

Hypomentalizing refers to the lack or absence of consideration of the phenomena of mental life that determine behavior, and by making assumptions and checking them in interpersonal interaction. Hypomentalizing can be a consequence of a lack of faith in one’s own ability to know the mental world, or as a consequence of mistaken beliefs that behavior is determined by external forces, not mental states. Among other things, it manifests as uncertainty in the ability to accurately assess the mental states underlying behavior [61, 64].

Hypermentalizing refers to making too many assumptions about intentional mental states, some of which are uncritically accepted as true, even though they are not true. The hypermentalizing of an individual occurs as a consequence of his/her erroneous beliefs that other persons have identical intentional mental states as himself. It manifests itself as excessive certainty in the accuracy of one’s own beliefs about the nature of mental states that underlie one’s behavior [61, 64].

There are findings that indicate that a good capacity for mentalizing allows a correct understanding of one’s own and others’ behavior in stressful situations, which helps to overcome stress [62, 65]. Authors [65] examined the relationship between global distress, capacity for mentalizing and well-being in a sample of German teachers, and found that mentalizing is positively associated with well-being and that mentalizing mitigates the negative impact of stress and psychological symptoms on well-being. In Spain, a study was conducted that examined the association between capacity for mentalizing and burnout syndrome in a sample of entrepreneurs. Research conducted in Spain has shown that the capacity for mentalizing reduces the degree of burnout syndrome in entrepreneurs by reducing emotional exhaustion and cynicism (depersonalization), and that hypomentalizing was a statistically significant positive predictor of emotional exhaustion and cynicism in entrepreneurs [64].

Good capacity for mentalizing is key to resilience - the ability of an individual to return to a state of normal mental functioning after stressful or threatening events, without lasting negative consequences [43]. The first study in the world that linked
capacity for mentalizing and resilience to burnout syndrome in a sample of healthcare workers during the COVID-19 pandemic, revealed that there were negative correlations between resilience and burnout dimensions - emotional exhaustion and depersonalization, and positive correlations between resilience and personal achievement. Also, hypomentalizing has been shown to be a significant positive predictor of emotional exhaustion and depersonalization as a dimensions of burnout syndrome [42]. Good capacity for mentalizing means that empathy, active listening and authentic curiosity about mental states, both one's own and the interlocutor's, are expressed during direct communication. Hypomentalizers, instead of revealing objective facts about the reasons for their behavior through open communication with others, usually judge intentional mental states by “guessing”, referring to general laws and their previous experience, which leads to wrong conclusions. Lack of mentalizing reduces the ability of people to understand their own and others' behavior, which leads to interpersonal misunderstandings, conflicts, dissatisfaction and professional frustrations. This is consistent with previous findings proving that good mentalizing ability is a protective factor of mental health [60, 63, 64].

Schwarzer et al. [65] found that the presence of stress negatively affected subjective assessments of well-being, while the capacity for mentalizing had an indirect and positive effect on an individual's assessments of health. Evidence suggests that impaired capacity for mentalizing, typical of various mental illnesses, can be improved by psychotherapeutic intervention, leading to a reduction in psychological symptoms [66]. Relying on clinical relevance, there has been a shift towards focusing on capacity for mentalizing as a mediating capacity to promote health in non-clinical populations [60, 62, 63, 65]. Most important in this context is the idea that preventive or early interventions that encourage good capacity for mentalizing can protect the individual from the influence of distress factors [67], thus enabling more resilient adaptation to life stressors and protecting the mental health of the individual.

Concerns about the potential increase in mental disorders have led countries around the world to include psychosocial support in their COVID-19 response plans, among other measures to combat COVID-19, but major shortcomings and concerns remain [68].

4. Conclusions

The outbreak of COVID-19 has caused enormous psychological impact worldwide and poses an unprecedented threat to mental health. The extant scientific literature, which reports on mental health status and the prevalence of psychological disorders during the COVID-19 pandemic, warns that the level of depression, anxiety and stress among citizens around the world has reached alarming proportions.

Given that the COVID-19 pandemic marks a global public health crisis unseen in the last century, there is an urgent need to implement measures and strategies to minimize the impact of the COVID-19 pandemic on mental health. As resilience and capacity for mentalizing have been shown to play a very important preventive role when it comes to mental health, it is essential to develop and implement strategies to encourage resilience and strengthen capacity for mentalizing to counteract psychological stress during public health emergencies, including response to COVID-19.

In addition to combating the spread of the Sars-CoV-2 virus, mitigating the devastating effects of COVID-19 on the mental health of both general population and vulnerable groups should be an international public health priority.
This book chapter sought, in addition to reviewing the prevalence of mental disorders during the COVID-19 pandemic and the role of preventive mental health factors such as resilience and good capacity for mentalizing, to emphasize a wake-up call to all countries to pay more attention to mental health and work better to support the mental health of their populations.

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**Conflict of interest**

The authors declare no conflict of interest.

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