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## **Mental health and COVID-19: A review on post-pandemic mental health implications and its response in the context of India**

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**Abstract**--Background – Mental health care and concerns are usually overlooked when there are limited resources available to contain the pandemic. In this global COVID-19 crisis, mental health issues have increased and became one of the most underrated and widespread health concerns globally. Objectives – This study is an attempt to review the existing mental health concerns in the post-pandemic era through various strategies related to mental health care and global experiences with special emphasis on the context of India. By reviewing existing evidence, this study proposes recommendations and conceptual framework for mental health concerns in the pandemic. Methodology – The researchers have searched through Google Scholar and various electronic databases like PubMed, Web of Science, SCOPUS, etc. with the search terms like “psychiatry”, “mental health”, “COVID-19”, “Coronavirus”, “SARS-CoV-2”, “anxiety”, “stress”, “depression”, etc. in several combinations. They compiled information from published magazines, newspaper articles, journals, official websites of several NGOs and institutions and web pages, press releases, verified pages on social media, etc. Results – Some of the common health concerns reported were anxiety, stress, insomnia, depression, anger, denial, and fear. Some of the most vulnerable groups were older people and children, people with current mental health problems, and frontline workers. Suicide attempts were also very common amidst the pandemic. A lot of measures are taken across the world to address issues related to mental health by using intervention strategies and guidelines. Social media has played a great role in this context. State-sponsored intervention, toll-free numbers to address behavioral and psychological problems and tele-psychiatry consultations have been provided by the Indian government. Conclusion – A need-based intervention approach is needed that is specific to vulnerable groups with a positive approach and risk

management strategies at par with epidemiology of Coronavirus evolving these days. Prioritization and planning of mental health care would be instrumental in serving the most vulnerable population.

**Keywords**--COVID-19, coronavirus, mental health, depression, anxiety, insomnia, denial, anger, fear, suicide attempts, mental health care, mental health concerns.

## **Introduction**

COVID-19 was globally announced as “Public Health Emergency of International Concern (PHEIC)” by the World Health Organization (WHO) on January 30, 2020 (considering the events happening and increasing COVID-19 cases). Coronavirus reached the humanitarian crisis level with confirmed 6 million cases and over 350,000 deaths which were globally reported by May 31, 2020. This global pandemic posed 4 to people in developing countries (Davis et al, 2010) where the risk is rushed further by socio-economic factors (UN News, 2020). COVID-19 has consequences that affect both wellbeing and physical health along with mental health which can dramatically impact the healthcare system.

Looking back to the past, any epidemic or outbreak of contagious disease comes with a huge setback on mental health. For example, symptoms of anxiety disorder, depression, and “Post Traumatic Stress Disorder (PTSD)” were very widespread during 2014’s Ebola outbreak and these were most prevalent even after one year (Jalloh et al, 2018). The HIV pandemic across the world also showed the same picture across the world. HIV-infected people reported a significantly higher prevalence of mental disorders as compared to the general population (WHO, 2008). In the aftermath, PTSD has posed a huge challenge and health risk to the general population of India. Existing healthcare system is exclusively engaged in providing emergency services. The mental health of people with dependency disorders and substance abuse is deteriorating day by day due to the pandemic (Clay & Parker, 2020).

The recession and financial crisis which was forecasted due to the “Great Lockdown” posed fear among the common public since the world’s worst financial crisis of 2008 “The Great Depression” (IMF Blog, 2020). A lot of industries are facing job losses and pay-outs across America and Europe and there is a massive risk of growth of unemployment to 14% in the US and it can be even worse to 20% in the post-pandemic era. It can give a rise to suicide rates among financially weaker sections of society (Deccan Herald, 2020; India News, 2020).

Stigma was also reported among frontline workers due to the fear of infection globally and it leads to increased cases of mental health disorders, such as depression and anxiety. Professional organizations, government organizations, civil bodies, and other stakeholders have taken various steps to improve mental health in a while. Considering the extant data collected from pandemics in the past, along with emerging data from the COVID-19 pandemic, psychological morbidity has been rising inevitably, according to “The Academy of Medical Sciences (2020)” and Maunder et al (2008). In addition, it is assumed that this

morbidity may rise in the post-pandemic world and last even longer than the physical health effects of Coronavirus (Gunnell et al, 2020). In various perspectives, this trend has been noticed where early stages didn't herald the rise in mental health consequences necessarily.

However frontline healthcare workers have been facing increased payloads while adapting to the new normal. In addition, the expected rise in mental illness with increased suicide rates is mostly deemed in the post-pandemic stage as limited resources for mental healthcare, economic slowdown, the stark reality of the drastically changed lifestyle, and increased vulnerabilities unite. There will be a disproportionate effect of mental health fallout on the most underprivileged and vulnerable sections of society, which is a major concern these days, especially those already suffering mental health disorders (Yao et al, 2020). Due to a lack of empirical data, it is worth asserting that the common effects of the epidemic on mental healthcare are still a less-explored area for psychiatrists before COVID-19. Addressing plenty of complicated and unexpected scenarios with high-risk results is in constant need. In residential settings, children returning to their families without transitional help or proper safety planning have epitomized it (Goldman et al, 2020). Considering these issues, resourcing mental health services is very much required, apart from global collaboration to address increasing suicide rates (Gunnell, et al, 2020).

Taylor & Asmundson (2020) suggest that "COVID Stress Syndrome" is very prevalent in some people during this existing pandemic, which is characterized by fear of touching contaminated objects or surfaces, fear of infection, seeking reassurance, xenophobia (i.e. a kind of phobia that foreigners might be infected), and traumatic stress symptoms related to COVID (such as nightmares and intrusive thoughts related to infection). Taylor et al (2020) has introduced a set of measures "COVID Stress Scales" to have a better understanding of distress related to COVID. It is observed that populations with "COVID Stress Syndrome" have psychotherapy that already exists, especially symptoms of contamination, and high levels of already prevalent "obsessive-compulsive checking" and health anxiety. Whether "COVID Stress Disorder" is just an adjustment disorder is yet to be determined once the pandemic ends or whether it is going to be chronic for some people.

A syndrome that resembles agoraphobia superficially "Hikikomori" is also prevalent in an existing pandemic. It makes people unwilling to leave their house and loners. It is a serious social withdrawal that can last over 6 months (Teo, 2010) and it was once prevalent in Japan only but has been reported in other countries eventually (Bowker et al, 2019). Hikikomori may be prevalent again due to COVID-19 as health-conscious populations in outside locations which are highly contaminated retreat to the safety of their homes or apartments. Due to technological advances, it has been even easier to reach their homes. Even before COVID-19, the "Work from home" trend was already very prevalent (US Census Bureau, 2013), for example shopping online rather than visiting stores (US Census Bureau, 2014), streaming movies online rather than rushing to theaters (Plaugic, 2018), and getting food delivered at the doorsteps rather than dining in restaurants (Singh, 2019). These trends have been accentuated during COVID-19 where homes became safe havens from a virus.

In the wake of the global pandemic, even those people who have to go out every day for their job, studies, or other purposes may have developed germophobia or become fussy, trying to avoid shaking hands, hugging people, and touching surfaces that might be contaminated. The “obsessive-compulsive disorder” also leads to germ phobias due to environmental and genetic factors (López-Solà et al, 2016). All these factors are combined when a person has suffered a traumatic experience and develops a germ phobia (Taylor, 2011). Usually, these phobias are chronic (Visser et al, 2014) and milder phobias may not live longer. Considering all such evidence, it is expected that some people may develop a phobia of germs due to COVID-19. On that note, it is not easy to claim at least how many people will be affected by this syndrome.

Some other after-effects may also be observed. Some people who may have survived this pandemic may be more self-sufficient and frugal like those who survived the 1930s Great Depression (McManus, 2010), for example, rushing to back up the supply of non-perishable supplies and food items. Considering anecdotal evidence, some people may be persisting with neuropsychiatric issues and chronic fatigue in the aftermath of infection (Troyer et al, 2020). This study is an attempt to discover existing mental health concerns during the pandemic with global concerns and suggest strategies related to mental health care in India. This study is aimed to propose a recommendation and conceptual framework for mental health problems during the pandemic.

## **Discussion**

### **Mental health implications during COVID-19**

The COVID-19 pandemic has created new barriers and challenges for everyone. No one would ever forget the year 2020 in their lifetime. Many of us lost jobs, loved ones, houses, etc. The pandemic has caused a recession in the economy and deterioration in Mental health. It has been challenging for individuals who were already suffering from any kind of mental disorder or psychological distress and individuals who have a substance addiction (Kennedy et al.,2020).In America, every 4th person in the 10 has reported symptoms of Anxiety Disorders in the year 2020. The health Tracking poll of 2020 highlighted that- most of the individuals felt issues with sleeping and eating.

- 36.5% were not able to sleep or eat.
- 30% were not able to have a balance between work and personal life.
- 10% were obsessed with substance and alcohol consumption.
- 12% were distributed and unable to cope with the stress.

The people suffered a lot during COVID-19 is just because of two measure reasons. One is isolation and the other is unemployment or job loss. Due to the immediate imposition of lockdown and restriction on the travel and transport system, some of them had to stay away from their families. Studies have shown students who were studying abroad could not return to their homes, staying at this phase of time was difficult. Most of the people lost their jobs due as Companies were running in losses. No company wanted to hire new employees

during this time. The daily wage workers had even no money to prepare as all the factory work and construction works were paused.

The pandemic has witnessed many companies shifting their work culture to work from culture. Employees working from home, mostly feel overburdened as they have a work schedule and managing an important call when you have small children in homes becomes hectic. The immediate imbalance between work and personal life led to poor mental implications for employees. It was especially difficult to collaborate due to interrupted network connection and having a single device at home and more than one person working. Few instances have been seen where the Employees or Working people have used abusive words as they did not find a quieter place at their home to work. Young adults have suffered Academic losses or job losses (Fauzi & Paiman, 2020). The Students who were in their final year of college had to detain around a year due to postponed exams. The Academic year for 2021 started very late. This created self-doubt and a lack of confidence among the young adults. And the Young Adults who were about to join the job had to wait for a year. Young adults have faced several disease outbreak repercussions, such as university shutdowns and financial difficulties, which may have contributed to poor mental health. During the global epidemic, a higher-than-average percentage of young grownups (age range 18-24) indicate anxiety and/or psychological distress (56 percent). When particularly in comparison to all adult people, young people were more likely to disclose substance use (25 percent vs. 13 percent) and suicidal tendencies (25 percent vs. 13 percent) (26 percent vs. 11 percent). Leading up to the disease outbreak, emerging adults were at elevated risk of poor mental conditions and opioid dependence, though many went untreated.

The Covid-19 has led to disruption in mental health services across the world. According to the present survey of WHO, the mental health service has been broken, as the majority of the people are suffering from some kind of psychological distress. Recently one survey conducted with more than 100 nations, has shown the negative impact of the pandemic on mental health. A review found huge disturbances to basic emotional well-being services. The overview was conducted in 130 nations across WHO's six locales from June to August 2020. It evaluates what COVID-19 has meant for the arrangement of mental, neurological, and substance use benefits, the kinds of administrations that have been upset, and how nations are adjusting to address these difficulties (Khajanchi et al., 2021).

The psychological distress was prevalent with the ones who lost their loved ones in Covid-19. Studies have reflected that children who have lost their parents are still in shock or trauma. The mental condition of post-Covid-19 patients is even worsening. Some of them survived the disease but have developed some psychological disorders, due to isolation and lack of physical contact with their loved ones. Domestic violence has increased due to the economic conditions of people. Talking about the mindset and mental health conditions of poor people, they have been devastated as almost the majority of them had no money to survive. The mental health implications of the patients who have been tested positive with the virus as follows-

- The feeling of isolation as no one was allowed to go near them or touch them.
- The fear of death makes the patient's conditions more vulnerable.
- No contact with the outside world increases depression and anxiety.
- The quarantine period might change the behavior pattern, making them rigid about everything.

The pandemic has increased the mental health concern, as it has disturbed mental health. However, there need to be enough mental health services available for the people(Purtle,2020).

### **Mental Health issues identified in specific groups- Frontline workers**

Frontline workers are the one who work proactively during the pandemic. Talking about the pandemic outbreak, not only the doctors or medical staff work day and night to treat the patients (Li et al.,2021). In Covid-19 we can say Medical staff, Police Department, Government Officials were treated as the Frontline workers as they were directly involved in the situation. When the rest of the people had a choice of working from home until the situation gets normal. The Frontline workers served selflessly to the public. Working under such circumstances and putting their own lives at risk was very much painful for them. The medical staff witnessing the seriousness of the virus and not being able to go to their homes led to an increase in depression, anxiety, and stress. Working beyond the limits spotted disturbances in their Mental health. Some of the common mental health issues seen during these phases among the Frontline workers are -

Insomnia, due to heavy pressure and lack of rest. Most of the Frontline workers find it difficult to sleep during the pandemic period. Anxiety and Depression about the virus, as no one knew treatment and how to get out of it. One study showed that Nurses suffered more from psychological distress than doctors. And some of the Front-line workers were diagnosed with Mental disorders as they were not able to cope with the pandemic outbreak. Around 60- 70% reported suffering from psychological breakdown during this phase.

### **People already suffering from mental health issues**

The individual who was already having mental health issues suffered a lot during COVID-19. The virus outbreak was serious and to stop the spreading of the virus and infecting everywhere, lockdowns were imposed. No one could step out without any necessary work. The hospital and health care units were converted to treat Covid-19 patients. During this time people were advised not to visit hospitals because hospitals were the hub of infections. In such cases, the Mental health patients were not able to visit their doctors for a routine checkup. If some hospitals were treating the patients, they were far from cities and lockdown restricted public transportation. Failure in their treatment, the mental health patients become either aggressive or critical. Besides that, it was difficult for families to deal with these patients alone. Some studies showed that people with mental illness were more likely to witness aggression, depression, and anxiety during COVID-19. Another study shows that people suffering from mood

disorders or General Anxiety Disorders have either self-harmed or attempted suicide during the pandemic period. A study was conducted with Mental health patients, more than half of them responded that their deterioration in their health was due to loneliness and lack of treatments.

### **Children and elderly residents**

Children during COVID-19 were Vulnerable as the school was closed down. In the online classes, they were not able to meet their classmates physically. Apart from that every one of them didn't have access to online courses. They were not allowed to step out and play. Being small children they were not able to understand the seriousness of diseases. The unnecessary conflicts in their family also impacted children's mental health (Phillipou et al.,2021). Absence of focus, passionate destitution, disarray, and terrified of offering conversation starters about the illness episode were accounted for to be the most widely recognized social and psychological wellness issues among kids and teens during the pandemic. Those with psychological wellness conditions are at a much higher gamble.

Because of the undeniable flightiness and tension in their own lives, it has become difficult for families to alleviate their kids' apprehensions and concerns. Guardians' capacity to defy their kids' necessities and concerns is being hampered by word-related or personal difficulties. The older people faced a mental health problem and their physical health deteriorated due to lack of treatment and care. They faced severe complications and the mortality rates were high for the older age. They had a high risk of getting affected by Covid-19. The mental health conditions were poor because of disruptions in their day-to-day routine and health care or hospitals. They were not frequent with the technology and telemedicine. The isolation increased anxiety and depression among them.

More experienced adults will frequently have lower pressure reactions, and in general, better enthusiastic guidance and economic success than more youthful adults,<sup>1</sup> however, given the scale and scope of the pandemic, there was concern about an emotional well-being urgent situation among more seasoned adults. The concern was directed toward more mature adults, both at home and in private offices, where contact with accomplices, family, and primary caregivers was restricted. Older adults are developing dementia during pandemic times. In case the old parents stayed alone, most of them had difficulties getting out for medicines and groceries, this was a rising concern for psychological distress.

### **Females**

The female suffered more than that of males in the workplace and at home during COVID-19. The female had to manage their office work as well as housework simultaneously. The home was not a safe place for females, there was a rise in domestic violence across all the parts of the world. The female is victimized by males in their house to fulfill their sexual pleasure (Khajanchi et al.,2021). Some studies showed that housewives or working wives had to face depression and stress due to overburdened work in their offices and home. As everyone stayed at home, the women had to take care of everyone. The female front-line workers could not return home, the separation from home made them feel lonely

and isolated. Women were distributed and distressed in the lockdown days. Intimate Partner Violence leads to homicide during COVID-19. It was very difficult for females to cope with the pandemic stress and emotional abuse.

### **Others**

Individuals were concerned about the enthusiastic effect that a lack of friends and family would have on them as well as their companions and neighbors. Many people found it hard to adjust to the wistfulness and disconnection, and others discovered it difficult to deal with job loss and financial insecurity. At the start of the pandemic, some people appreciated more relaxed lockdown measures (depending on which country they were in), while others felt more protected through the severe self-separation. Generally speaking, the psychological impacts of lockdown were perceptible: individuals revealed having felt more disturbed, pushed, fretful, and restless uncovered an expansion in the utilization of liquor and weed between many individuals in the United States. They generally presumably went to these energizers to reduce their infection episode uneasiness and misery. Families have only heard the news of their children's death or spouse's death who were living abroad, this caused a very painful situation for them.

### **Intervention Strategies During COVID-19**

The intervention strategies are developed for multiple purposes, their main aim is to promote, adopt or change something. By the End of 2020, we all knew that COVID-19 is not going to end soon. Neither lockdown could be imposed for a long time nor the COVID-19 pandemic could be taken lightly. Even though the Vaccinations were developed in 2020, they cannot completely cure the disease. Until we get any permanent medication for Coronavirus like other diseases or infections the risk would be as serious as it was in the beginning. However certain interventions were developed that would bring a new normal but with some guidelines or protocols. The pandemic period for 2019 - 2021 has witnessed three variants of Coronavirus (Joshi,2021). Therefore at least for the coming few years, the intervention strategies need to be followed. The intervention strategies were different in every nation, however, the basic guidelines were that social distancing is a must and wearing masks and using sanitizer should be maintained by everyone. Defeating the deadly SARS-CoV-2 might be difficult, but with the intervention strategies, the effects and spread of the disease could be controlled. Some of the common protocols were –

- Wearing a face mask and using sanitizer while going out.
- Maintaining Social distance and avoiding traveling if not necessary.
- Having a healthy lifestyle and giving importance to mental health.
- Avoiding physical greetings and touching your face and nose again and again.

The Interventions during COVID-19 to be followed by the infected are as follows-  
The infected person must follow the instructions to keep himself or herself safe and stop further transmission are as follows-



- If someone develops symptoms or comes in direct contact with the infected person, they must visit the hospital and take a test. With the advice of a doctor, one can stay in hospital or home isolation for 7 to 14 days.
- The infected person should discuss all his previous health issues with the doctor and take medication as per their consultation.
- In-home isolation the infected person must keep himself or herself away from other family members (Pfefferbaum & North,2020).
- The infected person must take up a balanced diet of food and clean his or her hand frequently. They must not share any belongings with other members. Avoid children and animals.
- Avoid going outside, connect to the doctor over mobile phones if the symptoms are mild.
- Clean the surfaces that have high contact with the infected person.
- Monitor your health, if any health issues arise immediately consult with the doctor.

### **Global Level**

CDC developed response intervention for the year 2020-2023, that needs to follow as the Global Intervention strategies for responding Covid-19, that are-

- Increment worldwide limit at the public and common tiers to safeguard, recognize, and adjust to COVID-19 occasions, including the foundation of strategies for gathering and announcing precise and ideal information to illuminate high-level choice and reinforcing the overall general wellbeing labor force.
- Inhibit and minimize COVID-19 spread all over boundaries, in societies, in medical facilities, as well as among health professionals, including by employing strategies to minimize interruptions to health services.
- Contribute the scientific knowledge of COVID-19 by addressing critical unknowns such as symptom severity, methods of transmitting, and long-term aftereffects and protection(Patel,2020)
- Boost national and international ability to execute and assess vaccination programs, as well as to utilize therapies when they become accessible.

### **India**

India has imposed a lockdown very quickly as soon as the disease begins to spread. No doubt India has suffered a lot, but the Indian Government's proactive nature saved so many lives. It was prepared beforehand to face any kind of Covid uncertainties. Thereafter the lockdown, the Government introduced guidelines, for every state the guideline was different. The Intervention strategy of the Indian Government to deal with Covid-19 –

- India launched a mobile application and special website- Arogya Setu, for providing information regarding Covid-19. The users could get notified regarding the Covid-19 news, and self-administer test if suspected the team would contact them immediately.

- To keep the situation under control, Post Covid there were shutdowns on weekends and night curfews (Hamza et al.,2020).
- In order to sustain the economy and help people get back to work and business, the Government permitted the opening of shops, malls, fitness centers, and offices. It was specially constructed to deal with 50% staff working.
- The movie theater was opened with 50% sitting capacity, the transportation also followed the same guideline. Restaurants were open for taking orders only. The groceries and vegetable market were shifted to open space and maintained social distancing.
- Strict rules and fines were imposed for the ones who violated the Covid guidelines.
- For home isolation patients, the hospital sent medicines and the doctor kept in touch with the patients.
- However Schools and Colleges remain closed, classes and examinations were held through online mode.

## **Conclusion**

When there are limited resources available to contain the pandemic, emotional well-being care, and concerns are frequently overlooked. In this global COVID-19 emergency, psychological wellness issues have grown and become one of the most underappreciated and widespread wellbeing concerns worldwide. The COVID-19 pandemic has created new obstacles and challenges for everyone. Nobody could forget the year 2020 at any point in their lives. Many of us lost our jobs, friends and family, homes, and so on. The pandemic has caused an economic downturn and a decline in mental health. It was difficult for people who were experiencing any kind of mental problem or mental misery at the time, as well as those who have a substance compulsion. With the study of Coronavirus disease transmission advancing today, a need-based mediation approach that is explicit to weak gatherings with a positive methodology and risk administration systems at the standard is required. Prioritization and planning of psychological wellness care would be beneficial in serving the most vulnerable populations. People were concerned about the energetic impact of solitude and family on themselves, as well as their friends and neighbors. Many people struggled to adjust to the thoughtfulness and disengagement, and others struggled to cope with job loss and financial insecurity. A few mediation methodologies were developed at the national and international levels to manage the impact of the post-Coronavirus pandemic.

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