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## Role of Physicians & Pharmacists in Prevention and Treating SARC-CoV-19-An Overview

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### Abstract

The novel strain of SARC-CoV-19 was detected initially in Wuhan, a city of china. Until 3rd of October, 2020 there was 35,156,100 cases reported. Structures of corona virions are spherical to pleomorphic enveloped particles. The envelope is surrounded with glycoproteins, and studded with glycoproteins, and surrounds a core consisting of matrix protein. Pharmacists should teach people what they should be doing. That can include performing good hand hygiene, social distancing, and other infection control measures. Demonstrating these practices can be a powerful way to leave an impression on someone, since pharmacists are generally in a position of authority within society. As Recents pandemic situation of COVID-19, Pharmacist also in a frontline force, it's a major role of Pharmacists to communicate with patients about its preventive measures. Pharmacists are the first person with which patients interacted. There are number of treatment options but not any authentic vaccines manufactured until now..

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### Introduction

The novel strain of SARC-CoV-19 was detected initially in Wuhan, a city of china. There are different assumptions of its cause but it has no approved cause until now. The coronavirus COVID-19 is affecting 213 countries and territories around the world and was characterised as pandemic according to the World health organisation on 11th March 2020 [1,2].

There is no approved treatment for this but healthcare professionals and researchers already joined hands in the struggle to find treatment. If I mention its updated data then on 3<sup>rd</sup> October, 2020 there are 35,156,100 people infected with this virus across the globe from which 1,038,254 reported death. 66,054 are in serious or critical condition and 26,152,667 recovered. So, we should take care and work all as a whole nation to fight against this deadly virus [2,3].

Corona viruses are basically found in mammalian species. They resemble each other in morphology and structure for example the corona virus of humans and cattle are antigenically related. In mammals corona virus can invade into tissue and cells and cause a variety of severe diseases. But in humans in the past they were approved for the cause of only upper respiratory tract infection [4].

Structures of corona virions are spherical to pleomorphic enveloped particles. The envelope is surrounded with

glycoproteins, and studded with glycoproteins, and surrounds a core consisting of matrix protein. The envelope glycoproteins are responsible for attachment to the host cell and also carry the main antigenic epitopes, particularly the epitopes recognised by neutralising antibodies. Coronaviruses invade the respiratory tract via the nose. After an incubation period of about 3 days, they cause the symptoms of a common cold, including nasal obstruction, sneezing, runny nose, and occasionally cough. The disease resolves in a few days, during which the virus is shed in nasal secretions.

COVID-19 which is a type of coronavirus labelled as Pandemic by the world health organization. A pandemic describes an infectious disease where we see significant and ongoing person-to-person spread in multiple countries around the world at the same time. The last time a pandemic occurred was in 2009 with swine flu, which experts think killed hundreds of thousands of people. Pandemics are more likely if a virus is brand new, able to infect people easily and can spread from person-to-person in an efficient and sustained way [5,6].

If we compare the COVID-19 coronavirus to the 2002-2003 outbreaks of SARS, then we found that both originated in China before spreading around the world. Both were identified as new coronaviruses, deadlier than the handful of related viruses that cause common colds. Scientists found that a SARS coronavirus came from then china and spread to people by civet cats. The

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COVID-19 which is also called SARS-Cov-2, is also thought to come from bats. Both viruses caused economic disaster. But the two outbreaks have progressed very differently, especially in the speed and extent of spread.

Disaster can strike anywhere, hospital pharmacists and pharmacy technicians can help patients and support hospital staff by responding to drug consults requests, checking prescriptions, responding to their health, gathering medication histories, distributing right medications to the right patient and consulting them to take the right dose and replenishing trays and kits. Hospital pharmacists are in a position to help emergency response teams treat incoming patients and ensure continued care for other patients in the hospital. They can also take leadership roles in terms of emergency preparedness and designing hospital disaster response plans and protocols that include managing medication use and distribution, providing step-by-step guidance documents, and serving as response coordinators [7-9].

## Role of Pharmacist in Prevention and Treatment of Cov-19

Pharmacists should teach people what they should be doing. That can include performing good hand hygiene, social distancing, and other infection control measures. Demonstrating these practices can be a powerful way to leave an impression on someone, since pharmacists are generally in a position of authority within society. Most of the people do not take this seriously, so it's the role of Pharmacists to educate them to avoid hand shaking, make a 1 metre distance from others. If one gains symptoms of virus attack then he should isolate himself from others to save them and spread disease. So, by this we are able to defeat this SARC-CoV-19 [1,10].

The accessibility of community pharmacists makes them an excellent source for emergency care when roads are closed and patients are unable to get to the hospital or see their physician. They can provide patient assessments and triage patients. Community pharmacists can also provide emergency refills of medications, administer vaccinations, and volunteer to help at shelters.

We are unfortunate to have a lesser number of pharmacists working for and with public health departments to develop response plans, recruit and prepare pharmacists, and coordinate the engagement of pharmacists to best serve their communities [7,11].

A study published by Canadian Pharmacists journal in 2016, in which the struggling life span of three pharmacists, explained how they help humanity. Mr. Tanno is a pharmacist who educated the evacuees on maintaining the cleanliness of living areas, due to which limiting the spread of influenza and other pandemic viruses, soothing cracked skin that resulted from using alcohol sanitizer instead of washing with water and providing overall health instruction to the families [12].

These 3 community pharmacists, Yoshirou Tanno, Anita Brown and Bob Brown, continue to serve patients with a renewed passion to be effective in their roles as patient-centred pharmacists should

a disaster strike again. They all said the training of Pharmacists is most important for present and future situations. Pharmacists are the great assets of the nation. Pharmacists should be able to professionally work for patients and fulfil their needs. Pharmacists can consult patients about their lifestyle, medication, routine food chart and exercise benefits. As natural disasters and emergencies are inevitable and demand for health care providers during these times are high, pharmacists can aid in bridging the health care gap [10,12-14].

As Recents pandemic situation of COVID-19, Pharmacist also in a frontline force, it's a major role of Pharmacists to communicate with patients about its preventive measures. Pharmacists are the first person with which patients interacted. When any patient shows initial symptoms then it's also a role of the Pharmacist to guide him and give initial symptomatic treatment with full preventive measure and tell him to give me feedback twice a day about his health. Pharmacists also examine patients physically and differentiate COVID-19 symptoms from flu and common cold. If patients have sneezing and productive cough then these are not the symptoms of COVID-19. Patients with dry cough, full without runny nose, Shortness of breath without sputum, lethargic and symptoms persistent for seven days then that are the symptoms of COVID-19. It's also a role of Pharmacist to research and make a hand sanitizer which kills virus, because every hand sanitizer is not suitable for eradicating virus that's why it's also a role of pharmacists to provide the best sanitizer and kits to persons which are effective too. For this I suggest pharmacists perform his duties by educating people through social media like Facebook, instagram, LinkEdin etc. They can also develop an application which contains different awareness videos related to COVID-19, short courses for junior Pharmacists and brochure [15,16].

Observational and modelling evidence from past pandemics (e.g. influenza pandemics) and from the experiences with COVID-19 in China indicates that the early and rapid implementation of social distancing is most important and need of the time. Social distancing is most important in the spreading of the disease. If we make precautions on the time then we should succeed to decrease the spreading of COVID-19 in week 1st, 2nd week and 3rd week to 40%, 65% and 85% respectively [14,17].

There is also a major role of Pharmacists in Screening and if Patients gain symptoms then Pharmacists can continue to offer their over the counter remedies for dry cough, nasal congestion, pain, fever etc. Pharmacists as experts of medicines know better about its symptomatic treatment than what is the most effective and safest option for him. Pharmacists can work with Physicians and perform supportive roles for each other. Patients with more severe illness/symptoms refer to Physicians for most advanced care [18]. By this pharmacists can perform roles and help the health profession.

As the role of pharmacists expands throughout health care, utilizing their full skill set during disaster could increase the provisions of health. With a specialized understanding of drugs, pharmacists can easily integrate into disaster relief efforts and provide direct access to essential resources. Not only can they provide access to drugs, but they also possess skills that can integrate them to fulfil certain roles if provider shortages exist.

As you all know there is currently no specific treatment or vaccine available for coronavirus. Treatment should try to relieve the symptoms of coronavirus, so advice people to use the following symptomatic treatments:

- Paracetamol for high temperature, aches and pains - follow the directions given by physicians and pharmacists, don't exceed the recommended dose
- Cough medicines or natural remedies like honey and lemon or salt water gargling
- Drink plenty of fluids to avoid dehydration - urine should be a pale clear colour.
- Stock plenty of tissues etc
- Use vitamin-C rich diet or medications

### Therapeutics Options

These treatment options which were used in the past to treat different pandemic situations. Ribavirin, a nucleoside analog, shows antiviral activity against some animal CoVs, and in the SARS-CoV epidemic, many patients were treated with ribavirin along with corticosteroids and became a standard regimen for the treatment of SARS-CoV.

Neuraminidase inhibitors are indicated in the management of influenza. In a study on possible MERS-CoV cases in Paris from 2013 to 2016, a total of 35 patients received oseltamivir (37.6%). In patients positive for influenza virus (n=25), 52% (n=13) received oseltamivir and it was concluded that empirical oseltamivir can be started in suspected MERS-CoV cases. But this drug has no suitable activity against COVID-19 [19-22].

Corticosteroids were widely used for the treatment of SERS-CoV and MERS-CoV and are also used in the management of the current epidemic of 2019-nCoV. However, the interim guidelines by the WHO prohibit the use of routine corticosteroids unless indicated for other clinical ground. These also have not any significant therapeutic activity [20,22].

In case of critically ill SARS, who show signs of deterioration, further escalation of immunomodulation is indicated and intravenous (i.v.) immunoglobulin may be considered. Patients who show poor response to initial empirical therapy may get benefit from i.v. immunoglobulin [19,23].

Using clinical isolates of 2019-nCoV, Wang et al. 2020 evaluated the efficacy of seven agents (ribavirin, penciclovir, nitazoxanide, nafamostat, chloroquine, remdesivir, and favipiravir) in in vitro conditions. They found that Chloroquine and remdesivir have potential activity against COVID-19 and inhibit viral growth [21,22].

Pharmacists are one of the first points of contact between the patients and the health care system and they play a key role in the identification and management of potential cases of Covid-19. As all the other frontline healthcare providers, they need to be protected against the high risk of being exposed to the virus. Pharmacists also play a major role in manufacturing of medicines, hand sanitisers to inhibit the shortage of medicines due to CoVid-19 outbreak.

The roles that pharmacists in the community, hospital and clinical biology can play in preventing the spread of the new coronavirus 2019-nCoV and supporting the efficient management by using its strengths to make new drugs, to prepare best hand sanitisers. In my concern I think we only need a single chemical or molecule which reduces the virus replication. If it's possible we reach our destination [3,18], health department of all nations can't refuse the importance of Pharmacists in current emergency situations [24].

### Conclusion

In my opinion it's a best time to use the right medicine expert to win a war against an unseen enemy after coronavirus first treatment by FDA by using plasma from recovered patients. Pharmacists will be the right choice among all healthcare professionals in preparation of plasma and other treatment methods for COVID-19 patients.

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