Vol. 13, No. 1, January – March 2021

THE IMPACT OF COVID-19 ON MENTAL HEALTH

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ABSTRACT

The COVID-19 pandemic has emerged as the most devastating and challenging public health crisis in the contemporary world. In addition to the rising mortality rate, nations around the globe have also suffered from an increase in excruciating psychological outcomes, namely anxiety and depression among people of all ages. In case of any infectious disease outbreak, the psychological reactions of the population play a critical role in shaping both the spread of the disease and the occurrence of emotional distress and associated disorders, during and after the outbreak. *Conclusions:* In a crisis period, it is natural for people to feel fear, sadness and anxiety. Indeed, the fear of the virus spreads even faster than the virus itself. Being in quarantine or solitary confinement for long periods of time has been associated with depression, anger, anxiety and suicide.

Key words: psychological disturbances, COVID-19 pandemic, public health crisis, mental health issue.

INTRODUCTION

The outbreak of coronavirus disease (COVID-19) has substantially affected the livelihood and lives of people around the world, especially after the declaration by the World Health Organization (WHO) of a global pandemic in the second week of March 2020 [1].

The COVID-19 pandemic has emerged as the most devastating and challenging public health crisis in the contemporary world. In addition to the rising mortality rate, nations around the globe have also suffered from an increase in excruciating psychological outcomes, namely anxiety and depression among people of all ages. In case of any infectious disease outbreak, the psychological reactions of the population play a critical role in shaping both the spread of the disease and the occurrence of emotional distress and associated disorders, during and after the outbreak. In a crisis period, it is natural for people to feel fear, sadness and anxiety. Indeed, the fear of the virus spreads even faster than the virus itself. Being in quarantine or solitary confinement for long periods of time has been associated with depression, anger, anxiety and suicide, as reported in the early 2000s SARS epidemic [2-4].

Due to its rapid spread, the COVID-19 pandemic causes great imbalances, social and psychological disturbances, which directly or indirectly influence each of us. Likewise, as

the coronavirus pandemic spread rapidly around the world, it caused a considerable degree of fear and concern among the population.

According to data provided by the Coronavirus Resource Center at Johns Hopkins University in the United States, as of March 2, 2020, approximately 29 million cases of COVID-19 infection have been reported in the United States (by the Center for Disease Control and Prevention) and over 85 million cases of COVID-19 have been reported in 188 countries [5].

An international review conducted in February 2020 highlighted 24 studies on previous outbreaks of infectious diseases on the mental health of people in quarantine, including studies on severe acute respiratory syndrome in mainland China, Hong Kong and Canada in 2003, equine flu in Australia in 2007, H1N1 flu in Australia in 2009, Ebola in West Africa in 2014 and Middle East Respiratory Syndrome (MERS) in Korea in 2015. Comparing the current COVID-19 pandemic, the authors found that the area and the rapid spread of COVID-19 exceeds by far that of other relatively recent outbreaks, and subsequently the general threat it poses is much greater [6].

A number of Chinese studies have reported significant increases of symptoms such as anxiety, suffering and the risk of post-traumatic stress disorder in students and health professionals assessed during the COVID-19 pandemic [7].

In terms of public mental health, the main psychological impact of the COVID-19 pandemic, so far, is the increased rates of stress and/or anxiety among the general population. As new protective measures are introduced, in particular self-isolation, its effects on the activity and lifestyle of many people will lead to increased loneliness, depression, alcohol and drug use, self-harm behavior and tendencies to suicide. People who have tested positive for COVID-19 have to deal with anxiety about their condition, physical discomfort, separation from loved ones, isolation and stigma. People with pre-existing vulnerabilities to psychiatric disorders will be particularly affected by the exacerbations of symptoms related to the stress conditioned caused by the COVID-19 pandemic [8].

MATERIAL AND METHODS

The conducted study is a secondary, qualitative type study and presents a narrative review in compliance with the requirements for such a synthesis of published sources. The bibliographic sources were taken from the databases PubMed, Google Scholar, Medline, WHO library and Infomedica library. Selection criteria for the sources included:

1. keywords: COVID-19, pandemic, mental health;
2. publication period: march 2020 to march 2021.
3. language of selected publications is English.

This review included 54 bibliographic sources.

RESULTS

Research and clinical observations in the field suggest that, during the COVID-19 pandemic, many people show stress or anxiety, which are fueled by fear and pathological fear of becoming infected, of coming into contact with objects or possibly contaminated surfaces. Likewise, there is a growing fear of foreigners who may have an infection (ie, xenophobia related to the disease), fear of the socio-economic consequences of the pandemic, seeking reassurance about possible pandemic threats and pandemic COVID-19 related traumatic stress symptoms (nightmares, intrusive thoughts etc.) [9].

Therefore, psychological reactions to pandemics include maladaptive behaviors,

emotional stress, and defensive responses [10]. People prone to psychological problems are particularly vulnerable. All these features are clear evidence of the current COVID-19 pandemic. A study of 1210 respondents from 194 Chinese cities conducted during January to February 2020 found that 54% of respondents considered the psychological impact of the COVID-19 outbreak to be moderate or severe; 29% reported moderate to severe anxiety, and 17% report the moderate to severe depressive symptoms [11]. Anticipating possible prejudices, we will say that these are very large proportions- and it is likely that, in addition to official statistics, some people will show an even greater psychological impact.

The impact of COVID-19 on the mental health of the population has emerged as a global concern [12]. A number of factors related to COVID-19 can adversely affect the mental health of individuals, with an even greater risk for those prone to the direct influence of these conditions and unfavourable psychological factors such as front-line health care providers [13]. Being quarantined or isolated for long periods of time has been associated with depression, anger, anxiety and suicide, as reported in the early 2000s SARS epidemic. Similarly, the uncertainty of economic recovery and job loss is an important factor previously associated with neuropsychiatric disorders [14,15]. There are also concerns about the increase in violence [16] which, adjacently, also presents itself as a risk factor for the development or worsening of psychological disorders. Moreover, fear and fixed ideas of being infected could have a negative impact on the mental well-being [17,18], fear of losing a loved one and grief over loss are other potential factors that can disrupt mental health. One of the conclusions that emerge from the researched studies would be that SARS-CoV-2 itself can determine psychiatric manifestations, due to the fact that its effects on the nervous system are increasingly visible in patients who do not show prominent symptoms of the respiratory tract [19]. Another study anonymously analyzed 13,332 respondents from around the world to identify psychological symptoms related to COVID-19 virus, between March 29 to April 14, 2020. The study highlighted the significant impact of COVID-19 pandemic on mental health worldwide. Participants scored slightly above the risk threshold for general mental disorders, post-traumatic stress disorder (PTSD), and depression, as determined by standardized scales. Moreover, an alarming fraction (16.2%) of participants reported having certain suicidal thoughts. A prominent fraction (41.0%) of the participants also expressed concern about their physical health and appearance, which points to other forms of psychological suffering. Another important objective of this study was to identify risk factors and specific resistance to psychological disorders during the current COVID-19 crisis. Therefore, worsening of a pre-existing psychiatric condition, female sex, exposure to trauma before the age of 17 and remote functioning have been identified as factors that condition a higher risk of general mental disorder, PTSD, depression and increased concern about physical health and appearance. Pre-existing psychiatric conditions and previous exposure to traumatic events predicted the idea of suicide. In this context, factors such as: aging, the ability to share concerns with family and friends (exercise/ sports daily for 15 minutes or more) and satisfaction with employer/state actions in response to COVID-19, were identified as having a general protective effect against all major psychological disorders [20].

A prospective cohort study conducted between April 6 and June 9, 2020 at San Raffaele Hospital, in Milan, included 402 patients aged 18 to 87 years who survived COVID-19. The psychiatric evaluation was

performed at 31.29 ± 15.7 days after discharge or 28.56 ± 11.73 days after emergency department. COVID-19 survivors registered in the clinical field:

- at least one psychopathological dimension 55.7% (PTSD, anxiety, depression, obsessive-compulsive symptoms);
- 36.8% in two dimensions, 20.6% in three, and 10% in four dimensions;
- patients with previous psychiatric diagnoses suffered more in all psychopathological dimensions.

This is the first study to investigate psychopathology on a sample of COVID-19 survivors at one month follow-up after hospital treatment. We reported high rates of PTSD, depression, anxiety, insomnia and obsessive-compulsive symptoms. In this context, and as the COVID-19 pandemic continues to spread around the world, some studies hypothesize the psychological impacts that are worth considering now rather than later.

Firstly, it must be acknowledged that, even in the normal course of events, people with mental illness have a lower life expectancy and poorer physical health than the general population [21]. As a result, people with pre-existing mental health and substance abuse disorders will have an increased risk of COVID-19 infection, an increased risk of problems accessing testing and treatment, and an increased risk of negative physical and psychic effects caused by the pandemic.

Secondly, there is a considerable increase in anxiety and depressive symptoms among people who do not have pre-existing mental health conditions and those who experience post-traumatic stress disorder. This state of affairs was recognized in China during the current pandemic [22].

Thirdly, from the researched sources it can be deducted that public health professionals will have a high risk of developing psycho-pathological symptoms, especially if they work in primary care, emergency services, emergency departments and intensive or critical care. WHO has officially recognized this risk for health workers, thus more needs to be done to manage anxiety and stress in this group and, in the long run, to prevent burnout, depression and PTSD.

Previous studies have reported adverse psychological reactions to the 2003 outbreak of SARS among health care workers [23,24]. They feared contagion and infection from their family, friends and colleagues [25], felt uncertainty and stigma [26,27], reported reluctance to work [28] or even a desire to resign, and reported high levels of stress, anxiety and depression, which could potentially have long-term psychological implications [29]. In regard to COVID-19, studies show that it is transmissible from person to person [30], is associated with high morbidity, high lethality potential and may increase the perception of personal danger [31].

Another cross-sectional study in China, of 1257 health workers in 34 hospitals with wards for COVID-19 patients, revealed a high prevalence of symptoms of impaired mental health among health workers treating COVID-19 patients. Overall, participants reported the following symptoms: 50.4% depression, 44.6% anxiety, 34.0% insomnia and 71.5% suffering [32].

Oxford University conducted a cohort study of the electronic medical record network, used the TriNetX network to access data from unidentified electronic medical records (EMR) of 62,354 patients diagnosed with COVID-19 between January 20, 2020 and August 1, 2020. The study authors found that a diagnosis of COVID-19 was associated with an increased incidence of a first diagnosis of anxiety, depression, or insomnia in the next 14 to 90 days compared to any other group of patients. The researchers also found that people with a pre-existing psychiatric diagnosis were 65% more likely to be diagnosed with

COVID-19 than those without, even when known risk factors for COVID-19 were taken into account. The estimated probability of diagnosis of any psychiatric illness within 14 to 90 days after diagnosis of COVID-19 was 18.1%. The most common psychiatric diagnosis, after the diagnosis with COVID-19, was anxiety disorder- 12.8%, followed by mood disorders - 9.9%. Overall, nearly one in five patients received a psychiatric diagnosis within 90 days of contracting COVID-19 [33].

In a study of systemic analysis and meta-analysis of 19 studies: anxiety symptoms were assessed in 11 of the 19 studies, with a notable variation in the prevalence of anxiety symptoms ranging from 6.33% to 50.9% and prevalence rate of post-traumatic stress disorder- 7.6%. Predictive factors for anxiety symptoms: younger age group (≤40 years), lower levels of education, poor self-assessed health, loneliness, female status, divorced/ widowed status, quarantine infection status, property deterioration, history of mental health/medical problems, the presence of chronic diseases, living in urban areas and the presence of specific physical symptoms. Another systematic review and meta-analysis of 17 cross-sectional studies that reached the final stage of analysis and focused on the prevalence of stress and anxiety among the general population during the pandemic highlighted: The prevalence of stress in 5 studies with a total sample size of 9074 is obtained as 29.6% (95% confidence limit: 24.3-35.4), the prevalence of anxiety in 17 studies with a sample size of 63.439 and 31.9% (95% confidence interval: 27.5-36.7) and the prevalence of depression in 14 studies with a sample of 44,531 people as 33.7% (95% confidence interval: 27.5-40.6). At the same time, the study reports: the prevalence of stress- 29.6%; anxiety- 31.9%; depression- 33.7%, among the general population during the COVID-19 pandemic on different continents. The highest prevalence of anxiety in Asia is 32.9% (95% CI: 28.2–37.9), the highest prevalence of stress in Europe is 31.9% (95% CI: 23.1–42.2) [34].

The psychological response of health workers to an epidemic of infectious diseases is quite complex. Sources of suffering may include feelings of vulnerability or loss of control and concerns about one's own health, the spread of the virus, the health of family and others, changes in the workplace, and isolation [35].

Moreover, senior health care workers may have additional problems and suffering related to: the stress of working together in outbreaks of infection, stigmatization in dealing with COVID-19 patients, the stress of using strict biosecurity measures, strict procedures to follow, prevention of autonomy, physical isolation, higher demands in the workplace, reduced ability to use social support due to physical distancing and stigmatization, insufficient ability to take care of oneself, insufficient knowledge of long-term exposure to people infected with COVID-19 and the fear of infecting loved ones etc. [36-38].

DISCUSSIONS

In the context of COVID-19 pandemic, the assessment and monitoring of mental health problems should include questions about the stressors associated with COVID-19 (such as exposure to infected sources, infected family members, loss of loved ones, and physical distancing), side effects (ex. economic losses), psychosocial effects (depression, anxiety, psychosomatic concerns, insomnia, increased substance use and domestic violence) and indicators of vulnerability (such as pre-existing physical or psychological conditions). Some patients will need consultation for mental health assessment and care, while others may benefit from supportive interventions designed to promote well-being and improve coping (such as psychoeducation, relaxation and

cognitive-behavioral techniques).

The emergence of COVID-19, with its rapid spread, has exacerbated anxiety globally, leading to mental health disorders in individuals. This has even led to cases of stereotypes and discrimination [39,40]. Therefore, it is necessary to examine and recognize people's mental states in this challenging, destructive and unprecedented moment. Evidence suggests that individuals may experience symptoms of psychosis, anxiety, trauma, suicidal thoughts, and panic attacks, all of this could lead also to criminality and domestic violence [41,42]. COVID-19 is new and unexplored, and its rapid transmission, high mortality rate, and concerns about the future may be the cause of anxiety [43,44]. Anxiety, when it exceeds normality levels, weakens the body's immune system and therefore increases the risk of contracting the virus [41].

The results of epidemiological studies show that women have a higher risk of depression [45]. Women are more vulnerable to stress and post-traumatic stress disorder than men. Aging increases the risk of COVID-19 and mortality; however, the results of existing studies show that during the pandemic, levels of anxiety, depression and stress are significantly higher in the 21-39 age group. The main reason for this seems to be that this age group is concerned about the future consequences and economic challenges caused by the pandemic, as they are key active forces in a society and are therefore mainly affected by layoffs and business closures. Some researchers have argued that greater anxiety among young people may be due to their greater access to information through social networks, which can cause stress also [46,47].

During the COVID-19 pandemic, people with higher levels of education (health system, justice, government, etc.) had higher levels of anxiety, depression and stress. According to recent studies, during the COVID-19 pandemic, there is an association between education levels and levels of anxiety and depression [48].

Recent studies have revealed an association between medical history and increased anxiety and depression caused by the spread of COVID-19. Previous research has shown that medical history and chronic diseases are associated with elevated levels of psychiatric distress [49]. People who have a history of medical problems and who also suffer from poor health may feel more vulnerable to a new illness [50-52].

Against the background of the increasingly obvious economic crisis [15], with numerous difficulties and ambiguities related to this pandemic, the suicidal thoughts can be outlined especially in sensitive people, with low mental resistance. These people require immediate consultation with a mental health professional or a referral for a possible emergency psychiatric hospitalization [47].

Governments and health officials need to provide accurate information about the state of the pandemic, dismiss rumors in a timely manner, and reduce the impact of misinformation on the emotional state of the general public. These high-level activities lead to a sense of public security and potential psychological benefits. Governments and health authorities need to ensure that infrastructure is provided to produce and provide adequate quantities of personal protective equipment. Optimistic and positive thoughts and attitudes towards the spread of COVID-19 are also protective factors against depression and anxiety. The use of electronic devices and applications to provide services of counselling [28] can reduce the psychological and social damage caused by COVID-19 and, consequently, can promote social stability. An increase in the number of infections and deaths can affect the symptoms of depression and anxiety [53,54]. During the H1N1

epidemic, anxiety increased at the peak of the epidemic and decreased with its decline [55].

CONCLUSIONS:

1. The COVID-19 pandemic crisis that has alerted the whole world is a new and uncertain challenge for each of us.
2. Knowing different studies in the field and conducting our own research will increase our readiness to successfully overcome the psychosocial problems created by the COVID-19 pandemic.
3. The results suggest the need to adapt COVID-19-related mental health interventions to meet the specific needs of people with pre-existing mental health conditions, as well as targeted coping strategies for those with pre-existing anxiety-related disorders. In the current crisis, it is vital to identify individuals prone to psychological disorders in different groups and different strata of the population, so that, with appropriate strategies, techniques and psychological interventions, the mental health of the general population is maintained.
4. COVID-19 not only causes physical health problems, but also leads to a number of psychological disorders. The spread of the SARS-COV-2 virus has an impact on people mental health. Thus, it is essential to maintain the mental health of individuals and to develop psychological interventions that can improve the mental health of vulnerable groups during the COVID-19 pandemic.

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