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## Challenges faced by health care workers during Covid-19

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### ABSTRACT

*The surge in cases of COVID -19 across the world have led to the intensive care unit health workers face unfathomable challenges. Managing rapid diagnosis, isolation, clinical management and infection prevention has been a nightmare not only for patients and people affected by this horrendous plague, but also healthcare workers who are constantly risking their lives. We talk about diagnosing COVID-19 and differentiating it from other illnesses. We also talk about treatment plans and course of illness. The key ingredients to the treatment strategies are management of acute respiratory failure and stabilizing Hemodynamic. The government, policy makers, hospital administrators, ICU practitioners etc. are putting their best foot forward in eradicating this disease from a population of 135.26 crores! This review focuses on the strength with which the Covid-19 warriors are catering to the needs of multitude of patients and how they themselves are more prone to this deadly disease than many others. Through this review we are trying to shed light on the healthcare workers' lives and mental health during this pandemic and how they should be protected against it. Keywords: treatment strategies, course of illness, diagnosis, mental health.*

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### 1. INTRODUCTION

Despite the various measures taken by our esteemed government and senior officials, our Covid-19 healthcare workers are amongst the ones with greatest threats to their lives. This review focuses on how the patient's and workers' lives and health can be protected from the pandemic. Certain measures will be discussed in the following lines for safeguard of our Covid Warriors!

Firstly, the ICU practitioners should now suspect COVID-19 prior to others. in an exceedingly critical patient presenting with symptoms of LRTI since clinical features of COVID-19 are nonspecific and can be similar to clinical features of community acquired pneumonia. We cannot rely on the sensitivity of PCR testing anymore and should go for repeated sampling from the lower respiratory tract especially in critically ill patients. To minimize nosocomial infection amongst the ICU team and staff, physical distancing need to be practiced religiously and appropriate protocols of donning and doffing to be followed along with travel restrictions on the ICU teams and staff. Proper allotment and rationing of ICU resources is needed during this time. The survival of a critically ill patient lays in the graces of combined efforts of the local, regional, national and international level policy makers to work on this threat!

Hydroxychloroquine has emerged as a potential chemoprophylaxis against the drug for people who are in contact or are in risk of contracting the virus. Its use in prophylaxis is derived from available evidence of benefit as treatment and supported by preclinical data.

The decline in the mental well-being of our healthcare workers is heartbreaking; physical and psychological burnout of our healthcare providers due increasing workload and living in constant exposure of the deadly virus. Along with physical safety of our healthcare staff we have to address their mental health too since not only there is stress due to transmission of infection but the self-isolation from their loved ones is more burden than one could bare. This may lead to long term effects of stress like anxiety, post-traumatic stress disorder and depression. Thus, the employment of productive strategies to care for the mental health of our healthcare workers is of primary importance.

With the assistance of high quality research, evidence-based practice, sharing of data resources, and ethical integrity we can overcome these unprecedented challenges. Usually only few patients require tracheostomy. Majority of patients admitted in ICU present with acute hypoxemic respiratory failure accompanied with severe hypercapnia from acute respiratory distress syndrome (ARDS) followed by shock, Myocardial infraction and acute kidney injury. Geriatric patients may develop hypoxemia sans respiratory distress. Considering the rapidly increasing number of COVID-19 cases we have to make active preparation measures. These plans and strategies are to be made at a local and regional level for the best management of a severely ill patient.

## 2. DISTINGUISHING FROM OTHER DISEASES

The clinical features and radiological findings of COVID 19 are non specific and are not easily distinguishable with a variety of circulating respiratory viruses, particularly influenza, is very important and chiefly done using upper (nasopharyngeal) or lower (induced sputum, endotracheal aspirates, bronchoalveolar lavage) tract samples for reverse transcriptase–polymerase chain reaction and bacterial cultures. Rapid access to diagnostic testing results may be a public health and clinical priority, with efficient patient triage and implementation of infection control practice.

## 3. DIAGNOSIS

One of the major issue is that the non-specific clinical features are not very helpful in distinguishing severe COVID 19 from other causes of severe community acquired pneumonia. According to WHO, patients with history of acute respiratory illness and fever with travel history to or residing in an area reporting community transmission or contact with a suspected or confirmed case in the 14 days before the onset of symptoms; and the patients presenting with severe acute respiratory illness who require urgent hospitalization. ICU practitioners should suspect COVID-19 first now in an exceedingly critical patient presenting with symptoms of LRTI since clinical features of COVID-19 are nonspecific and can be like clinical features of community acquired pneumonia. Diagnosis is based on RT-PCR although sensitivity of RT-PCR assays for critically ill patients is unknown. RT-PCRs might not be readily available in ICUS, or even if they are assays usually will take time to complete. Serological assays are developed for fast and better results. It is suggested to adopt a low threshold for diagnostic testing where available. Take samples from lower respiratory tract and repeat samples such as sputum and endotracheal aspirate when necessary. While taking samples stringent airborne precautions to be taken as aerosol is potentially generated in these procedures. Bronchoalveolar lavage (BAL) has proven to yield better diagnostic results, but to minimize risk of exposure of healthcare workers we should generally avoid it.

## 4. PROPHYLAXIS

For asymptomatic healthcare workers treating patients with suspected or confirmed COVID-19, The Indian council of Medical research has recommended Hydroxychloroquine (400 mg twice on day 1, then 400mg once a week thereafter). Although there are no studies that can confirm hydroxychloroquine to be the right prophylaxis against COVID-19, there is some evidence that supports the antiviral activity

## 5. MANAGEMENT OF CRITICALLY ILL PATIENTS

The healthcare workers of intensive care unit (ICU) need to be prepared for the challenges and obstacles that come with the coronavirus pandemic. In China, Non Invasive Ventilation (NIV) and high flow nasal cannula (HFNC) was used majorly in critically ill patients. In critically ill patients having acute respiratory distress syndrome, oxygen supplementation is given to target pulse oximetry >90%. If respiratory distress worsens or there is respiratory failure or multiorgan failure, oxygen with low flow and high flow systems can be provided. This method of self-proning lacks direct evidence and is based on observational studies. It is still debatable if pronation can help avoid intubation, accelerate the process of recovery or helps in reducing mortality. With further observational studies and more data we will be able to recognize optimal indications for duration of pronation and assessment of response. The WHO prescribes titrating oxygen to target fringe oxygen immersion (SpO<sub>2</sub>) of >90 percent. Our focus on oxygenation objectives in basically sick patients makes us lean towards the most reduced conceivable division of roused oxygen (FiO<sub>2</sub>), preferably focusing on a SpO<sub>2</sub> somewhere in the range of 90 and 96 percent if possible. However, in patients of Chronic obstructive pulmonary disease, acute hypercapnic respiratory failure we may need a lower target and in conditions like pregnancy we need a higher target. For patients with COVID-19, supplemental oxygenation with a low flow system through a nasal cannula or oxygen pendant is appropriate. Although we are still unaware of the degree of microorganism aerosolization flow rates, we should keep it minimal. If we want to administer higher flow of oxygen, we can use a simple face mask, Venturi face mask or nonrebreather mask (eg up to 10 to 20 L/min). The risk of dispersion increases, also increasing the risk of contamination of the surrounding environment and workers. Since intubation of patients of COVID-19 possess a great risk of viral transmission to ICU staff, it is recommended that intubation should be performed by the most skilled operator available with the said protection protocols like full personal protective equipment and the necessary

Oxygen via a high flow nasal cannula over non-invasive ventilation — We prefer HFNC among the non-invasive modalities. Our preference for HFNC is based on minimal and contradictory evidence that, on average, favor HFNC compared to NIV in patients with non-COVID-19-related acute hypoxemic respiratory failure.

## 6. PROTECTION OF PATIENTS AND HEALTHCARE WORKERS

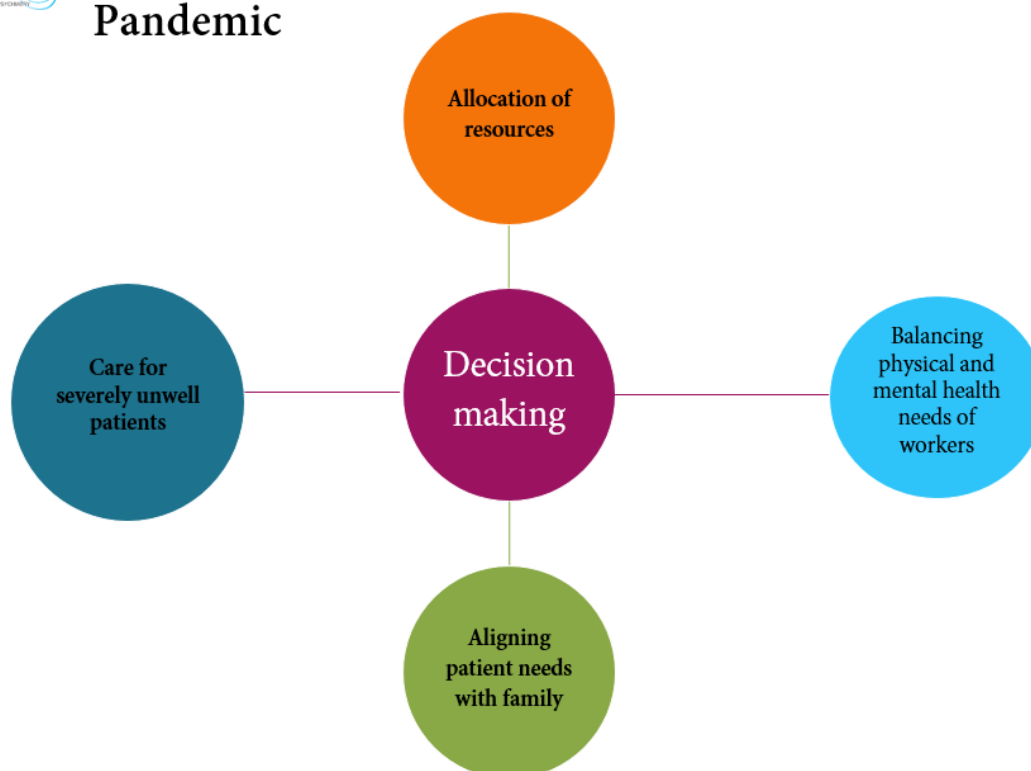
WHO recommended the healthcare professionals providing treatment and care to the critically ill patients to wear Personal protective equipment kits (PPE kits). These PPE kits include medical masks, gowns, gloves and eye protection goggles and face shields. For performing procedures like tracheal intubation, NIV tracheostomy, cardiopulmonary resuscitation, bag mask ventilation and bronchoscopy which generate aerosol healthcare professionals should be provided with N95 masks or FFP2-equivalent respirators. The gowns and aprons provided to them should be fluid resistant. Protocols of donning and doffing of personal protective equipment (PPE) should be followed. The sequence is as follows-

| Donning (Putting on)        | Doffing (Taking off)            |
|-----------------------------|---------------------------------|
| <b>perform hand hygiene</b> | remove shoe covers              |
| put on shoe covers          | remove gown and gloves together |
| Put on gown                 | <b>Perform hand hygiene</b>     |
| put on mask/respirator      | remove eye protection           |
| put on eye protection       | remove mask/ respirator         |
| put on gloves               | <b>perform hand hygiene</b>     |

Due to scarcity of rationing of Personal protective equipment's (PPE kits) and increasing number of patients there is a physical and psychological burnout of healthcare workers. This has led to a decline in mental well being of the health care providers. They are not only in the constant fear and state of psychological stress of getting infected but due to self-isolating themselves from their families they don't have any emotional support. Mental health safety of our health care professionals should also be prioritised just like physical safety. They should be regularly updated on the latest information, diminishing the fear of uncertainty and any negativity associated with the virus. This includes plenaries on specific details of virus, explaining how to effectively use hospital resources. They should be adequately relieved and given appropriate break time to take care of themselves. This unforeseen pandemic has fostered fear among healthcare workers. Healthcare workers are scared for their co-workers, their families, their friends, our communities and our country. Despite this fear, they continue to fight on the frontlines to execute their job while in a persistent state of survival mode in order to protect everyone around them. In order to win this war against COVID 19, we as global citizens must stand together on a united front to support those on the frontlines. This requires the implementation of accessible counseling services and effective measures to care for their mental well-being in order to preserve their health.



## Dilemmas for Health Care Workers during Covid-19 Pandemic



Greenberg et al. *Managing mental health challenges faced by healthcare workers during covid-19 pandemic* BMJ 2020; 368 :m1211

### 7. CONCLUSION

Even though these times seem like a never-ending series of events, there is a silver lining! Viable, fast responsive initiative, clearness in pandemic rules and coordinated efforts with essential medical services, all exemplified in precise execution, in view of proof and science, is basic to beat this episode. Keeping the points of Universal Health Coverage (UHC) at the top of the priority list, it is fundamental to act convenient, yet definitively in such manner as this pandemic has tested us with many "books", than simply the infection essentially.

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