

# Psychiatric Consequences of Novel Coronavirus Pandemic

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**ABSTRACT:** The spreading of the new COVID-19 is changing priorities, bringing new challenges to medicine and disrupting the social-biological-psychological balance resulting in mental health consequences during the active epidemic but more important, in the sequel of the outbreak, with expected long-term effects. First, there are psychiatric patients that tend to be less compliant to containment measures and therefore can present higher risk of infection. Moreover, official protocols recommend the stop of most antipsychotic drugs during infection with Covid-19 which can lead to relapse of mental disorder. On the other hand, restrictions in the healthcare units are impacting the relationship and contact between doctor and patient which in some cases, are psychological comforting and reassuring for the ill during treatment. Another aspect targets general population. The quarantine, work shutdown, self-isolation and unemployment are powerful stress factors with possible significant rise in depression, anxiety, obsessive-compulsive disorder, sleeping disorders, substance abuse (mainly alcohol) and suicidal behaviors. Loneliness and lack of normal daily routine, even in the era of internet and social media can bring up the importance and necessity of human contact and diversified activity. Isolation and closing of educational activity can increase incidence of domestic violence and child abuse within families with such problems but also new such cases can emerge due to stress and tensions between family members. Healthcare workers tend to be affected mainly by stress, lack of sleeping and burnout. All variables must be analyzed on account of prevention and management.

**KEYWORDS:** coronavirus, anxiety, depression, isolation, pandemic

## Introduction

2020 has begun with mankind facing an unexpected enemy. SARS-Covid-19, the new strain of coronavirus, has challenged the states of the world at all levels and even with all modern science, technology and medical evolution, the massive global spread could not be withheld. Covid-19 pandemic has forced worldwide governments into taking drastic measures in efforts to contain this threat, protect people, keeping public health and healthcare in balance but these measures disrupted every aspect of normal life routine: economy, transports, industry, social life, sport, travel, outdoor activities.

During crisis, the main priority is protection of the healthy and effective treatments for the ill. All efforts, human and economical, are concentrated in that direction with complete shutdown of a large part of industry and companies, reducing healthcare to strict emergencies and focusing all medicine to dealing with cases of infection, quarantine, isolation, social distancing. As powerful and important these measures are, as important the psychological impact will be on people. In full active pandemic, stress and tension, efforts in coping with the situation, are concealing the influence on mental health with some immediate consequences in some individuals but most of these consequences will appear in the aftermath of the event with possible long-term results. All categories of people can be affected; psychiatric patients, apparent healthy individuals, elder population and health care workers. The impact of Covid-19 has been compared in some recent articles with that of a massive traumatic factor like natural disasters such as earthquakes, tsunamis or volcano eruptions but at a global scale therefore public mental health is expecting challenges in the immediate sequel of the pandemic (Galea, Merchant and Lurie 2020).

## **Impact on general population**

Blocking normal daily routine, social distancing, quarantine and isolation, disrupting job activities and entertainment events translates into an important and sudden change of life for every individual.

People undergoing quarantine in other places than their homes or people who live at long distances from their families, have to face anxiety, panic, continuously stress related to their own and their kin's health state, being outside their comfort and safe zone. People undergoing minimal prevention measures like staying at home and social distancing are exposed to the same issues but in their cases, the idea of home, of safe zone, becomes in some cases, a space that protects them with the cost of freedom. In both cases, psychological stress increases with the way a person perceives their isolation and the absent things they consider most important. Moreover, adjusting to a new way of life usually takes a long period of time for the mind and for the body. Crisis like pandemics, require sharp, short, 180 degrees changes with no time limits or insurance of best results. These sudden changes represent an important stress factor by itself and in many cases, turning back to normal life will be as hard and stressful as entering the emergency state.

Loneliness and boredom are 2 problems that single people have to deal with in this period. Different levels of depression can affect these people. New cases can appear or undiagnosed problems can worsen, going up to suicidal behavior. There are authors that consider fear of the virus to be more significantly than personal matters during isolation with severe depression and suicidal behavior appearing in the months after the threat has passed, mostly for vulnerable people facing also unemployment and economical consequences of the epidemic (Kawohl and Nordt 2020).

Another group that took a hard hit within these months is represented by people working in unorganized sectors, without formal papers, steady payments or health insurances which remained with no income and struggling for survival. In this case, besides the psychological impact there are discussions regarding the possibility of crime rate increase in this sector.

Loneliness can be a powerful psychological enemy even in the era of television, internet and social media. Although communications are widely open it is a fact that face to face contact, physical proximity, live socializing and communicating provide psychological comfort, balance and a state of wellbeing in terms of mental health. It is a part of gaming and social media addiction problems that tend now could now concern all individuals, active and extrovert people being most affected. Furthermore, a lot of misinformation and fake news have been circulating through the web and mass media causing further panic, anxiety and stress and pushing people to take unnecessary or dangerous measures to protect themselves from the virus (Kumar, Anant, Nayar 2020).

The people who were in close contact with infected people, people who lost dear ones to the virus and the ones who recovered from the infection, especially those who were in the ICU Units, are facing even more psychological tensions with fear of complications, lack of control over their lives being stigmatized and feared. Recovered patients in China presented not only depression and anxiety attacks but a majority of them presented signs and symptoms of post-traumatic stress disorder and mixed sleep disorders, young individuals and women being the most vulnerable group (Jiang, Nan, Lv Zy, and Yang 2020).

For elder population, coronavirus epidemic had maybe the most powerful impact. Seniors have reduced physical capacities, underlying chronic diseases (that receive poor attention during crisis), a frail immune system and decreasing psychological capabilities to comprehend prevention protocols which tend to make them vulnerable not only to Covid-19 infection but also to mental health imbalances. Anxiety, sleep disorders and severe depression can occur to elder people, especially through fear, despair and paranoia mainly because of misinformation, loneliness and lack of social and family contact.

Children are affected in a vary variate way depending on the community they come from, health status, social status and type of family they live in. For ADHD or autism patients social

distancing translates to losing therapy sessions and losing the chance to normal socializing and education provided in school, transferring a part of that responsibility on parents, because online classes and telephonic sessions will not cover all the needs these children have. So, there are two affected groups in this case. For lonely parents, mental impact could be even higher as duties cannot be divided among two adults. For some children, gaming or other computer related addictions could aggravate while for others, school shutdown and lack of extracurricular or outdoor activities could lead to such issues. Family relations, organizing and communication play an essential role in prevention and management computer and internet related addictions. Very young children can be affected by school and other activities closure directly in the process of brain development and once again, the quality of time spent with the parents and during online classes and the type of indoor activities the child will be involved in, will have a most important role through this phase. There are some youngsters that go through family separations or even through the death of family members due to the coronavirus infection. The impact on a fragile mind and a personality in active development could have serious consequences, from post-traumatic stress disorder and sleep disorders to behavioral disorders. The attention and support these children need is considerably so management of these cases should be a priority for those surrounding the child, both society and family. For children coming from poor families the problems vary. The school closure have an impact not only because that is the space where they can have a normal life and opportunities but also because many of them depend on the system's daily meals and material support. Another aspect is concerning families with history of domestic violence and child abuse (sexual or physical) where the number of such episodes could increase due to containment, increasing tensions between family members that spend a lot more time together and lack of communication and understanding. Sustained stressful living conditions can lead to mental imbalances for all victims of violence but especially for children that are prone to develop behavioral disorders, addictions and could increase the risk of involvement in criminal activities later (Ghosh 2020).

### **Psychiatric patients during COVID-19 pandemic**

For people with mental illness there is a general higher susceptibility in contacting infectious diseases, especially during an epidemic. In China, there were observations regarding an increased number of positive patients inside psychiatric facilities and among psychiatric patients in general (Yu-Tao et al. 2020).

The reasons for the high susceptibility could be the difficulty of assessing and recognizing their signs and symptoms, low compliance to prevention protocols and ignoring information and measures regarding the infection. There is also a much scientific explanation for some of the psychiatric patients being prone to infectious diseases. A study in 2013 suggested that untreated depressive disorders are associated with lower immunity response to infectious agents and that antidepressants normalized the body response both to the disease and treatment (Irwin, 2013). This could be a problem as well for undiagnosed patients and for those who neglect or cannot take their medications for various reasons.

In the case of dementia, patients undergo a much higher risk because they usually have other medical conditions, especially cardiac or pulmonary diseases. For dementia patients that are not hospitalized or institutionalized, health and maintenance support is exponentially decreased resulting in possible decompensation of the disorder or appearance of additional depression and anxiety that worsen the primary condition.

Another problem for health care workers is psychiatric patients positive to COVID-19. What we know so far is that Hidroxicloroquine is most effective drug in treating coronavirus symptoms, in combination with Azitromicine. It is also a fact that Hidroxicloroquine is metabolized by a large number of P450 Cytochrome enzymes, including CYP2D6 which is inhibited by psychotropic drugs such as risperidone, venlafaxine and several tricyclic antidepressants. Combination of these drugs could lead to increased concentration of

hidroxichloroquine and its severe side effects. In matter of antipsychotic drugs, hidroxichloroquine is known to increase concentration of Phenothiazines up to high toxicity levels and official protocols recommend stopping any psychotropic drug in course of anti-COVID-19 therapy. This could result in a two-sided blade situation: on one hand, stopping psychotropic drugs could lead to decompensation and necessity for replacing psychiatric medication in order to stabilize the patient because the main priority is saving his life no matter his mental state. On the other hand, there is a possibility that depression by itself could lower the response to infection and treatment but choosing the correct antidepressant is complicated due to its interaction to Hidroxichloroquine. On top of all that, there is another debatable problem regarding Hidroxichloroquine is its capability to induce psycho-motor agitation, verbal and physical aggression and psychosis as a side effect, mostly in auto-immune and elder patients (studies describe patients with rheumatoid arthritis or systemic erythematous lupus) which will involve the collaboration between psychiatrist and other specialized medical practitioner (Mascolo and Berrino 2018; Manzo and Gareri 2017).

Another subject that needs to be brought to attention is the one of substance and alcohol abuse. People with addictions represent a vulnerable group as they generally have poor health state, underlying conditions due to complications of drug consumption and are less compliant to containment measures. Spreading the virus within their environment would be easy for some of them as they could ignore symptoms up until severe stages.

Withdraw syndrome could appear in all cases of substance abuse as transportation, imports, and circulation restrictions blocks the supply of many drugs. Moreover, COVID-19 positive patients that require hospitalization could go through withdraw symptoms, making the management of the case more difficult.

In matter of alcohol abuse, people may consume more in an effort to cope with solitude, isolation and material or family problems and furthermore, some people could end up aggravating their dependence while other people with no history of addiction could become dependent during this period.

Whether there is an aggravating addiction or withdraw syndrome, substance abuse during restrictive times can lead to behavioral disorders, increase of violence and criminal incidents.

### **Mental health for health care workers**

Every massive health threat puts one type of "soldier" in the first line of battle with that threat in efforts to protect and save the others: the health care worker that includes doctors, a nurses, microbiologists, pharmacists and all health assistants but also police, military and intervention departments. Battling an infectious disease with worldwide spreading capacity involves medical fields dissolving their boundaries and work together in effort to save lives. The ongoing pandemic united worldwide specialists against COVID-19 but unfortunately, medicine faced a various number of obstacles: limited staff confronting a massive number of cases, limited space and decreasing treatment and protection materials, longer shifts and working hours, a completely unknown agent with few treatment possibilities that cause patients losses and frustration that bring up mixed feelings of guilt and uselessness, the fear for their lives and the lives of their families and isolation from family as a protective measure. On top there are health systems that had to deal with a high mortality rate (Italy, Spain) which extended even more the psychological trauma.

A highly susceptible group to depression, sleeping disorders and suicide meets an even powerful stress factor and while burnout symptoms are starting to emerge throughout these people, now, during an ongoing pandemic, the real and serious problems will be expected in the aftermath of the event. Studies from China and other Asian areas describe 50% of health care workers showing signs of depression, and 45% showing signs of anxiety with a wide distribution of insomnia, burnout and most concerning, post-traumatic stress disorder symptoms through these groups (Tan et al. 2020).

Once again psychiatry is expected to bring support for this specific group and its specific problems both during the crisis but mostly immediate after when health care workers could need most of all, help and assistance with facing the consequences of their work. Incapacity of communicating with family members, difficulties adjusting to more relaxed programs, self-isolation and inability to socialize outside medical system are just a part of the problems they may face. The price and the things they are sacrificing in this line of work is something accepted but often discovered after the "battle" is over.

## Conclusions

SARS-COVID-19 pandemic has affected worldwide population at all levels of life, disrupting people's normal existence, taking away some of their freedoms and disrupting their bio-psycho-social balance. The impact factor is comparable to a traumatic event such as natural disasters but at a global scale. Psychological effects tend to reside and grow in the background of the active stress, the mind being occupied with fighting the threats and adjusting rapidly to the new way of life and it is this abrupt change and adjustment that gives the first psychological blow. Furthermore, after such drastic changes, returning to normal may be a real psychological and physical effort.

The state of well-being, both mental and physical, are decreased exponentially within all population categories no matter any of their status but with higher effect on susceptible personality types, psychiatric patients, people affected directly by the coronavirus and people that work in the front line of the health system.

Priorities are now saving lives and stopping the virus but there must be a realistic assessment of all side effects of the countermeasures, especially of the ones on mental health whereas all psychological and psychiatric disorders influence life quality, productivity in every domain, natural evolution and the social balance of every community.

Most of the measures and protocols taken widely to stop spreading the virus are quarantine, isolation, educational closure, social distancing, economy closure, limited outdoor activities and entertainment possibilities. These actions lead mostly to depression, anxiety, sleep disorders, increases in domestic violence and child abuse incidents and even suicide in the aftermath of the pandemic. Other categories may be more seriously affected such as psychiatric patients that tend to have low compliance to containment or pose difficulties during treatments for coronavirus or health care workers who are prone to burnout and post-traumatic stress disorder.

Although psychiatry aligned itself to support all individuals who need assistance facing the crisis through media, internet and telephonic connections, it is expected that psychological trauma and mental disorders to be the next crisis we face, among other political and economy problems. Preparing a plan of management that covers all aspects and possible affected groups should be part of ongoing scientific and medical community efforts.

There are new studies and clinical evidence that describe neurobehavioral symptoms in more than a third of COVID-19 patients, not counting possible side effects of ICU hospitalizations. These symptoms include dizziness, loss of taste and smell, headaches, impaired thinking, speaking disorders or disorientation. These studies are triggering concerns for possible long term side effects of COVID-19 infection at neurological and psychiatric level, although more studies are required to assess these statements (Asadi-Pooya and Simani 2020).

## References

- Asadi-Pooya, A.A. and Simani, L. 2020. "Central nervous system manifestations of COVID-19: A systematic review." *Journal of the Neurological Sciences*, 116832.
- Chen, Q., Liang, M., Li, Y., Guo, J., Fei, D., Wang, L., and Wang, J. 2020. "Mental health care for medical staff in China during the COVID-19 outbreak." *The Lancet Psychiatry* 7(4): e15-e16.

- Galea, Sandro, Merchant R., Lurie N. 2020. "The mental health consequences of COVID-19 and physical distancing the need for prevention and early intervention." *Jama Internal Medicine* 10.1001/jamainternmed.2020.1562.
- Ghosh, Ritwik. 2020. "Impact of COVID-19 on children: Special focus on psychosocial aspect." *Education* 31: 34.
- Jiang, HJ, Nan J, Lv Zy, Yang J. 2020. "Psychological impacts of the COVID-19 epidemic on Chinese people: Exposure, post-traumatic stress symptom, and emotion regulation." *Asian Pac J Trop Med [Epub ahead of print]*. Available from: <http://www.apjtm.org/preprintarticle.asp?id=281614>.
- Kawohl, W, and Nordt C. 2020. Covid-19, unemployment and suicide. [https://doi.org/10.1016/S2215-0366\(20\)30141-3](https://doi.org/10.1016/S2215-0366(20)30141-3).
- Kumar, Anant and Nayar, K.. 2020. "COVID 19 and its mental health consequences." *Journal of Mental Health* 1-2. 10.1080/09638237.2020.1757052.
- Manzo, C., Gareri, P., and Castagna, A. 2017. "Psychomotor agitation following treatment with hydroxychloroquine." *Drug safety-case reports* 4(1): 6.
- Mascolo, A., Berrino, P. M., Gareri, P., Castagna, A., Capuano, A., Manzo, C., and Berrino, L. 2018. "Neuropsychiatric clinical manifestations in elderly patients treated with hydroxychloroquine: a review article." *Inflammopharmacology* 26(5): 1141-1149.
- Tan, Benjamin and Chew, Nicholas and Lee, Grace and Jing, Mingxue and Goh, Yihui and Yeo, Leonard and Zhang, Ka and Chin, Howe-Keat and Ahmad, Aftab and Khan, Faheem and Shanmugam, Ganesh and Chan, Bernard and Sunny, Sibi and Chandra, Bharatendu and Ong, Jonathan and Paliwal, Prakash and Wong, Lily and Sagayanathan, Renarebecca and Chen, Jin and Sharma, Vijay. 2020. "Psychological Impact of the COVID-19 Pandemic on Health Care Workers in Singapore." *Annals of Internal Medicine*. 10.7326/M20-1083.
- Yu-Tao, Yan-Jie, Zi-Han, Xiao-Hong, Na Zhao, Teris, Chee. 2020. "The COVID-19 outbreak and psychiatric hospitals in China: managing challenges through mental health service reform." *International Journal of Biological Sciences* 16(10): 1741-1744.