

# COVID-19 and it's Mental Health Consequences

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## ABSTRACT

*Background: COVID-19 has been found to be inflicting high degree of damage both in physical as well mental way. Former is studied in many studies but later need more attention as the pandemic is here to stay and not going anywhere for a while. The current versions of variants are deltacron and omicron which constitutes majority of the cases and found out after genome sequencing. The impact of the COVID-19 can take years to take the overall assessment but it mainly constitutes the physical impact and psychological impact on the human beings.*

*Summary: The psychological impact often includes the treatment phase where the infected person is quarantine and isolated form the family members and loved ones. The sense of loneliness in the long hauls especially in case of critically ill patients made them more vulnerable to fall as prey to the psychological damage. Children's are worried due to hindrance in meeting their peer groups, adolescents are worried especially in rural areas about their studies as the education sector has been shifted to the online mode. Adults are anxious and suffering from many ailments already and COVID-19 added up only to the woes.*

*Conclusion: All the COVID-19 appropriate behaviour must be inculcated in daily life and inclination towards the preventive measures must be increase as much as possible. Prevention is the only feasible option available in the pandemic like COVID-19.*

**Key words:** COVID-19, SARS, MERS, Psychological impact, Preventive measures, Rehabilitative care

**HOW TO CITE THIS ARTICLE:** Vasudha Palekar, Shiv Joshi, COVID-19 and it's Mental Health Consequences, J Res Med Dent Sci, 2022, 10 (12): 089-093.

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**Received:** 27-Sep-2022, Manuscript No. JRMDS-22-65782;

**Editor assigned:** 30-Sep-2022, PreQC No. JRMDS-22-65782 (PQ);

**Reviewed:** 14-Oct-2022, QC No. JRMDS-22-65782;

**Revised:** 28-Nov-2022, Manuscript No. JRMDS-22-65782 (R);

**Published:** 05-Dec-2022

## INTRODUCTION

Coronavirus disease 2019 or COVID-19 is the persisting pandemic which has turned from Public Health Emergency of International Concern (PHEIC) to the current state. No other medical emergency in the past hundred years of human stay on earth has been seen by the homosapiens and the devastation is also one of its kinds. No disease in recent past grapples the whole world at the same time and stalled all the on-going processes. Since its inception in the Wuhan city of Hubei province of PRC, it has now spread in every nook and corner of the world and almost every individual has been affected by the pandemic in one way or the other. Till January 10, 2022, 403,224,427 infections have been registered and 5,777,230 people obtain fatal clinical outcome due to the fallout effects of the pandemic [1]. The reason behind the relevance of the novel Coronavirus even after two years of its stay is the ability to mutate and change its viral structure such that it can evade the immunity cover

provided by the innate immune system of the human beings [2]. The current versions of variants are deltacron and omicron which constitutes majority of the cases and found out after genome sequencing. The impact of the COVID-19 can take years to take the overall assessment but it mainly constitutes the physical impact and psychological impact on the human beings. The physical impact is being treated by the help of the repurposed existing drugs but the psychological impact is often neglected. Previous similar outbreaks of MERS and SARS have been found to be inducing the psychological impact which are long lasting and impacting the quality of life. Hence it is important to understand the emotional fallout of the pandemic and its long term implications. Each and every section of population has been affected by the pandemic [3]. From children to the old age survivors of the pandemic have been experiencing the neurological and psychological impact of the pandemic which has been discussed in the article.

## LITERATURE REVIEW

### Epidemiology of COVID-19

More than two years ago, a medical emergency knocked the door of the humanity and entered the lives of the Homo sapiens only to devastate the lives and livelihood of

them. This once in a century type of medical emergency is officially termed as Coronavirus disease 2019 or COVID-19. It all started in the Chinese city of Wuhan, where the Coronavirus which is a zoonotic disease spread to the patient zero who died due to unknown pneumonia later named COVID-19. Since then more than five million people lost their lives due to this highly lethal and infectious disease [4]. Novel Coronavirus is the main culprit behind the unprecedented nuisance that has spread across the world. Basically, it belongs to the Coronaviridae family of the viruses which already had given two lethal viruses namely SARS-CoV-1 and MERS-CoV-2. The fundamental difference between the disease outbreak caused by the novel Coronavirus and other two is the geographical extent up to which they spread. On one side, SARS and MERS were contained in certain geographical area of the globe and more nuisances were averted but the COVID-19 has grappled entire world owing to its extremely high transmission rate. Several hundred million people officially reported to be infected from the lethal disease but the unreported cases are said to be several fold more than the reported cases. Viruses are only living when they acquire or get attached to host. In case of COVID-19, the hosts are humans. They need host to reproduce and proliferate. Outside the human body they are inactive but they can be active as soon as they are in contact with the host. The structure of the novel Coronavirus is such that it resembles the shape of the crown. Hence it is named as Coronavirus [5]. It harbours spike shaped proteins which gets attached to the angiotensin converting enzyme 2 receptors also known as ACE-2 receptors which facilitates the entry of the virus into the human cell. The act of ACE-2 receptors is like an entrance for the virus is extremely dangerous as these receptors are prominently presented on the various vital organs systems like heart, lungs, liver, pancreas, and kidney and so on. The virus can affect any organ of the human body by two ways. One way is affecting indirectly by the fall out effects after severely affecting lungs and allied organs system and second way is through ACE-2 receptors by which virus can directly affects the aforementioned organs and can create unmanageable clinical consequence. After entering mainly through prominent bodily openings like mouth, nose and eyes, the virus rapidly progress to lungs *via* trachea and lower respiratory tract. The virus is mainly detected through RT-PCR test in which swabs from nasal and oral cavities are taken and tested. The critical threshold value indicates the viral load in the concerned person's body. The higher the viral load, the more it becomes uncontrollable for the body to contain the infectious diseases spread. The virus is notorious to proliferate rapidly by draining the cell by consuming the enzymes in it. The cell then bursts and viral strains get spread to surrounding parts of the cell. The incubation period of the virus ranges from 4 days to 12 days average being 6 days to show symptoms and signs of the infectious COVID-19. Viral load has the larger say in the duration of incubation and higher is the viral load, lower is the incubation period. Mutations in the viral strain have found to be evading the immunity cover provided

either by natural infection or through vaccine and are a cause of concern. Hence one must follow the COVID-19 appropriate behaviour at all times.

### Psychological impact of SARS and MERS

COVID-19, SARS and MERS have one thing in common and that is the virus family, Coronaviridae. SARS-CoV-2, MERS-CoV-2 which is the predecessor of the SARS-CoV-2 also known as novel Coronavirus has similar viral behaviours. Thus, these previous outbreaks can offer some valuable insights *via* various researches and studies that were undertaken post outbreaks. Although the extent of the novel Coronavirus is extremely bigger than the previous two, but the panning out of the virus have been found to be similar. Hence these studies can be used to course correct the existing measures to achieve the optimum result. Physical impact is the tangible impacts that can be easily measured but the psychologies impacts are often overlooked and many times neglected. But psychological impacts can have serious effects on the overall wellbeing of the person and the efficiency of the person. Long term psychological distress or the distress which are not addressed properly can be quite complicated over the course of time. Severe Acute Respiratory Syndrome (SARS) began in 2003 as a respiratory illness and spread was quite rapid. The disease was found to be engulfing around 30 countries and rendering 774 out of 8000 infected patients dead. The case fatality rate almost touched the 10 percent mark which was huge. Till then, no one thought that Coronaviruses can be lethal and can produce uncontrollable clinical consequences. SARS was the first instance of human Coronavirus to be fatal. Although physical impacts were assessed, several studies also focused on the psychological impacts of the SARS outbreaks. A study in Canada during and after the outbreak which was based on the informal observation of the hospital care professionals and patients. More than 19 infected patients were studied and it was found that in such short duration of time, the health care professionals were worried about getting infected with the virus and passing it on to their family members and loved ones. Also the patients were worried as the quarantine measures were suggested to isolate the patient from rest of the population to curb the spread of the SARS. Patient also experiences anxiety, anger along with boredom as long hauls of isolation made them disconnected with their family members. Also the uncertainty involved in the situation simultaneously kicked in making the patient more nervous [6]. In another long term study on the SARS survivors also revealed some facts. It was done 30 months after the infection among the group of 93 out of 119 eligible subjects were followed up and studied for the psychiatric illness induced by the SARS. As the outbreak of SARS progressing, several complaints of psychological disorder came up. All the subjects were studied on the anxiety and depression scale and health condition survey. Post SARS depression was prevalent among around 58 percent of the patient while any kind of the psychological disorder was found in every third person studied, post traumatic distress syndrome was

note in one out of four subjects studied and 15.6 percent of the studied subjects were suffering from depressive disorders [7].

Another medical emergency struck in the year of 2012 when Middle Eastern respiratory syndrome struck the gulf countries. Many people got infected and certain met with fatal clinical outcome. The pattern of psychological impact of human Coronaviruses continued and MERS survivors also complained about the degradation in the mental status which was induced by the MERS. In study conducted in Saudi Arabia, 78 agreed participants who survived the infection of MERS were taken into account to assess the impacts of the MERS on psyche of the patient [8]. The study was done after 12 months of the infection of the MERS. It was noted in the observations that MERS patients having gone through critical symptoms were having lower quality of life than their non-MERS counterpart. Long term impact was seen among the MERS survivors. In another study, medical professional employed in the line of duty to control were suffering from post-traumatic distress syndrome as they saw distressing scenarios which unfolded in front of them. Also the anxiety regarding the situation is eventually induced in them resulting in the hampering of mental wellbeing in then and needed proper medical intervention [9].

## DISCUSSION

### Psychological impact of COVID-19

Coronavirus disease 2019 or COVID-19 is novel; epidemic turned pandemic which has no established course of treatment. Also the disease is highly transmissible through the population and it can exploit any vulnerability in the body of the people. Hence it is advised that one should follow all the standard operating procedures. The SOP's designed for such highly contagious pandemic includes isolation of patient for duration of treatment in order to avoid further spread. Special quarantine rooms were erected in order to keep the COVID-19 patients isolated from non-COVID-19 patients. Also the health care professionals were at first line of contact hence they were at extremely vulnerable position. In order to avoid the spread through the health care professionals, it was mandated that all the health care professionals and allied health care workers should wear Personal and Protective Equipment's (PPE) kits all throughout the duration of their duty [10]. This makes the thing difficult for the treating professionals as the highly humid surrounding in PPE kits made them uncomfortable. Moreover they even not allowed removing the PPE kit for defecation or urination hence adult diapers were suggested in order to zero down the need of the removal of the PPE kits. Although the SOP were placed for the safety and security of the health care professionals but it took toll on the mental health as well as physical health too. The non-infected people were under high level of anxiety as the spread of raging pandemic and constant hearing of news having negative tones made people more worried about themselves, their

family members and loved ones. Moreover, physical impact of the COVID-19 was easily seen and is being treated at first priority even today, but the psychological impact needs more study and attention to understand its grave nature. Various sections of population had varied degree of impact. For example pregnant women have been found to be under severe stress as they are extremely uncertain about their offspring's health. More over the transmission of COVID-19 from mother to child also known as vertical transmission. Also the hospital set up might accidentally infect the new born hence the expected mothers are severely anxious leading to flawed mental state which is not good for the neo natal outcome. Certain cases of miscarriages and stillbirth due to COVID-19 have highly adverse impact on the mental state of the pregnant women as they lost their child. This can affect the person in longer term and professionals need may arise in order to cope up with the existing scenario. In case of players and athletics, the long period of detachment from the ground. Their career prospects were being undermined as sportsperson needs practice to continue in the form to stay relevant and active [11]. As all the facilities were closed down due to the pandemic of COVID-19, no dedicated place was open for them. Kids and adolescents, as going through various bodily and hormonal changes were left away from their peer group in which they feel more complete. But considering all the movement restrictions and lockdowns, it was not possible to meet the friends and peers. They were agitated and anxious. Plus a lot amount of time was given to the mobile phones making them couch potato, inviting many disease and disorders. The career prospects of many students were hampered. Moreover digital divide was starkly seen among the rural and urban students population. On one hand, urban rich were given all the facilities such as broadband, sufficient bandwidth, high end gadgets to continue their study online, but lack of all these factors made the students from rural background sad. Many bright students from rural background had against their will, left the urban areas and shifted to their native rural places [12]. Many instances of extreme steps like harming oneself in order to commit suicide was seen as they were already being study under scholarship. Many students lost their scholarship and fear of lagging behind in studies as compared to their urban counterpart made them more vulnerable. Girls were much more affected than boys as they leased some time from their family to study and fulfil their ambition. As the pandemic struck, many pre mature marriages happened only undermining the ambition of the girls. Increase in domestic violence was indicator of worsening mental health due to loss of livelihood. All the build-up anger then vented out on the female counterparts who are totally unacceptable and punishable under offence [13].

**Alleviating measures:** The COVID-19 has taken the globe at cessation and we must to search the path off. Those aspects which are irrepressible be it Homo sapiens or factors or habits will be sailing across the tough times. Hence developing pliability in every single factors of our existence could create all sturdier from within.

Particularly psychological resilience is the essential element as if psychosocial wellbeing is not fine thenceforth the bodily wellbeing influences habitually in an adverse manner. Hence preserving psychological wellbeing could generate complete wellness in our physical embodiment. Permitting effectual interaction and sustaining it can be a game changer as absence of interaction among surrounding biotic factors could affect disastrous and appalling modification.

It liberates the individual filled with fume plus fretfulness that is profoundly unseen. Likewise efficient interaction could rouse motivation potential which is powerfully linked in edifying resilience in tough times. Plus delivering necessary and threshold psychosocial and mental wellbeing amenities to one and all notwithstanding of their kind might show as a screening test in the time of such social distress. Post COVID-19 rehabilitative care must be prioritizing so as to deal with the fall out effects of the pandemic. The long term impacts of the pandemic are same as it was seen in MERS and SARS [14]. Hence follow up of critically ill survivors of COVID-19 must have to be done in order to ensure good quality of time for them. Health care professionals themselves need a session of counselling once in a while to avoid the fatigue caused by the overburdening and overworking. The mental imbalance is the striking feature of the pandemic and one should be aware of the situation. The high level of uncertainty only adds to the woes, regarding the future scenarios [15]. The menace of infodemic, which is termed such by World Health Organization (WHO), is the rampant transfer of misinformation or quasi information in which truth is not shown [16]. This information is deliberately or in deliberately spread so that the mode of panic sets in. False spread of information regarding the pandemic itself, wrong medications, quackery were on rise. This has left the dooms roller with much information and to get confused an anxious [17-26]. False information regarding unavailability of beds and essential medications at store raised the scare more and patients already having underlying medical illness also known as comorbidity such as hypertension and irregular blood pressure needed medical intervention. Patients were scared to go to the doctors and medical health care professionals due to the false scare of doctors were harvesting the organs. Such was the rampant transfer of information and its impact [27-33].

### CONCLUSION

The pandemic of COVID-19 is persisting for years and it has been seen that there is no signs it being disappeared from the lives of the people. The multispectral impact of the pandemic of COVID-19 have been seen but the assessment of the same would be incomplete the assesse would not take into account the psychological impact along with the physical impact of the COVID-19. It is now established that every section of population has been affected by the pandemic but the psychological impact cannot be seen gathering necessary attention but its impact is equally appalling as compared to physical

impact. The Infodemic is really is the driving force behind majority of the chaos and anxiety and is fuelling much of the unrest. As the people have no fact checking service, they are left with half true information. Therefore efforts needs to be made in order to provide the authenticate information to the layman from the governmental and trusted sources. Non-governmental organizations may be taken aboard so that their networks can help the health care authorities to arrest the spread of the misinformation which is impending the fight against COVID-19.

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