

# Novel Corona Virus and its Social & Economical Impact on Healthcare Professionals in India

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**Abstract:** *Novel Corona virus ie COVID19 is major healthcare challenge which has caused devastation of the country's social and economic aspects. Due to ineffective medicines and non availability of vaccine with high transmission rate makes COVID 19 a lethal enemy. With utter disregard to personal safety and security, healthcare professionals are leading from the front. These are the people who are facing maximum brunt. They are under tremendous pressure, clinically and administratively. If we need to tackle COVID 19, we need to support and respect our healthcare professionals.*

**Keywords:** COVID-19, CORONA, CORONA and its effects, social impact, economic impact

## 1. Introduction

Novel Corona Virus or COVID 19 is from the family Coronaviridae, known to mankind since 1962 when it was first isolated from a patient of a respiratory illness. These are pleomorphic viruses containing varying size peplomers (80-160nm). They have very high rates of mutation due to constantly developing transcription errors & RNA dependent RNA polymerase (RdRP) jumps. These viruses are zoonotic pathogens affecting mostly animals including cattle, dogs, cats & bats. However these animal viruses can spread to humans causing pandemics like SARS & COVID19. They can cause wide range of infections from asymptomatic stage to cases requiring management at intensive care units. The first notable disease caused by Coronaviridae viruses was severe acute respiratory syndrome (SARS) in China in 2002-2003. After a decade there was an outbreak in Middle East countries causing thousands of deaths and causative CoV was named as Middle East Respiratory Syndrome Coronavirus (MERS-CoV). The present corona virus pandemic, which erupted in Dec 2019 from Wuhan sea food market and was later labelled as 2019 novel corona virus (nCOVID 19) by world health organisation, is posing as a major healthcare challenge across the globe. It is rapidly spreading across the globe taking millions of lives and causing chaos. It has severely jeopardized the world economy causing global recession.

## 2. Clinical

Clinical presentation can vary and include mostly respiratory system however other systems like gastrointestinal, neurological and cardiovascular symptoms may be involved at presentation. On 12<sup>th</sup> Dec 2019, the first case of the current pandemic was noted which was being treated in Wuhan state of Hubei Province in China as unknown pneumonia (possibly influenza). His lung imaging showed bilateral pneumonia with ground glass opacities and atypical features. COVID 19 infection can range from asymptomatic to severe ARDS. Patients with immune compromised state like HIV, transplant recipient, malignancy and uncontrolled Diabetes are at increased risk of symptomatic diseases.

Elderly patients have shown increased mortality. However, COVID19 can affect people of all ages and cause severe symptomatic disease irrespective of immunity. The diagnosis of COVID19 infection is based on history of detailed contact and travel to infected area, and laboratory testing. Microbiological testing includes molecular methods RT-PCR (respiratory secretions) & antibody detection methods which are less sensitive compared to RT-PCR.

## 3. Impact

COVID 19 has caused major setback to the healthcare system and subsequently exposed the epidemic preparedness. Today there is no vaccine or effective treatment to prevent or treat COVID 19 infection. Newer molecules are being tested in-vitro however due to different strains their effectivity in-vivo is poor. Initially antivirals were tried including interferons & nucleotide analogues. Few case reports from South Korea showed use of Lopinavir/Ritonavir, pegylated interferons and Ribavirin during human MERS-CoV outbreak. MIRACLE trial was held in 2016-2017 to assess the efficacy. Newer antiviral Remdesvir was firstly used in USA and seemed successful in few cases. Hydroxychloroquine (HCQs) an antimalarial with immunomodulatory properties have been used during initial cases of COVID 19. The exact mechanism of action is unknown. Azithromycin, a macrolide is an antibiotic which binds to 50S ribosomal subunit hampers RNA-dependent protein synthesis in microorganism. Its efficacy and mechanism of action in COVID 19 is unknown however it is being used in management of atypical pneumonias caused by CoV. Both the drugs cause ECG abnormality (QTc prolongation) and can precipitate underlying cardiac illness. There are few cases which have improved with convalescent plasma therapy. However mainstay remains supportive care and intensive care support in critical cases.

COVID19 has caused worldwide fear and insecurity in common people and healthcare professionals are no exception to it. Due to lack of vaccine and definitive treatment options, things have escalated too far. Despite lack of adequate PPE, healthcare professionals are risking their

lives in management of the COVID19 cases. In few studies, they have shown increased mortality in healthcare workers. Aggressive community testing and contact tracing has increased the new case detection rate however few incidents of violence against doctors have been reported. This has created resentment in already overburdened healthcare professionals. Rumours and myths regarding cure for COVID19 are floating around in society which has complicated existing clinical problems. Due to inadequate personal protective equipments (PPEs) and testing facilities many private practitioners have shut their clinics, which have eventually worsened the already crippling healthcare facilities in periphery.

#### 4. Methodology

Data was collected from 324 health care professionals including resident doctors, private practitioners, AYUSH doctors, nursing staff & supportive staff including security personnel across various govt and private hospitals in India.

Study was conducted in the month of May-Jun 2020. Out of 324 participants, 122 were resident doctors, 24 were private practitioners, 68 were AYUSH doctors at various sub centre level, 96 were nursing staff and 14 were supporting staff.

They were inquired about their profession, active management of COVID 19 cases, working hours, working stress, administrative support, family support and social support from people they are staying into. Myths and rumours prevalent in society about COVID 19 infection were also enquired.

#### 5. Result & analysis

Most of the routine OPDs were closed and hospitals were transformed into COVID centres actively screening new cases. Due to limited personal protective measures, initially hospital staff was curtailed. Working hours were increased for existing staff. Hospital staff started getting infected and quarantined resulting into further reduction in work force on ground. This increased the strain on existing limited healthcare professionals.

Due to lack of effective medicines and preventive vaccine, people were demotivated for working in COVID wards and ICUs. Shortage of PPEs and high infectivity of the virus further complicated the issue. Compounded by administrative failure at multiple level, situation turned into chaos. People with chronic diseases were affected most for their interrupted treatment. People with these diseases are not reporting to hospitals due to fear of COVID infection and invariably lands up with emergency. Non-COVID deaths are increasing in the country resulting into further chaos and strain in hospitals. Due to shortage of beds, patients are facing inconvenience in the hospitals and make shift arrangements are being done. However mortality in COVID cases in India is less (3.1%) compared to western countries (8-15%) for which multiple reasons are being speculated like BCG vaccination, less virulent strain, eating habits and spices use, etc.

Healthcare professionals and their families are facing social discrimination by the local people residing in neighbourhood due fear of spread of COVID 19. Few families were mistreated and isolated for staying in society. Few were denied flats & houses just because person was a healthcare professional and few were asked to vacate the existing flats. However issues were resolved after administrative action by local authorities.

Due to fear of spread, healthcare professionals are staying away from parents and spouse with minimal interaction. This is leading to strain causing profound negativity in relationship. Family disputes have increased and few marital discord cases were also noted. Due to increased work tension compounded by family issues and social issues, overall mental health has deteriorated. Undue fear of death due to COVID 19 has caused panic among all including healthcare professionals who are already high risk for the same.

COVID 19 has affected world economy adversely and India is no exception to it. Stock market has fallen with lowering crude oil prices to (-) 40\$ in USA. Global recession has caused loss of jobs for most of the industries. Investors are removing money from market and \$83billion has already been removed from emerging economies. Inflation has crippled the middle class. Daily wages labourers were affected mostly. Indian economy is witnessing a significant slowdown, with GDP growth at 4.7% in Q3 2019-20, its lowest in nearly seven years. As far as IMF reports are concerned, the global economy is expected to shrink by over 3% in 2020. Lockdown was implemented by government to curb the spread of infection which was effective initially however subsequently it was diluted because of various factors. COVID 19 has pushed already crippling economy to the corner. Many hospitals were facing shortage of doctors which got worsened by COVID19 havoc, eventually affecting the patient care. Desperate measures are going on to find the vaccine and definitive medication to curb this pandemic. Effective measures are required to revive the economy including public and private sector. There is need to increase the investment in health and research to combat such adversaries.

#### 6. Discussion

COVID19 pandemic has emerged as major health problem for the government causing economic recession and administrative chaos. Healthcare system is facing multiple challenges including lack of adequate logistic support, lack of adequate manpower and ongoing spread of the infection. Healthcare professionals are the most vulnerable population which are leading from the front facing this menace. It has severely affected the physical, mental and social aspects of the people and ongoing pandemic is adding stress to it. Government has to support and motivate healthcare professionals to combat this pandemic together.

**Conflict of Interest - None declared**

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