**PYSCHOSOCIAL EFFECTS OF THE COVID-19 PANDEMIC**

**Abstract**

The COVID-19 pandemic was declared a global health emergency by the World Health Organization (WHO) in January 2020. As has been the case in previous pandemics, COVID-19 has had significant adverse social, psychological and economic effects on people across the globe. The purpose of this chapter is to consider the psychosocial impact of COVID-19 on society resulting from lifestyle changes, including social isolation due to lockdown, social distancing, and the wearing of masks, as well as behavioural changes, including alterations in shopping habits, remote working, and distance education. We provide a literature review utilising previous scientific research and various media tools. According to this review, we argue that the new conditions have resulted in many different adverse psychosocial effects, including anxiety, stress, obsessive behaviours, depression, loneliness, stigmatisation, and hoarding, although individuals experience these effects to varying degrees. Implications for their amelioration and directions for future research are outlined.

**Keywords:**pandemic, COVID-19, psychosocial, anxiety, depression, mental health.

**1. Introduction**

 The novel Coronavirus (COVID-19) pandemic was first seen in the Chinese city of Wuhan and was reported to the World Health Organization (WHO) in December of 2019 who declared a global health emergency in January, 2020 (WHO, 2020). COVID-19 has been identified as a novel enveloped RNA betacoronavirus - its full name is Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) - it is among the six types of coronaviruses that cause health problems in humans (Guan et al., 2020). When infected, individuals sneeze or cough, and the virus is released into the air in droplets which can directly impact the face of a host. Otherwise, it is transmitted after healthy individuals have touched contaminated surfaces with their hands and then touched their face (especially their eyes, nose, and mouth) before washing their hands (Stankovska, Memedi, & Dimitrovski, 2020). When precautions are not taken or not correctly followed, SARS-CoV-2 infections, which may produce asymptomatic cases, increase rapidly. It seems that SARS-CoV-2 infectivity takes place 1-2 days before the symptoms begin to appear (Sarı, Hoşbul, & Şahiner, 2020). At the beginning of 2020, the disease began to spread rapidly around the globe. At the time of writing, there were over 15M cases and over 650,000 deaths.

 Around the world, prevention and protection measures have been implemented to prevent the spread of COVID-19 (Cirrincione et al., 2020). In Europe, most notably in Italy, Spain, Germany, France, and the UK, not only were schools, universities, and various public facilities closed to prevent the spread of infection, but also entire cities and regions (and in some cases entire countries) were placed under strict lockdowns or curfews (Kwok, Lai, & Tang, 2020). Given these circumstances, it is abundantly clear that the pandemic has affected individuals and societies not only in terms of health but also in terms of lifestyle, education, work, social activities and consumer habits, and it has significantly impacted contact with loved ones including those who are hospitalised and even dying – relatives and friends have been unable to attend funerals.

 From a psychosocial perspective, other important issues affecting people and societies include emerging uncertainty, helplessness, loneliness, anxiety, stress, depression, and stigmatisation - although some positive concepts, such as resilience and altruism, also enter the picture (WHO Interim Guidance, 2020). Adherence government measures and the maintenance of a positive state of mind among the population affects the spread of the disease (Aslan, 2020). In the light of this information, we decided to examine the psychosocial impacts of the COVID-19 pandemic. We discuss pandemics and precautions in the first part of this chapter, the psychosocial effects of outbreaks more generally in the second part, and the psychosocial effects of COVID-19 on the general population as well as on people with different demographic characteristics (age, gender, occupation, personality) in the last part.

**1. Pandemics and Precautions**

Although there are multiple definitions, a ‘pandemic’ may be defined as an outbreak of a disease that spreads across multiple countries or continents, thus becoming a global phenomenon. According to the definition of the WHO, some criteria are needed to classify the disease as a pandemic: (1) the disease is a new virus; (2) spread around the world; (3) most people do not have immunity (WHO, 2010). Throughout history, many pandemics have been recorded, including acute hemorrhagic conjunctivitis (AHC), HIV/AIDS, cholera, dengue fever, influenza, the plague, severe acute respiratory syndrome (SARS), scabies, and West Nile disease (Morens, Folkers, & Fauci, 2009). In order to prevent or curb a rapid spread of infection, many countries have taken a wide variety of measures encompassing different aspects of life. Some of the measures aimed at curbing the spread of the disease involve public health officials, entailing among other initiatives conducting of tests for the disease, the monitoring of infected individuals and their environments (including quarantine and self-quarantining) and contact tracing. Some other important preventative measures include the requiring of wearing masks in certain areas, the implementation of social distancing policies, the imposition of curfews or lockdowns (including restrictions on certain age or risk groups), and limitations on health services offered at hospitals and clinics during the pandemic. However, many important preventative measures – and arguably the ones that have impacted people’s lives the most – have been implemented outside the realm of healthcare. Measures impacting social and economic life include special arrangements with regard to supermarkets, restaurants, and shopping centres; the closing of entertainment venues, such as cinemas, theatres, and concert halls; the cancellation or postponement of sports events; the halting of religious services and activities; and the substitution of distance/remote learning at schools and universities. There have also been restrictions in terms of transportation, the most extreme of which is the closing of borders around the world, but also including restrictions on movement between cities within countries and on the proscribed use of public transport (Sarı, Hoşbul & Şahiner, 2020; ECDC, 2020).

**2. Psychosocial impacts of pandemics**

 The psychosocial perspective is used primarily to explain the effects of social structures on individual characteristics (Şahan, 2016**). O**ne of the important social issues is that pandemics affect people psychologically.According to the WHO's interim guidance on *Mental health and psychosocial support aspects of the COVID-19 response*, there are some specific issues and stressors for this outbreak, such as: uncertainty, helplessness, fear of getting sick and dying (for oneself and/or one's family members); fear of job loss, fear of losing one's livelihood, loss of social contacts and loneliness, anxiety, anger, stress, depression; and the stigmatisation of those who have recovered from the illness or who are thought to have been exposed to it, including frontline health workers and other essential workers. On the other hand, some individuals have experienced positive effects, including satisfaction derived from helping others and increased resilience (WHO, 2020; IFRC, 2020).Moreover, the WHO Department of Mental Health and Substance Use made recommendations in order to improve well-being via psychosocial support, targeted at the general population, healthcare workers, team leaders or managers in healthcare facilities, childcare workers, older adults, people with underlying health conditions and those who look after them, and people in isolation (WHO, 2020).

**3. The psychosocial effects of COVID 19**

**3.1.** **Mental health**

It is still too early to say for sure what will be long-term consequences of the COVID-19 pandemic on global mental health. Researchers worldwide are conducting many studies to provide information that would help overcome the psychological consequences of the pandemics (Holmes et al., 2020). However, according to the results of studies on earlier epidemics of SARS (Lu, Chang, & Shu, 2009) and MERS (Batawi et al., 2019), it is reasonable to assume that mental issues will last a long time after the end of the pandemic. For instance, because of the self-isolation measures during epidemics of MERS in 2015, 7.6% of participants experienced elevated levels of anxiety, and 16.6% were feeling angry. Four to six months after the self-isolation, 3% remained anxious, and 6.4% felt aggressive (Jeong et al., 2016). Thus, the experiences from the previous epidemics can inform us about the adverse effects the self-isolation may have for mental health in short and in the long run.

According to available data, depression, anxiety, and PTSD are the most common psychological responses to the COVID-19 pandemic (Vindegaard & Benros, 2020). Most of the studies have assessed anxiety and depression due to their high comorbidity (Gorman, 1996). At the time of writing this chapter, there are relatively few empirical studies along these lines. Those that exist indicate that pandemics have a robust negative effect on mental health over the globe. For instance, Rajkumar’s (2020) review article estimated that from 16 - 28% of participants reported the presence of the symptoms of anxiety and depression during the pandemic.

However, depending on the characteristics of samples and from country to country, these estimates vary. For example, a study conducted in the USA reported much higher estimates of depression and anxiety symptoms (Liu, Zhang, Wong, & Hyun, 2020). More severe signs of depression are found in individuals suspected to be positive on COVID-19 (Nguyen et al., 2020) and health workers (Pappa et al., 2020; Rehman et al., 2020). One in five healthcare workers are experiencing symptoms of anxiety and depression, while around 40% of them have trouble with sleeping. Some studies indicate that females (Sønderskov, Dinesen, Santini, & Østergaard, 2020) and individuals younger than 35 experience more psychological difficulties (Huang & Zhao, 2020). Similar results were obtained in Australia (Stanton et al., 2020), the USA (Rosenberg, Luetke, Hensel, Kianersi, & Herbenick, 2020) and Italy (Casagrande, Favieri, Tambelli, & Forte, 2020).

The effects of the pandemic on mental health seem to depend on the age of participants are still inconclusive. For instance, participants older than 65 in Northern Spain reported fewer mental health issues (Gorrochategi, Munitis, Santamaria, & Etxebarria, 2020), even though Spain is one of the most affected countries. On the contrary, the same age population in the UK reported more concerns for their health (Shevlin et al., 2020a). We must await more data to conclude whether these differences are the result of the impact of the culture or the specific circumstances experienced by different countries. In addition to age, pregnant women have an especially stressful time during pandemics (Moyer, Compton, Kaselitz, & Muzik, 2020). Finally, it seems that all countries that have employed lockdown will face a higher level of mental health issues because it seems that the lack of social support (evoked by reduced mobility during the lockdown) increases levels of anxiety and depression (Kong et al., 2020).

One of the most extensive studies conducted in the UK regarding the effects of COVID-19 pandemic on mental health reported that roughly 25% of participants had symptoms of anxiety and above 30% symptoms of depression during the lockdown (Fancourt, Steptoe, & Bu, 2020). In addition, the same study was conducted on several occasions, so the authors were able to monitor temporal changes in mood over time. Trajectories of depression and anxiety indicated a slow recovery a few weeks after the lockdown. Still, the improvement was much more gradual for the participants with an earlier history of mental issues. Another two-wave study assessing the changes in depression before and after the quarantine was conducted in Italy on university students (Meda et al., 2020). This study reported an increase in scores the on the Beck's Depression Inventory.

An additional problem of increased anxiety due to COVID-19 is the rise of somatic symptoms (Shevlin et al., 2020b). For example, many countries are trying to prevent the spread of the coronavirus among health-care staff. We have witnessed the dramatic consequences of the collapse of the health system in Italy and in other countries (e.g., the UK) resulting in many hospitals not being able to provide health care for less critically acute cases, including detection and treatment cancer care - it is reported that many more lives will be lost to this lack of medical provision. Many people have not reported serious medical emergencies, such as heart attack. A large number of citizens with somatic complaints who cannot get the required medical attention may experience anxiety as a consequence of their health status (Asmundson & Taylor, 2020). This subsequently is followed by the rise of cyberchondria, which is a tendency to self-diagnose and treat using internet resources (Jungmann & Witthöft, 2020). As this self-practice tends to produce a high level of false alarms, it serves to increase the already heightened level of anxiety and, possibly, depression.

Many issues are yet to be studied. Researchers and mental health professionals are concerned by the occurrence of the PTSD in COVID-19 survivors (Sękowski et al., 2020) and citizens after the pandemic (Dutheil, Mondillon, & Navel, 2020). Indeed, we are already witnessing the increase of PTSD symptoms related to quarantine (Fawaz & Samaha, 2020; Rossi et al., 2020). Another issue is the rise of domestic violence. Aggression seems particularly dangerous in the case of a lockdown. People with fragile self-control capacities and emotional instability are prone to expressing violence to their intimate partners during the lockdown periods. In such a problematic situation when locked with the abuser, a victim may develop a range of mental issues ranging from posttraumatic stress disorder (PTSD), depression and anxiety – even suicide. However, empirical studies on this topic are yet to be conducted. It is also of interest to speculate that the negative psychological state of the world's population and the invisible nature of COVID-19 has resulted in a redirection of fear, anger and outrage in the form of social unrest and protest.

To sum up, the following months and years will be very challenging for mental health professionals worldwide since it is not only the medical aspects of the current pandemic that elevates the level of anxiety. Added to this is the consequential economic crises that will entail, amongst other things, increased unemployment and financial strain. These economic effects alone will yield even more significant negative impact on mental health (Bareket-Bojmel, Shahar, & Margalit, 2020).

So, what can be done? Having professional individual treatments one-on-one is impossible, so mental health resources should orient towards finding a short, effective and easy-to-implement mental health interventions. Fortunately, some preliminary studies have reported promising results, showing that self-guided therapeutic approaches, such as cognitive-behavioural, mindfulness, and acceptance-based interventions and similar, have mild-to-moderate effects on the improvement of mental health (Fischer et al., 2020). As these authors stated, such techniques are not valid as traditional one-on-one therapy conducted with certificated psychotherapists, but if nothing else, they can be used by a high number of citizens and may help to a certain degree.

**3.1.1. Psychosocial effects on people with different demographic characteristics**

The COVID-19 outbreak has different psychosocial impacts on society. However, these impacts can be seen differently according to demographic traits such as age, gender, occupation, and so on. For instance, women, health care workers, other frontline workers such as custodians, individuals getting relatively low social support, individuals who are aged 50 or older and have chronic health problems such as weakened immune system, disease lung or heart, diabetes, cancer are more vulnerable in terms of infection (Tuncay, Koyuncu, & Özel, 2020; Stankovska, Memedi, & Dimitrovski, 2020; Jecker, Wightman, & Diekema, 2020). Additionally, because of isolation, child abuse, partner violence and suicide increase (Otu, Charles, & Yaya, 2020); and when children and their parents in quarantine are compared with those not quarantined, there is a rise in posttraumatic stress symptoms (Sprang & Silman, 2013).

When the negative impact is evaluated in terms of jobs, it is seen that one of the most vulnerable occupations is health care workers. They have job-related stressors: high risk of infection, disease or death; overwork, fatigue and burn-out due to long work hours; and exposure to deaths of patients, including children and the inability to save some of the patients despite their best efforts. At the same time, they experience threats of violence from patients or their relatives. Besides external factors, they have to separation from family and loved ones because having the stress of accidentally infected to them (Taylor, 2019). It would be surprising if these stressors did not cause anxiety, depression, insomnia, somatisation and obsessive-compulsive symptoms and the evidence show they do (Zhang et al., 2020).

**3.2. Stigmatisation**

 Stigmatisation is a public health problem that needs to be tackled as an external stressor with the potential to do as much harm as depression and other mental symptoms. During the current pandemic, individuals with COVID-19 may experience stigmatisation from their social circles or neighbours. Stigma is manifested in terms of fear, suspicion, judgment, accusations, avoidance, refusal to communicate, and other exclusionary behaviour (Tuncay, Koyuncu, & Özel, 2020). Many other studies have shown that healthy people tend to avoid and stigmatise those who have been infected. In fact, not only those who have been infected by the disease but also their families and friends, as well as healthcare workers, are vulnerable to stigmatisation due to real or perceived exposure to the disease in question (Mak et al., 2009; Taylor, 2019). In order to avoid stigmatisation, people may conceal their health status and, even, delay seeking medical help. This outcome leads to a reduction in early detection and treatment and results in increased spread of the disease (Dubey et al., 2020) – thus, stigma is not only a social problem but a medical one too. WHO (2020) has made recommendations in *Mental health and psychosocial considerations during the COVID-19 outbreak* report with regard to combatting stigmatisation. For example, they suggest that diagnosed people should not be referred to as "COVID-19 cases", "victims", "COVID-19 families" or "the diseased"; instead, they should be referred to as "people who have COVID-19", "people who are being treated for COVID-19", or "people who are recovering from COVID-19".

 It is also important to note that there is a connection between the stigma surrounding COVID-19 and racist behaviour. All over the world, those who are perceived to belong to societies in which the virus originated have reported experiencing stigmatisation due to their real or perceived ethnic and/or racial background (Karataş, 2020). Such actions can lead to further social unrest which does nothing for curtailing the spread of the virus.

**3.3.Altruism and hoarding**

During a pandemic, due to extraordinary conditions and feelings of frustration, socially-destructive behaviours may arise. However, positive attitudes and behaviours appear to be more prevalent (Taylor, 2019). One of them is altruism that can be described as "unselfish regard for the welfare of others" (Feng, 2020). Some of the attitudes and behaviours, such as being vaccinated (Taylor, 2019) once a vaccine is found, wearing masks, and staying in quarantine, are connected to altruism. In the first stage of the pandemic, people discussed whether or not everyone needed to wear a face mask and what type of masks were most effective. However, at the beginning of June, the WHO recommended that everyone wear masks in public places – it was not until the 24th July that this was made mandatory in shops, cafes/coffee shops and takeaways.

According to Cheng, Lam and Leung (2020), the wearing of masks by the entire population is both a useful and low-cost measure, shifts the focus from self-protection to altruism in terms of considering other people's health, and is a demonstration of social solidarity in the global reaction to the pandemic. Another measure that can be taken is reminding the public of the benefits of quarantine for society at large, which may appeal to their more altruistic inclinations and result in greater compliance (Brooks et al., 2020). Moreover, self-isolation and voluntary quarantine should be supported by giving necessary information about minimising distress and long-term adverse effects of imposed quarantine (Dubey et al., 2020). On the other hand, according to Feng (2020), under pandemic conditions altruism may affect people's mental health negatively because individuals with high altruism may feel more anxious for patients due to their empathy and more helplessness due to being unable to help those who have been infected. Additionally, it is demonstrated that, in case of perception of a higher risk of the virus, increased symptoms of anxiety and depression are linked to altruism. When it comes to health care workers, because people's perceptions may affect the relation between stressful events and their psychological impact, altruism may protect them against negative impacts of the outbreak (Wu et al., 2009).

One behaviour that is often observed during a pandemic and may represent zero-sum thinking, as opposed to altruism, is hoarding – it can be described as an unnecessary accumulation of consumer products. Hoarding may reflect emotional attachment or impulsiveness, as hoarders usually associate high levels of perceived risk (such as during a pandemic, natural disaster, or a period of political or economic uncertainty) with the possibility of product deprivation, which may include the fear of being unable to obtain food, medicine, and other essential items as well as uncertainty regarding the availability of products in the future. As a result of such rushes to obtain as many of the desired products as possible, significant shortages have occurred (Sobirova, 2020; Kumar & Nayar, 2020).

One example of such hoarding was observed during the Avian Flu outbreak, in which many people purchased large amounts of food, disinfectant, and the antiviral medicine oseltamivir. Another example was during an outbreak of flu in Hong Kong in 1968, in which a shortage of medicines emerged due to the public buying up supplies, along with rioting and looting of restaurants and grocery stores (Taylor, 2019). During the COVID-19 outbreak, hoarding also occurred due to fear of losing their current standard of living (Sobirova, 2020). However, the hoarding of vaccines, masks, and sanitizers for self-protection is counterproductive, because if other people cannot access these products the risk of further infection will only increase (Van Bavel et al., 2020). This situation requires altruism and social solidarity at the national and international level. Far too little is known about possible individual differences in hoarding behaviour. It would be a valuable target for future research.

**4. Personality and public-health communications**

Lastly, we look at the involvement of personality, and how best to use behavioural science to communicate effective health-related messages. This is a very relevant psychological angle with considerable practical implications.

The first appearance of the unknown virus raised a huge health concerns in the population. As such, increased fear and anxiety resulted in conflicted and cautious behaviour and higher rate of acceptance of the lockdown as a strategy to fight pandemics. Over the time, the economic situation and mental health issues are being perceived as more dangerous than the pandemic itself. Therefore, during this pandemic it is important to adjust the public health messages in order to maintain disciplined behaviour aimed at decreasing the spread of the virus.

Although fear has been related to the higher level of health compliance (Harper, Satchell, Fido, & Latzman, 2020; Pakpour & Griffiths, 2020), it contributes also to a higher level of distress and lower mental health in general. For this reason, it is important that health messages are designed in such a way so as to produce better health compliance while at the same time not adding to existing levels of fear, anxiety and depression. A few studies have suggested that compliance can be achieved by promoting more proactive or positive goals. Bacon and Corr (2020a) found that approach motivation, specifically the Reward Reactivity tendencies (i.e. measure of how strongly one is experiencing the reward), alongside fear-related tendencies, are important in accounting for compliance. In their follow-up study, Bacon and Corr (2020b) reported a role for Goal-Drive Persistence scale (measure of persistence to accomplish long-term goals) in the prediction of health compliance. A comparable finding was also reported by Žuro, Krupić, and Krupić, (2020), where the effect of these two approach measures on health compliance was replicated with different measures and in a different culture.

These findings suggest that it would be more effective (and/or less costly) if the public health messages were reframed to evoke approach motivation and behaviour, and this is quite separate from any role for avoidance motivation.

**5. Conclusion**

Preventive measures are crucial to curtail the spread of COVID-19, as well as to lessen the resulting damage of social, political, and economic conditions – these are likely to affect more people that the virus directly. While the current pandemic has caused uncertainty, helplessness, and fear of falling ill and dying (for oneself and/or family members), the measures taken by authorities to prevent the spread of infection have had a significant psychological impact. Curfews, lockdowns, quarantines, self-isolation, and social distancing have all contributed to feelings of the loss of independence, challenges within the family, fear of losing one's job and livelihood, loss of social contacts, and loneliness, and these feelings have contributed to anxiety, anger, stress, and depression. Many people have been stigmatised: those who have recovered from the illness or who are thought to have been exposed to it, and healthcare workers and frontline workers (cashiers, security workers, caregivers, etc.). Another behavioural change is the need to wash one's hands or use hand disinfectant frequently and this has contributed to the formation of obsessive-compulsive behaviours which may last long after the pandemic subsides.

At the same time, there are also positive aspects which may be associated with the pandemic. For instance, when people wear masks, they not only considering their own health but also the health of others, in particular those people who belong to risk groups. Another example is the decision on the part of shoppers not to hoard items during the crisis, but to buy only what they need. However, we need to bear in mind that all psychosocial impacts affect people differentially. Determining the psychosocial effects of the pandemic would assist psychologists and psychiatrists in determining appropriate forms of psychological treatment and/or intervention; and here individual differences in personality should not be ignored – differences between people in their habitual ways they think, feel, and behave are relevant.

Our review has some limitations that need to be acknowledged. We discussed short-term psychosocial effects of the current pandemic, such as anxiety, stress, depression, and so on, however, we are not yet able to observe the longer-term effects, such as the development of posttraumatic stress disorder or obsessive behaviours that persist after the present medical emergency. Another limitation is that the psychosocial effects of the pandemic may vary depending on the specific country's perceptions of the pandemic and measures taken locally as much as demographic characteristics, such as age, gender, and occupation. Country-wide and regional differences are likely to be relevant, yet our study has not focussed on them. At the present time, there is too little data to make meaningful comparisons. With a sustained research effort much more will be known about the psychosocial impacts of COVID-19 and we shall be in a better position to help those who have been most affected.

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