

## Psychological Impact of Novel Coronavirus Covid-19 Across the Globe-A Review

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## PSYCHOLOGICAL IMPACT OF NOVEL CORONAVIRUS COVID-19 ACROSS THE GLOBE-A REVIEW

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### ABSTRACT

The recent outbreaks of novel coronavirus disease have unprecedented impact on mental health of patients, front-line healthcare workers and local population. However, the impact is not fully documented. This review explores stress-driven factors, stress-vulnerable groups and stress management interventions. Repetitive exposure to mass media and inappropriate health protective measures has heightened stress responses. Fear of not getting recovered from COVID-19 and disaffection has profound impact of infected individuals and their families. They may experience fear, anxiety, anger, sleep deprives and anorexia which may weakens their immune system thus making them vulnerable to COVID-19. The COVID-19 pandemic has underscored potential gaps in mental health services during emergencies. Remote (telephone and internet) and onsite medical services with self-help coping strategies should be introduced. Although psychological interventions may overburden health care facilities and tax available resources but for effective prevention of COVID-19 both physical and mental fitness are mandatory. Effective risk communication in public health emergency is fundamental to prevent or reduce the crisis.

**Keywords:** Anxiety, infectious disease, prevalence, psychological distress, SARS-CoV-2.

**Abbreviations:** WHO: World Health Organization, SARS: Severe Acute Respiratory Syndrome, MERS-CoV: Middle East Respiratory Syndrome Coronavirus, (2019-nCoV: 2019 Novel Coronavirus, SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus, PPE: Personal protective equipment, CVD: Cardiovascular disease, UV: Ultraviolet

### INTRODUCTION

Infectious diseases have appeared at different times in history but increased globalization in recent years led to the spread of pathological agents resulting in worldwide pandemics. Pandemics affect individuals at different levels, causing stigma and xenophobia. Pandemics have an important political, psychosocial and economic impact which causes public health crisis (Ornell et al., 2020). It has been observed that when epidemics start, it proceeds to a phase and before drifting towards closure it increases its tension and put individuals at peak of crisis (Jones, 2020).

Coronaviridae that are in ineradicable circulation represents a very important family of human and animal viruses. 10-20% of respiratory infections are caused by four common human coronaviruses (HKU1, NL63, E229, and OC43) that are existing in all continents. Emerging coronaviruses had affected human beings in three epidemic episodes (SARS, MERS, and SARS-CoV-2) (Roussel et al., 2020). In Southern China  $\beta$ -coronavirus was first identified in November 2002, with a fatality rate of 7%. MERS was the second coronavirus,

first appeared in Saudi Arabia in 2012, which resulted in a significant global health crisis (Peeri et al., 2020). At the end of December 2019, China reported novel pneumonia caused by a virus of unknown etiology (Lai et al., 2020). It was initially named as 2019 novel coronavirus (2019-nCoV) and WHO officially named it COVID-19 (coronavirus disease 2019) on 11<sup>th</sup> February 2020 (Guo et al., 2020). Key factors (i.e., doubling time, identification of asymptomatic carrier, incubation period) which define the course of the epidemic are poorly understood in COVID-19 posing challenges for its effective control and treatment. The cost of COVID-19 is not only loss of human life but also the economical, physical and mental wellbeing. Quality of life is severely compromised during the recent pandemics (Zheng et al., 2020).

### ***Factors for Psychological Distress***

#### ***i. Pandemic***

After the declaration of COVID-19 as pandemic on 11<sup>th</sup> March, 2020, the word pandemic itself has frightened the whole world. Absence of any treatment has worsened the situation and people has locked themselves up for unlimited duration with unknown consequences for their own safety. Massive self-isolation and lock down is likely to raise anxiety ((Horton, 2020, Petric, 2020).

#### ***ii. Mass Media***

Since its first report from Wuhan China in December 2019, immediately it has taken attention of public, politicians, policy makers, journalists, medical and media representatives. The media is continuously increasing the stress and panic by reporting how quickly this disease is progressing. However, media is responsible for not only providing the facts but also for preventing the false information from being spread and thus causing negative hype between the masses. Therefore, not only the disease itself but it havocs in people leads to instigation of psychological stresses, lack of sleep, anxiety, no social life and even distancing in family's own relatives (Limcaoco et al., 2020).

#### ***iii. Financial Crisis***

Financial loss serves a huge problem in the period of quarantine. People are not able to work and their professional activities have been interrupted whose effects happen to be everlasting. The functional loss of professional activity has burdened the economy of the countries. Where it is considered appropriate, employers should find a suitable way to benefit the employees by allowing them to work from home while keeping in mind that the distance working environment might not be as feasible for every employ as the expected (Brooks et al., 2020a).

#### ***iv. Frustration and Boredom***

The virus seems to take away the freedom of everyone. It has damaged the psychological health of people. It serves as a stressor stimulant as people are unable to continue their daily life routines as was done previously before the lockdown. Besides anxiety and stress, boredom and frustration also has prevailed among people. The continuous state of fear, lack of any social interaction and the economic crisis may result in chronic state of depression. Children and old people are among those who have suffered the most among all age groups (Wang et al., 2020).

v. ***No Real Social Interaction-Social Distancing-Virtual Meetings***

In normal routine, kids and teens are regularly in close physical closeness at school, have not exactly flawless cleanliness practices and have low resistance to numerous diseases, driving them to be named as 'super-spreaders' of flu. That's why, closing of educational institutes was among the first measures taken to stop its super spread. Kids should not be left unattended at home otherwise they may take part in other hazardous practices (Roussel et al., 2020). Distance learning has also developed stress among students due to unavailability of internet and unavoidable circumstances at home. Virtual learning is undoubtedly inevitable future but it has posted numerous challenges to infrastructure of educational institutes, students and teachers. It is due to uncommon way of teaching-the distance learning system. The common way of teaching is in closed space with the physical presence of instructor who is accessing their abilities in real-time (Brooks et al., 2020b).

vi. ***Suicide Cases***

Pandemic-related issues like social distancing and quarantine trigger unusual mental behavior leading to self-destructive practices. On March 25 (2020), in Dhaka, a 36-year-old Bangladeshi man got flu like symptoms and reduction in weight and ended his life thinking himself as a suspect case of COVID-19. However, postmortem report showed that he had not COVID-19 (Lewnard and Lo et al., 2020). Similarly in India on February 12 (2020) a person returning to his local town from city hanged himself in suicide to death. He came back to and fear of spreading COVID-19 to his town. Not the COVID-19 alone but the fear of getting it, is taking lives showing how negative impact it has brought to the world particularly among financially poor people. The fear of death for COVID-19 is not the only stress but when people show disaffection it also feels inhumane (Mamun and Griffiths et al., 2020).

***Risk Groups***

Quality of life has been at risk due to COVID-19. People with low life quality are at greater risk if they encounter COVID-19.

***Group 1: Health Care Professionals***

The forwards facing worker, such as emergency first responders, healthcare workers, and other non-healthcare associated employees (social workers, prison staff, waiters, and delivery staff) in addition to the intensified workload, are exclusively susceptible to COVID-19. The foremost explanation is lack of establishment of training for IPC (infection prevention and control) (Williamson et al., 2020). Therefore, for their own safety, risk management training against COVID-19 is mandatory (Huh, 2020). The rapid onset has not provided enough time to health professionals for any training for their own health care as well as for affected individuals and their families. They are working closely with COVID-19 infected individuals without any formal training. Healthcare workers are facing many challenges including insufficient diagnostic testing facilities (kits and labs), insufficient trained staff to process the tests and insufficient training of healthcare professionals (Cueto, 2020, Belingheri et al., 2020, Wang et al., 2020). Online training for nurses and doctors has been initiated. Training sessions were also planned and provided for other affiliates of the community (Eghbali et al., 2020).

The lack of PPE is a crucial dilemma. The supplies of personal protective equipment (PPE) and filtering face piece respirators (extensively used face masks), which are appropriate for filtration of airborne pathogens, are limited in number (Dargaville et al., 2020). The lack of appropriate training in when to wear it, what to wear, and how to put it on and how to take it off, what can be reprocessed and washed?, must the N-95 be put on throughout all patient dealings or only under certain settings? (Harrington et al., 2020). In the nonappearance of a vaccine, social distancing remains only an effective measure. However, healthcare medical persons cannot maintain social distancing when it comes to treatment. They are directly exposed to the patients and thus may get infected (Stier et al., 2020).

### ***Group 2: COVID-19 Affected Individuals***

Quarantine is a unique historic preventive measure that has been in practice at global level for the first time for majority of people. Therefore, among several aspects, one of the most influencing features upsetting the community as well as individual is stickiness to the isolation with insufficient and mistaken information regarding the quarantine guidelines and contagion. Community health groups must frequently check with those in confinement (Webster et al., 2020). Owing to fear of COVID-19, intense excessive measures of indefinite effectiveness are implemented and practiced. Assuming the doubts, one may pick for plentiful cautiousness and implement the strictest restraint measures. So, for patients with no acute signs under strict measures may develop anxiety and low esteem (Ioannidis, 2020). Irrespective of the contact, society may experience anxiety, depression and terror of dying. They may also experience feelings of becoming ill and being held responsible for making other individuals sick thereby initiation of emotional and mental collapse. Additionally, they might go through guiltiness stigma, or embarrassment. It has been observed that incidence of mental suffering is associated with extended period of quarantine or isolation. Post-traumatic anxiety disorder may persist among the individuals who had experienced quarantine (Ho et al., 2020). The government and mass media have truly been worried with the worldwide financial and health consequences of this viral disease, yet they were unable to recognize the immediate increase of the racial intolerance and preconception (Coates, 2020). Stigma and terror concerning the epidemics of COVID-19 may lead to undesirable outcomes of the illness control as observed in Ebola and SARS outbreaks. Consequently, there is a requirement to propose an operative anti-stigma platform that interrupts the misunderstanding in COVID-19 (Lin, 2020). Subjective media reporting with humiliation can also deteriorate the situation when people's psychological fitness is worsened for over an unspecified extended time (Pasqualoni, 2020) (Zheng et al., 2020).

### ***Group 3: Comorbid Psychopathology***

Anxiety, loneliness, depression, panic attacks and other psychological disorders have brought the life of the individual to a halt and in a constant state of shock. The Center for Disease Control and Prevention (CDC) has reported that spread of COVID-19 is causing stress in the public (Singh and Singh, 2020). After the diagnosis if COVID-19 comes positive, the patients are more vulnerable to have psychological concerns and disability leading to premature death (Kong et al., 2020). This global epidemic affects everyone but individuals with chronic diseases are at high risk (Kaufman et al., 2020).

#### ***i. Cancer***

In time treatment and effective diagnosis of cancer patients should not be overlooked during the pandemic. Frequent visits to oncology units for routine check-ups, surgical stays,

infusion treatment, radiation planning and appointments with family members results in a massive number of personal contact points and many potential opportunities for viral transmission (Kutikov et al., 2020, Shamsi et al., 2020)

**ii. Cardiovascular Disease (CVD)**

A retroactive study of MERS-CoV infection has shown that it was more likely to present in patients with underlying CVD. Early reports from China proposes that COVID-19 mortality rate was higher in patients having CVD (13.2%).(Ganatra et al., 2020). Currently telemedicine has been employed for their treatment (Driggin et al., 2020).

**iii. Kidney disease**

The continuous requirement of dialysis may be drastically affected by unavailability of specialists and nurses due to lockdown. However, nephrologists can also function with local calamity administration groups to make sure that the concern of worrying for patients with renal failure is well-adjusted through the areas (Burgner et al., 2020).

**Group 4: COVID-19 and Children**

The financial crisis and uneasiness, would be increased by the unpredictable period of lockdown and children are more vulnerable to all this scenario (Ganatra et al., 2020). Since the outbreak of COVID-19, school closure and home confinement has been adopted in many affected countries. The psychological impact on children and adolescents is the most important and easily neglected issues. Previous studies showed that mental health, physical health, and productivity in adolescence is deeply rooted in the early years. Children are more vulnerable to environmental risks, and during school closure, more problematic effects could be caused by a lack of personal space at home, the financial status of family (Stier et al., 2020). An outbreak of COVID-19 has a tremendous effect on the physical and mental health of the population. It is common for confirmed or suspected cases to suffer from other health-related issues such as insomnia, depression, which leads to severe mental distress (Li et al., 2020),

**Group 5: Others**

Pathogen risk can oblige people to remove themselves from others likewise on a mental level. Expanding on this thought, we anticipated that the progressing pandemic of Coronavirus can influence perspectives toward outside nationalities (Sorokowski et al., 2020). Due to coronavirus outbreak in China, China didn't allow international students to go back to their home countries and spread the disease there. Airlines throughout the world have temporarily dismissed all international travels and US has banned immigration to save the life of its citizens, making many people who are away from home, desperately wanting to go back. The situation with elderly is also same, being most prone to the disease as their immune system is mostly compromised, week or they are suffering from pre-existing ailment and the confinement in home has made it worse. Population of homeless people are at the risk of developing psychological distress. They are already disturbed. In low economy countries this portion of population is imposing big threat to government. Centers for Disease Control and Prevention (CDC) has provided brief online behavioral guide (Singh and Adhikari, 2020).

## ***Strategies to Combat COVID-19***

### ***i. Health Map***

People have learned lessons from previous pandemics i.e. SARS 2002-03, and MERS (Kong et al., 2020). COVID-19 has become a great challenge for nearly all the continents. A highly transmissible disease COVID-19 has challenged the infrastructure of public health to control it (Bulchandani et al., 2020). Media play an important role in society; people solely depend upon the news broadcast. Misleading reports can aggravate the worry, distress, and downstream of mental health of the community. To reduce mental health issues, strategies should be developed to mitigate the effect of misinformation approaching individuals through any sort of media (Holmes et al., 2020). Health Map was founded in 2006 now available for SARS-CoV-2, it provides information about the confirmed and suspected cases and their contact with the healthy person for last 14 days (incubation period of COVID-19), according to geographical location. This technique has been employed in many developed countries including Korea, China, Germany (Boulos and Geraghty, 2020) Moreover, the efficiency of public health studies regarding viral testing could be amplified by electronic laboratories (Lipsitch et al., 2020).

### ***ii. Robotic System***

Health care professionals who are caring for an infected person may feel mental instability than the epidemic itself (Huh, 2020). COVID-19 not only spread from close contact but through contaminated surfaces as well. Using non-contact ultraviolet (UV) surface disinfection could be achieved. The need of the hour is to break the chain of virus transmission. High-risk surfaces could be traced through micro to macro-scale new generation robots (Yang et al., 2020).

### ***iii. Telemedicine***

Grouping patients, before the arrival in the emergency department, is a laborious task. Telemedicine could meet this demand and it can protect clinicians and community from infection (Hollander and Brendan, 2020).

### ***iv. Drone Technology***

The main recommendation to stop COVID-19 globally is Stay Home. With the help of drone technology, one can overwhelm the goal of social distancing and can collect a sample by his/herself, or with the help of family, people can get electronically reports back and an infected person can quarantine themselves without infecting others. Previous studies revealed that drones have successfully worked during avian influenza A (H7N9) (Sedov et al., 2020).

## **CONCLUSION**

COVID-19 pandemic has disturbed mental health of general public globally. The fear of death, rising number of new cases and massive media reporting increases the community anxiety. Robust counseling support is dire need of the time.

## **CONFLICT OF INTEREST**

Nil

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