



**WHO**

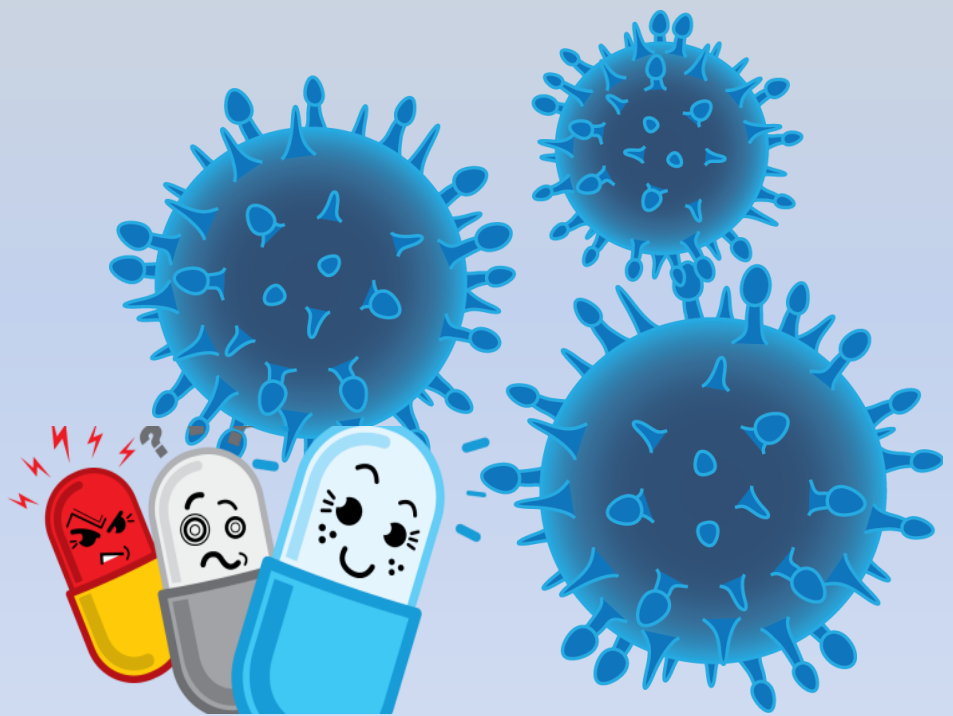


# *i*-CARE Bulletin

(Initiative to Curb Antimicrobial Resistance)

An official publication of the **SEARPharm Forum**

*April – 2020 (Volume 1, Issue 3)*

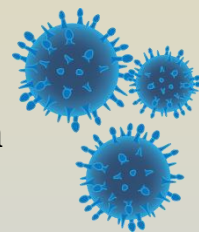


## *i*-CARE Bulletin

An official quarterly e-news bulletin of SEARPharm Forum

C/o SBD College of Pharmacy,

1<sup>st</sup> Cross, Hanumantha Nagar, Bangalore - 560019, India



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A Forum of **FIP & WHO with National Pharmaceutical Association of the South East Asian Region (SEAR)** with objective to encourage and support a dialogue and collaboration among national and regional pharmaceutical associations in the South-East Asia region of WHO and WHO SEARO. Bangladesh, India, Indonesia, Sri Lanka and Thailand are the founding nations of SEAR Pharm Forum, while Bhutan, DPR Korea, Maldives, Myanmar, Nepal and Timor-Leste are invited members of the forum. The defined objectives are,

- Improving health in the South- East Asian region by development and enhancement of pharmacy practice (Good Pharmacy Practice).
- Encouraging the implementation of pharmacy service and pharmacy practice projects by national pharmaceutical associations.
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## About *i-CARE Bulletin*

The objective of *i-CARE Bulletin* (a quarterly publishing e-news bulletin) is to disseminate the new knowledge and practices evolved to curtail antimicrobial resistance (AMR) and will address the issues in primary health care support, medication errors, rational use of medicine, case studies, utilisation of skills of pharmacists, use of off label drugs and legislation, disposables and medical devices and internet pharmacies.

The *i-CARE Bulletin* structure is designed with primary focus on insights on antimicrobial resistance and health care activities of various organizations in SEA region, news related to initiatives of WHO, FIP, Common wealth association, SEARpharm forum and its members /pharmaceutical associations. It also accept the manuscripts of author interest including short review, opinion, commentary, new knowledge, new practice, new initiatives, problems, case report, medication errors, etc.

## Manuscript Submission procedure

Authors / experts are advised to prepare the manuscript in word document with times new roman 11 font (text), 16 (title-bold), 12 (author-italic), double space not more than 3-4 pages (review/report/original research), 1-2 pages (Commentary/opinion/short review/Case report). The manuscript should be structured where table and figures are required to be incorporated at appropriate place. Maximum of two figures and two table is allowed. In case of case report or clinical data or news, the author are solely responsible for ethical clearance and permission to publish. The reference style should be as per Vancouver style. Authors Photograph in JPEG image (optional) and complete affiliation with email and country information is essential in the first page of manuscript. All submissions shall be forwarded as email attachment to [icaresear@gmail.com](mailto:icaresear@gmail.com).

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**T.V. Narayana**  
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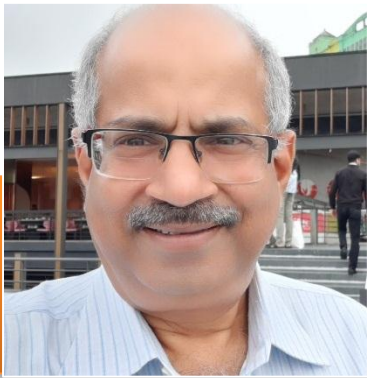
Dear Readers,

**“Let us all raise to combat the dreaded COVID-19 and  
contribute to the health care of our Nation”**

The global Coronavirus Disease (COVID-19) outbreak was described as major disaster in recent past and becoming pandemic due to its speed and scale of transmission. Almost 3,181,642 confirmed cases and 224,301 deaths have been reported from 215 countries and territories as per WHO. The reported cases outside China has increased in number by 13-fold where the number of affected countries has tripled. More than 90 percent of cases are from China and The Republic of Korea with significantly declining epidemics. Therefore, it is pivotal to take a comprehensive approach to minimize the impact with several measures for the control of COVID-19. Further, the International Federation of the Red Cross (IFRC), UNICEF and the WHO had issued new guidance to help transmission of the COVID-19. The guidance provides criteria considerations and practical checklists to keep schools safe. It also advises National and Local authorities on how to adapt and implement emergency plans for educational facilities. An ‘OPEN WHO’ online training across the globe as a weapon to fight the COVID-19 was launched from WHO experts on how to detect, prevent, respond to and control the new Coronavirus.

As a Pharmacist it is essential to double down COVID-19 in all countries to strike a fine balance between protecting health, preventing economic and social disruption and respecting human rights. It is also essential to have a robust surveillance to find, isolate, test and treat every case, to break the chains of transmission to save lives. It is the responsibility of pharmacist to mobilize the people in bringing awareness of COVID-19 among community pharmacists who can turn the tide on this virus. Critical preparedness, readiness and response actions in the spirit of solidarity may help to prevent the COVID-19.

**T.V. Narayana**  
President  
SEARPharm Forum



**Rao Vadlamudi**  
Professional Secretary  
SEARPharm Forum

Dear Readers,

### **“COVID-19 and Post-COVID Scenario”**

We are going through an unprecedented situation that we have neither anticipated nor experienced so far in our lifetime. We have witnessed the shutting down of the entire world due to a novel coronavirus infection that started in Dec 2019 in the city of Wuhan in China where the first few cases of people developing very severe flu-like pneumonia due to an unknown virus came into light. Initially, this viral infection spread like wildfire in the Hubei Province of China and the WHO started alerting all nations of a possibility of a novel viral infection and the virus which belonged to the class of coronaviruses were christened novel coronavirus (nCoV) first and later the official name given was SARS coronavirus-2 or SARS-CoV-2. Coronavirus disease 2019 (COVID-19) is the disease caused by SARS-CoV-2. Coronaviruses are a large family of enveloped, positive-stranded RNA viruses that cause respiratory illnesses ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). SARS-CoV-2 is a new strain that has not been previously identified in humans. On 11 March 2020, the WHO declared the outbreak to be a pandemic.

As on date, the world has experienced 5,267,419 confirmed cases of COVID-19, including 341,155 deaths. The number of cases emerging each day is continuously increasing all over the world despite lock-down measures implemented by various countries. In India, the number of cases reported is 139,929 with 4039 deaths. The number of cases in our country is relatively lower due to the lock-down imposed by the Govt. of India quite early during this outbreak. However as the Lock-down is being relaxed in a phased manner all over the country and since the spread of the viral infection is in stage 3, the virus is expected to cause continued widespread infection for some more weeks in our country. Although the virus spreads rapidly from human to human due to close contact through respiratory droplets from an infected person to others, majority of the persons infected will recover from the infection and a more severe form of COVID-19 is likely to develop in vulnerable groups of people such as those who are very old, those with comorbidities and those who are immunocompromised.



As there is no treatment for the disease and new drug treatments and vaccines are only in the developmental stages, these would take at least 2-years time before becoming available to most of the population. The best preventive measures are to maintain social distancing, practising good hand and respiratory hygiene and avoiding going out of the house unnecessarily would reduce the chances of infection.

Healthcare professionals that include doctors, nurses, pharmacists and paramedics all over the world have risen to the occasion by taking care of the COVID-19 patients and nursing them to recovery. In this process, they have put their lives at risk and many healthcare professionals were infected and many of them succumbed to COVID-19. All governments must protect these COVID warriors by providing them with personal protection equipment and insurance coverages and so on. However in India, although Pharmacists are on the frontline and saving lives not much recognition has come from our government. The services of pharmacists have to be supported by providing all incentives and publicly recognising and commending their services and without letting them down as unsung heroes.

COVID-19 has impacted the way of life and economy world over. In the post-COVID situation, everything will be done differently. Social distancing is going to be a norm, handshaking or patting the back will be shunned. In the education front, classroom teaching and practical training in the laboratory will be changed and more and more online instructional resources will be pressed into action. Conferences and travel to attend conferences will not be possible soon. But one thing all of our pharmacy colleagues and budding pharmacists must keep in mind is that the pharmacy practice and pharmaceutical sciences will continue to thrive as the need for medicines, vaccines and pharmacist services would increase till the world gets back to the normal order.

**Rao Vadlamudi**

Professional Secretary  
SEARPharm Forum

Dear Readers,

Pandemics are large scale outbreaks of infectious disease that can greatly increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption. Evidence suggests that the likelihood of pandemics has increased over the past century because of globalization and urbanization, changes in land use, and greater exploitation of the natural environment and resources, with COVID-19 being deadliest of all witnessed in our lifetimes thus far.

The COVID-19 pandemic is straining health systems worldwide. The rapidly increasing claim on health facilities and health care workers threatens to leave overstressed and unable to operate effectively and is expected to cause economic recession unparalleled in the recent history.

On March 11, 2020, the World Health Organization announced that the COVID-19 virus was officially a pandemic after barreling through 215 countries in three months, with 3,181,642 confirmed cases and 224,301 deaths. But alongside these dark sentiments, images of solidarity have emerged. Health workers have shown an incredible commitment to their communities and responded with compassion and resolve to tackle the virus in these challenging times. The pandemic has taught us we are human, and nothing is more interesting to us than humanity; and brought us together of international solidarity, with the sharing of resources, information, and expertise from countries further ahead in the epidemic, or with better results in controlling the spread .

**There is nothing permanent except change,**

**So don't stress yourself**

**The Coronavirus won't last long.**

**Join us and please Pray for people suffering from Coronavirus.**

**Dr P Ramalingam**

Editor

**Dr Mohanraj M Rathinavelu**

**Dr G Sumalatha**

Associate Editors



# Myths and Facts surrounding Novel Coronavirus (COVID-19)

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The World Health Organization (WHO) On 30<sup>th</sup> January 2020, declared the Coronavirus as a Public Health Emergency of International Concern (PHEIC) after it exceeded the number infected during the 2002-2003 outbreaks of SARS (Severe Acute Respiratory Syndrome) in China<sup>1</sup>. The World Health Organization (WHO) officially changed its classification of the situation from a public health emergency of international concern to a pandemic on March 11<sup>th</sup>. As ever, when the word “pandemic” starts appearing in headlines, people become fearful, and with fear come misinformation and rumors. Today, health information is available from a wide range of resources (Google, Whatsapp, Blogs, E-Mail, Facebook, Twitter, and Instagram, etc.) which may give real or fake information, that will make public more panic. So, to resolve the misconceptions existing among the public, there is a need to explore facts about COVID-19 infection, this will improve personal care and brings control over the spread of the infection. This paper will dissect about most common myths that are circulating in social media and beyond.

**Myth 1:** COVID-19 virus CANNOT be transmitted in areas with hot and humid climates.

**Fact:** From the evidence so far, the COVID-19 virus can be transmitted in all areas, including areas with hot and humid weather. Regardless of climate, adopt protective measures if you live in, or travel to an area reporting COVID-19. The best way to protect yourself against COVID-19 is by frequently cleaning your hands. By doing this you remove viruses that may be on your hands and avoid infection that could occur by then touching your eyes, mouth, and nose<sup>2</sup>.

**Myth 2:** Cold weather and snow CAN kill the novel coronavirus.

**Fact:** There is no reason to believe that cold weather can kill the novel coronavirus or other diseases. The normal human body temperature remains around 36.5°C to 37°C, regardless of the external temperature or weather. The most effective way to protect yourself against the novel coronavirus is by frequently cleaning your hands with alcohol-based hand rub or washing them with soap and water<sup>1</sup>.

**Myth 3:** Taking a hot bath prevents the COVID-19.

**Fact:** Taking a hot bath will not prevent you from catching COVID-19. Your normal body temperature remains around 36.5°C to 37°C, regardless of the temperature of your bath or shower. Taking a hot bath with extremely hot water can be harmful, as it can burn you. The best way to protect yourself against COVID-19 is by frequently cleaning your hands. By doing this you remove viruses that may be on your hands and avoid infection that could happen by then touching your eyes, mouth, and nose<sup>2</sup>.

**Myth 4:** The novel coronavirus CAN be transmitted through mosquito bites.

**Fact:** To date, there has been no information or evidence to recommend that the novel coronavirus could be transmitted by mosquitoes. The novel coronavirus is a respiratory virus which spreads primarily through droplets generated when an infected person coughs or sneezes, or through droplets of saliva or discharge from the nose. To protect yourself, clean your hands frequently with an alcohol-based hand rub or wash them with soap and water. Also, avoid close contact with anyone who is coughing and sneezing<sup>3</sup>.

**Myth 5:** Hand dryers are effective in killing the novel coronavirus.

**Fact:** Hand dryers are not effective in killing the novel coronavirus. To protect yourself against such viruses, you should frequently clean your hands with an alcohol-based hand rub or wash them with soap and water. Once your hands are cleaned, you should dry them thoroughly by using paper towels or a warm air dryer<sup>4</sup>.

**Myth 6:** Ultraviolet disinfection lamp can kill the novel coronavirus.

**Fact:** UV lamps should not be used to sterilize hands or other areas of skin as UV radiation can cause skin irritation.

**Myth 7:** Spraying alcohol or chlorine all over your body can kill the novel coronavirus.

**Fact:** Spraying alcohol or chlorine all over your body will not kill viruses that have already entered your body. Spraying such substances can be harmful to clothes or mucous membranes (i.e. eyes, mouth). Be aware that both alcohol and chlorine can be useful to disinfect surfaces, but they need to be used under appropriate instructions.

**Myth 8:** Vaccines against pneumonia can protect you against the novel coronavirus.

**Fact:** Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine, do not protect against the novel coronavirus. The virus is so new and different that it needs its own vaccine. Researchers are trying to develop a vaccine against novel coronavirus, and WHO is supporting their efforts.

**Myth 9:** Regular rinsing of the nose with saline can help to prevent infection with the novel coronavirus.

**Fact:** There was no evidence that regularly rinsing the nose with saline has protected people from infection with the novel coronavirus. There is some limited evidence that regularly rinsing nose with saline can help people recover and relieve symptoms more quickly from the common cold. However, regularly rinsing the nose has not been shown to prevent any type of

respiratory infections from the viral origin.

**Myth 10:** Eating garlic helps in the prevention of infection with novel coronavirus.

**Fact:** Garlic is a healthy food that may have some antimicrobial properties. However, there is no evidence from the current outbreak that eating garlic has protected people from the novel coronavirus.

**Myth 11:** Novel Coronavirus affects only old people.

**Fact:** People of all ages can be infected by the novel coronavirus. Older people and people with pre-existing medical conditions (such as asthma, COPD, diabetes, cardiovascular disease, and smokers) appear to be more vulnerable to becoming severely ill with the virus. The WHO advises people of all age groups can protect themselves from the virus by following good hand and respiratory hygiene.

**Myth 12:** Antibiotics are effective in preventing and treating the novel coronavirus.

**Fact:** Antibiotics do not work against viruses, they only act on bacteria. The novel coronavirus is a virus and, therefore, antibiotics should not be used as a means of prevention or treatment. However, if you are hospitalized for the novel coronavirus, you may be advised to take antibiotics because of bacterial co-infections.

**Myth 13:** Medicines are available in the global market to prevent or treat the novel coronavirus

**Fact:** To date, there is no specific medicine recommended to prevent or treat the novel coronavirus. However, those infected with the virus should receive appropriate care to relieve and treat symptoms, and those with severe illness should receive optimized supportive care. Some specific treatments are under investigation, and will be tested through clinical trials. The WHO is helping to accelerate research and development efforts with a range of partners<sup>5</sup>.

**Myth 14:** Drinking alcohol can cure COVID-19

**Fact:** There is no evidence that drinking alcohol can cure COVID-19. Generally, alcohol-based sanitizers will be recommended as a precaution

against any viral infection.

**Myth 15:** Unable to hold breath for 10 seconds acts as a test for COVID-19.

**Fact:** A person infected with the novel coronavirus can also hold his/her breath for more than 10 seconds. On the other hand, the elderly people unable to accomplish this task, but it do not mean that they are infected. Molecular and serological tests are required to diagnose the active and previous infection by COVID-19.

**Myth 16:** Garlic boosts the immune system.

**Fact:** There is no scientific evidence to suggest that the consumption of garlic boosts the immunity system or safeguards one from being infected with COVID-19.

**Myth 17:** Immediately visit the hospital if you are experiencing cough and high fever.

**Fact:** One should not visit a hospital during a pandemic since it increases the chances of a healthy person catching the virus. One should consult a doctor over the phone, if he/she is experiencing any symptoms at all and seek a future course of action.

### Conclusion:

As of March 30, a total of 722,435 people are confirmed, 151,901 recovered, and 33,987 deceased with novel coronavirus infection in the entire world. The majority of nations are entering lockdown to 'flatten the curve' of social interactions through social distancing, it is very important to abstain from placing one's beliefs in any unbelievable cures or conspiracy theories about COVID-19.

### References:

1. Myth busters [Internet]. [cited 2020 Mar 30]. Available from: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>
2. Rogers LS, Health JBS of P. Myths vs. Reality [Internet]. Johns Hopkins Bloomberg School of Public Health. [cited 2020 Mar 30]. Available from: <https://www.jhsph.edu/covid-19/articles/coronavirus-facts-vs-myths.html>
3. COVID-19 Myths Debunked by the World Health Organization -- Occupational Health & Safety [Internet]. [cited 2020 Mar 30]. Available from: <https://ohsonline.com/articles/2020/03/19/covid19-myths-debunked-by-the-world-health-organization.aspx>
4. Health Professionals Fight Against COVID-19 Myths, Misinformation [Internet]. [cited 2020 Mar 30]. Available from: <https://www.medscape.com/viewarticle/926744>
5. COVID-19 FACTS [Internet]. [cited 2020 Mar 30]. Available from: <https://www.covid-19facts.com/>

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# Drugs showing promise against the COVID-19 virus: A brief Review

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Coronavirus disease (COVID-19) has been declared as a global pandemic by the World Health Organization.<sup>1</sup> On the morning of April 4, 2020, the disease has affected 203 countries and territories and there were more than a million cases globally.<sup>2</sup> Nearly 59,000 deaths have been reported to be due to the virus and the United States, Italy, Spain, China and Germany had the highest number of cases. Morbidity and mortality due to the virus is increasing exponentially.

There is no effective treatment for the disease as yet. The disease mainly spreads via the respiratory tract through droplets, respiratory secretions and direct contact.<sup>3</sup> The common clinical manifestations are fever, cough, fatigue, sputum production, shortness of breath, sore throat and headache.<sup>4</sup> The disease is caused by severe acute respiratory syndrome coronavirus-2 (SARS-COV-2), a beta coronavirus which is an enveloped non-segmented positive sense RNA virus.<sup>5</sup> The increasing death toll, complications, quick spread and widespread fear created by the diseases have made it urgent to find therapeutic options.

Antivirals including interferon alpha, lopinavir / ritonavir, chloroquine phosphate, ribavirin, and arbidol have been included in the latest Chinese treatment guidelines.<sup>6</sup> We will now examine each of these agents briefly. We will also examine a few other promising agents.

***Interferon alpha:*** Pegylated interferon alpha can stimulate innate antiviral response in infected patients.<sup>7</sup> Subcutaneous interferon therapies are however, associated with multiple adverse effects. Version 6 of the treatment guidelines recommends a dose of 5 million units twice daily for a maximum period of 10 days by vapor inhalation.<sup>6</sup>

***Remdesivir:*** This is a broad-spectrum antiviral drug which exerts its action through premature termination of RNA transcription.<sup>8</sup> Multiple clinical trials of remdesivir are underway. Liver and kidney disease are contraindications for enrolment in the trial. The estimated completion dates of the trials are in April 2020.

***Lopinavir-ritonavir:*** The combination of anti-retroviral drugs has shown activity against SARS previously both in vitro and in clinical studies. A recent trial had compared the combination to usual care among 199 hospitalized patients in China.<sup>9</sup> The combination did not show a beneficial effect in this study. The combination is one of the arms in a clinical trial conducted by the World Health Organization among hospitalized patients.

***Chloroquine and hydroxychloroquine:*** Both drugs have invitro activity against the virus with hydroxychloroquine showing greater potency.<sup>8</sup> The drug can inhibit a pre-entry step of the virus by binding to human cell surface receptors. It interferes with the synthesis of sialic acids which are vital components of ligand recognition. The drug interferes with pH-dependent endosome-mediated viral entry. The post translational modification of viral proteins is also interfered with. It also acts on the immune system and reduces production of pro-inflammatory cytokines.<sup>10</sup> The dose of chloroquine recommended for treatment is 500 mg twice daily for no more than ten days. Other dosage regimens have also been recommended. A clinical trial is underway examining the use of the drugs in prevention of COVID-19 in the healthcare setting.<sup>11</sup> The Indian Council of Medical research has approved the use of the drugs for prophylaxis among asymptomatic healthcare workers involved in care of patients and asymptomatic household contacts of confirmed cases.<sup>12</sup>



**Other therapeutic options:** Ribavirin has been recommended in combination with interferon alpha or lopinavir / ritonavir in a dose of 500 mg two or three times a day for a period of no more than ten days.<sup>6</sup> Arbidol is an antiviral used to treat influenza and has been shown to effectively inhibit the SARS-CoV-2 virus in vitro.<sup>13</sup>

Recent news reports seem to suggest that the drug ivermectin kills the virus within 48 hours following a single dose in vitro.<sup>14</sup> Development of an effective anti-viral for SARS-CoV-2, if given to patients early in infection, could help to limit the viral load, prevent severe disease progression and limit person-person transmission and help reduce/lift the widespread lockdown and cessation of economic activity and transport which are devastating the global economy.

Thus, many drugs show promise in treating COVID-19. In addition, there are a number of drugs and other therapies used for supportive and symptomatic treatment of infected patients. There are also drugs which are better avoided in patients suffering from COVID-19. We will not be discussing these in this brief review. The challenge is getting the medicines into the market quickly enough after verifying their efficacy and determining the suitable therapeutic doses. Traditional drug licensing processes which take from months to years may be too slow for a virus which replicates and infects literally at the speed of light.

#### References:

1. Coronavirus: COVID-19 is now officially a pandemic, WHO says. <https://www.npr.org/sections/goatsandsoda/2020/03/11/814474930/coronavirus-covid-19-is-now-officially-a-pandemic-who-says>. Accessed April 4, 2020.
2. Coronavirus COVID-19 global cases by the Center for systems science and engineering at Johns Hopkins University. <https://coronavirus-covid19.com>. Accessed April 4, 2020.
3. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, et al. Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med*. 2020. <https://doi.org/10.1056/NEJMoa2001316> [Epub ahead of print].
4. Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, et al. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*. 2020. <https://doi.org/10.1056/NEJMoa2002032>.
5. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*. 2020;382: 727–33.
6. Guidelines for the Prevention, Diagnosis, and Treatment of Novel Coronavirus-induced Pneumonia, The 6th ed. <http://www.nhc.gov.cn/yzygj/s7653p/202002/8334a8326dd94d329df351d7da8aefc2/files/b218cfeb1bc54639af227f922bf6b817.pdf>.
7. Li G, De Clercq E. Therapeutic options for the 2019 novel coronavirus (2019-nCoV). *Nat Rev Drug Discov*. 2020;19:149-150. doi: 10.1038/d41573-020-00016-0.
8. Wang M, Cao R, Zhang L, Yang X, Liu J, Xu M, et al. Remdesivir and chloroquine effectively inhibit the recently emerged novel coronavirus (2019-nCoV) in vitro. *Cell Res*. 2020;30:269-71
9. Cao B, Wang Y, Wen D, Liu W, Wang J, Fan G, et al. A trial of lopinavir-ritonavir in adults hospitalized with severe Covid-19. *N Engl J Med*. 2020 <https://doi.org/10.1056/nejmoa2001282> 195.
10. Devaux CA, Rolain JM, Colson P, Raoult D. New insights on the antiviral effects of chloroquine against coronavirus: what to expect for COVID-19? *Int J Antimicrob Agents*. 2020:105938. doi: 10.1016/j.ijantimicag.2020.105938.
11. Chloroquine/hydroxychloroquine prevention of coronavirus disease in the healthcare setting (COPCOV). <https://www.clinicaltrials.gov/ct2/show/NCT04303507> Accessed April 4, 2020.

12. Breaking news: ICMR permits prophylactic use of hydroxychloroquine for coronavirus; check out indications, doses. <https://medicaldialogues.in/medicine/guidelines/breaking-news-icmr-permits-prophylactic-use-of-hydroxychloroquine-for-coronavirus-check-out-indications-doses-64166> Accessed April 4, 2020.
13. News: Arbidol and darunavir can effectively inhibit coronavirus <http://www.sd.chinanews.com/2/2020/0205/70145.html> (accessed April 4, 2020). (in Chinese).
14. Caly, L., Druce, J.D., Catton, M.G., Jans, D.A., Wagstaff, K.M., The FDA approved Drug Ivermectin inhibits the replication of SARS-CoV-2 in vitro, *Antiviral Research*, <https://doi.org/10.1016/j.antiviral.2020.104787>.

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# Evidence from Clinical trials for Pharmaceutical Treatment for COVID-19

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The World Health Organization has declared the coronavirus disease (COVID-19) as a pandemic and as of now there is no known role of effective pharmaceutical treatment which is very much in need, especially for patients suffering from the severe form of the disease.<sup>1</sup> Generally, pharmacological treatment is not recommended for young, healthy patients with mild symptoms and no underlying comorbid conditions.

Potential coronavirus treatment falls under two categories. One being the under investigation include investigational antivirals and the other being the repurposed antivirals. Repurposed drugs are those which are being currently in use for a different condition or disease. In certain instances, these could be used as a prophylaxis against the COVID-19 disease.<sup>2</sup> This article highlights some of the important evidence based pharmaceutical treatment options available related to COVID-19.

The republic of China has approved the use of the anti-viral drug favilavir as a treatment for coronavirus. The trial involved 70 patients. The drug has reportedly shown efficacy in treating the disease with minimal side effects. The trail is ongoing in Shenzhen, Guangdong Province.<sup>3</sup> Preliminary data from France suggests that hydroxychloroquine treatment is significantly associated with viral load reduction / disappearance in COVID-19 patients and its effect is reinforced by azithromycin. It was an open-label, non-randomized clinical trial compared hydroxychloroquine treatment (n = 26) to an untreated negative control group. Preliminary data showed the proportion of patients that had a negative polymerase chain reaction (PCR) results significantly differed between treated patients and untreated controls. On day 6, 70% of hydroxychloroquine treated patients were virologically cured compared to 12.5% in the untreated control group.<sup>4</sup>

There are proposed new trials with azithromycin, chloroquine combination (ACT),

hydroxychloroquine phosphate are yet to be initiated with a pretty large sample size to give us clear cut evidence. But this may take years to get the results.<sup>5</sup> There have been reports of potential benefit of chloroquine in inhibiting the exacerbation of pneumonia patients with COVID-19 infection; however, specific data are not available.<sup>6</sup>

Anti-human immunodeficiency viruses (HIV) drugs like lopinavir / ritonavir have been used in the treatment of few cases globally and in India. It has been claimed to be effective in a few cases, but more recent data has failed to confirm its efficacy. A retrospective cohort study of hospitalized patients, reviewing clinical courses and risk factors for mortality included 29 patients who received lopinavir and ritonavir. No difference was noted in the duration of viral shedding after treatment with lopinavir and ritonavir.<sup>7</sup> Remdesivir has been administered to several hundred patients with confirmed, severe COVID-19 infections in the United States, Europe, and Japan through Expanded Access or Compassionate Use programs. Several clinical trials evaluating the efficacy of Remdesivir in patients infected with COVID-19 are currently being conducted. Data from some trials are expected by the end of April 2020.<sup>5</sup>

There are other adjunctive and supportive therapies being looked upon like usage of azithromycin, tocilizumab, sarilumab, COVID-19 Convalescent Plasma etc.<sup>6,8-10</sup> All these are being tried in various settings, but still we do not have any concrete evidence yet, which of course needs well planned studies in the long run. Understanding the treatment options for COVID-19 is evolving rapidly. We will have additional information as more and more clinical data emerge. Till that symptomatic management and case to case basis treatment as per the physician's decision is the only management option we have to combat the dreadful pandemic.

## References:

1. Cortegiani A, Ingoglia G, Ippolito M, Giarratano A, Einav S. A systematic review on the efficacy and safety of chloroquine for the treatment of COVID-19. *J Crit Care*. 2020. pii: S0883-9441(20)30390-7.
2. EUROPEAN MEDICINES AGENCY (EMA). Coronavirus disease (COVID-19). Available from: <https://www.ema.europa.eu/en/human-regulatory/overview/public-health-threats/coronavirus-disease-covid-19>
3. HOSPIMEDIA. Fujifilm's Antiviral Becomes First Approved Drug to Treat Coronavirus in China. Available from: <https://www.hospimedia.com/coronavirus/articles/294781247/fujifilms-antiviral-becomes-first-approved-drug-to-treat-coronavirus-in-china.html>
4. Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents*. 2020:105949.
5. CLINICALTRIALS.GOV. Assessed from: [https://www.clinicaltrials.gov/ct2/results?cond=Coronavirus&term=&type=&rslt=&age\\_v=&gndr=&intr=remdesivir&titles=&outc=&spns=&lead=&id=&cntry=&state=&city=&dist=&locn=&rsub=&strd\\_s=&strd\\_e=&prcd\\_s=&prcd\\_e=&sfpd\\_s=&sfpd\\_e=&rfpd\\_s=&rfpd\\_e=&lupd\\_s=&lupd\\_e=&sort=](https://www.clinicaltrials.gov/ct2/results?cond=Coronavirus&term=&type=&rslt=&age_v=&gndr=&intr=remdesivir&titles=&outc=&spns=&lead=&id=&cntry=&state=&city=&dist=&locn=&rsub=&strd_s=&strd_e=&prcd_s=&prcd_e=&sfpd_s=&sfpd_e=&rfpd_s=&rfpd_e=&lupd_s=&lupd_e=&sort=)
6. Gao J, T Zhenxue, Yang X. Breakthrough: Chloroquine phosphate has shown apparent efficacy in treatment of COVID-19 associated pneumonia in clinical studies. *Biosci Trends* 020;14:72-73.
7. Zhou F, Yu T, Du R, Fan G, Liu Y, Liu Z, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*. 2020;395(10229):1054-1062.
8. US-FDA. Assessed from: [https://www.fda.gov/vaccines-blood-ologics/investigational-new-drug-ind-or-device-exemption-ide-process-cber/investigational-covid-19-convalescent-plasma-emergency-inds?utm\\_campaign=what%27sNew2020-03-24&utm\\_medium=email&utm\\_source=Eloqua](https://www.fda.gov/vaccines-blood-ologics/investigational-new-drug-ind-or-device-exemption-ide-process-cber/investigational-covid-19-convalescent-plasma-emergency-inds?utm_campaign=what%27sNew2020-03-24&utm_medium=email&utm_source=Eloqua).
9. Xu X, Han M, Li T, Sun W, Wang D, Fu B, et al. Effective treatment of severe COVID-19 patients with Tocilizumab. Available from: chinaXiv website.
10. CLINICALTRIALS.GOV. Evaluation of the efficacy and safety of sarilumab in hospitalized patients with COVID-19. Retrieved March 24, 2020. Assessed from: <https://clinicaltrials.gov/ct2/show/NCT04315298?term=sarilumab&draw=3&rank=4>.

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## FIP CALL TO ACTION

### To support pharmacists and pharmacy workers on the coronavirus/COVID-19 frontline

Pharmacies are often the first point of contact with the health system. In some parts of the world, this is ever more true. As hospitals and other healthcare facilities are challenged with caring for large numbers of COVID-19 patients and as countries around the world restrict non-essential daily activities and services for the public, the pharmacy becomes an even more vital access point for medicines and healthcare advice. The valuable service that pharmacists and their teams provide to communities, and their important contribution to easing the enormous strain being placed on our world's health systems during this coronavirus/COVID-19 pandemic, is now clearer than ever.

Pharmacists at community and hospital pharmacies and clinical biology laboratories are preventing the spread of the new coronavirus disease by advising the public and supporting the efficient management of infection by healthcare systems. Around the world, our colleagues are making sure that patients, particularly the vulnerable, receive their medicines despite the quarantines and lockdowns. They are continuing to ensure a robust and efficient medicines and medical product supply chain, in some cases compounding hand sanitisers themselves to relieve shortages.

The International Pharmaceutical Federation (FIP), which represents over 150 national pharmacy organisations around the world, calls on governments and other stakeholders to support pharmacists and their teams as key partners in this global health crisis so that people can continue to count on pharmacists in the weeks and months to come.

#### FIP calls for the following measures:

1. Recognising pharmacists and pharmacy staff as key workers, for example, fully including them in emergency protocols, affording them freedom of movement during lockdowns, and providing for childcare if schools are closed.
2. Ensuring pharmacy staff have access to a appropriate protective equipment, according to FIP guidelines “Coronavirus SARS-CoV-2/COVID-19 pandemic: Information and interim guidelines for pharmacists and the pharmacy workforce” and in compliance with World Health Organization recommendations.
3. Including pharmacy staff in the groups of healthcare and essential workers to be tested for coronavirus/COVID-19.
4. Providing logistical and financial support for home delivery of medicines and medical devices by pharmacists, especially to high-risk groups, such as older adults, patients with non-communicable diseases and patients with immunocompromising conditions (congenital or acquired), who have been advised to stay at home. This can be done in partnership with postal services or with other logistical partners.
5. Enabling funding for the provision of other pharmaceutical services to patients who must stay at home.
6. In coordination with all relevant medicines supply chain stakeholders, allowing early prescription refills, supply of larger quantities of medicines and emergency supplies without a prescription, especially for patients with chronic non-communicable diseases, who are a higher-risk group for COVID-19. This should be done in a staged manner to avoid medicines shortages and further strain on pharmacy personnel who are already under pressure from the COVID-19 pandemic response.
7. Identifying medicines that are at risk of shortage and working to put in place mitigation plans, such as authorising pharmacists to conduct therapeutic substitution without prescriber authorisation.
8. Enabling the provision by community pharmacies of medicines that are normally supplied to outpatients by hospital pharmacies to avoid patients having to travel to hospitals and further pressure on hospital pharmacy services.

9. Allowing pharmacists and pharmacy staff to conduct routine pharmacy tasks remotely as necessary, including through telepharmacy consultations.
10. Governments and other employers ensuring that pharmacists are getting adequate breaks during their shifts, and time off between shifts, in order to be able to carry on providing pharmaceutical care.
11. Issuing wider announcements to encourage redeployment of capable and able pharmacists and pharmacy technicians to the front line to help with the current demand placed on pharmacies at this time.
12. Affirming that student pharmacists and interns are an important contributor to the healthcare team and, where possible, are utilised to contribute to patient care.
13. Further investing in infrastructure for immunisation beyond infancy, to ensure health systems are ready for mass immunisation against COVID-19 when vaccines are available. In order to expand capacity, governments should consider updating their regulations to enable pharmacists to immunise adults against vaccine-preventable diseases, including COVID-19 when this becomes possible.
14. Authorising and harnessing the network of pharmacies to contribute to mass testing across the population, following the adoption of evidence-based protocols for the usability of rapid point-of-care tests for COVID-19 in appropriate individuals in the community setting.
15. Authorising pharmacists to test and treat conditions with similar symptoms to COVID-19, such as streptococcal infection, enabling specialists in the health service to focus on direct treatment of COVID-19 patients.
16. Funding continuing education in infectious disease and emergency response to ensure that pharmacists are up-to-date with clinical and regulatory changes.
17. Governments providing pharmacists with the latest accurate and comprehensive clinical information on COVID-19.
18. Expediting evidence-based treatments for COVID-19 vaccines and treatments by implementing a systematic and globally joined-up approach, facilitating data gathering, access and sharing, and fully utilising the expertise of pharmaceutical scientists as well as pharmacists.
19. Putting in place appropriate services to support the psychological health of pharmacists and pharmacy staff. We have already witnessed pharmacist deaths related to coronavirus/COVID-19. Many pharmacists will have patients who have died because of the infection.
20. Providing financial aid to pharmacies in the event of temporary closure for health reasons.
21. National pharmacy organisations engaging all members of the pharmaceutical workforce, across community and education; across supply to the support workforce; across industry and hospital; to respond comprehensively to the COVID-19 pandemic, and in solidarity.
22. Recognising the importance of international cooperation in combating the coronavirus/COVID-19 pandemic.
23. Governments and international agencies, such as the UN, WHO, UNICEF, UNHCR and UNESCO, along with international philanthropic organisations working together and setting up a funding mechanism to ensure that developing countries have the equipment, supplies and resources they need to strengthen their health and education systems.

**Reference:**

1. [www.fip.org/files/content/publications/2020/FIP-call-to-action-to-support-pharmacists-and-pharmacy-workers-on-the-coronavirus-COVID-19-frontline.pdf&ved=2ahUKEwj8i-2L0b\\_pAhWgxzgGHeZ2AcoQFjABegQIC hAG&usg=AOvVaw2yj4CcGI3G3LLcZTu UlekK](http://www.fip.org/files/content/publications/2020/FIP-call-to-action-to-support-pharmacists-and-pharmacy-workers-on-the-coronavirus-COVID-19-frontline.pdf&ved=2ahUKEwj8i-2L0b_pAhWgxzgGHeZ2AcoQFjABegQIC hAG&usg=AOvVaw2yj4CcGI3G3LLcZTu UlekK)



# COVID-19: Treatment guidelines and research updates

## List of key medicines for the treatment of COVID-19

Type of treatment	Drug name	Dosage form and specifications
Antiviral treatment	Recombinant Human Interferon	Recombinant human interferon $\alpha$ -2a injection: 3 million IU, 5 million IU; Recombinant human interferon $\alpha$ -2b injection; Recombinant human interferon $\alpha$ -2b injection (P.putida): 3 million IU, 5 million IU
	Lopinavir/ritonavir	Capsule: lopinavir 200mg, ritonavir 50mg
	Ribavirin	Injection: 1ml: 0.1g
Antimicrobial agents	According to the existing drug list of the medical institution	
Antipyretic and analgesic treatment	Ibuprofen	Tablet, granules: 0.1g,0.2g ; Capsule: 0.2g ; Slow release (tablet, capsule): 0.3g; Suspension: 60ml:1.2g, 100ml:2g
	Paracetamol / acetaminophen	Up to 4 g per day
	According to the existing drug list of your medical institution	
Corticosteroids (when strictly necessary, as per medical assessment of individual patients, mostly in hospital settings)	Methylprednisolone	Tablet: 4mg (Sodium succinate) sterile powder for injection: 40mg, 500mg
Intestinal microecological Preparations	According to the existing drug list of your medical institution	
Other gastrointestinal treatment	According to the existing drug list of your medical institution	
Antitussive treatment	According to the existing drug list of your medical institution	
Sputum removal treatment	According to the existing drug list of your medical institution	
Anti-asthmatic treatment	According to the existing drug list of the medical institution	
Chinese patent medicines	Huoxiangzhengqi	Soft capsule: 0.45g; Dripping pill: 2.6g/bag Concentrated pills: 8 pills drops are equivalent to 3g herbal slices Tincture: 10ml; Oral Solution: 10ml
	Jinhua Qinggan	Granules: 5g (equivalent to 17.3g herbal slices)
	LianhuaQingwen	Capsule: 0.35g; Granules: 6g/bag
	ShufengJiedu	Capsule: 0.52g
	Fangfengtongsheng	Concentrated pills: 8 pills equivalent to 6g herbal slices; Watered pill: 6g/bag Granules: 3g/bag
	Xiyanping	Injection: 2ml:50mg,5ml:125mg
	Xuebijing	Injection: 10ml
	Shenfu	Injection: 10ml
	Shengmai	Injection: 10ml, 20ml

This list was compiled by the Chinese Pharmaceutical Association, except for paracetamol, which was added by FIP. For the rationale and supporting references for each therapeutic option, consult the original document (in English), available on the FIP dedicated webpage. (Chinese Pharmaceutical Association, 2020)

**Note:** This list is for reference only, medical institution can make adjustments according to their specific conditions.



## COVID-19 Modes of transmission and incubation

The transmission of COVID-19 can occur as follows:

1. Most often, COVID-19 is spread from person to person among close contacts.
2. Person-to-person spread occurs mainly via respiratory droplets produced when an infected person speaks, coughs or sneezes.
3. These droplets can land in the mouths, noses or eyes of people who are nearby or possibly be inhaled into the lungs.
4. When a person touches a surface or object that has the virus on it and then touches their own mouth, nose or eyes.
5. Transmission can occur when patients are symptomatic, but also before any symptoms appear, and even from asymptomatic patients.
6. Patients may remain contagious up to two weeks after the remission of symptoms.
7. In pregnant women, intrauterine or perinatal transmission has not been identified.
8. In breastfeeding women, the virus has not been detected in breast milk. The World Health Organization presently states that mothers with COVID-19 can breastfeed.
9. Regarding the possibility of reinfection, the immune response to COVID-19 is not yet understood. Patients with MERS-CoV infection are unlikely to be re-infected shortly after they recover, but it is not yet known whether similar immune protection will be observed for patients with COVID-19.
10. The median incubation period is estimated at 5.1 days. This suggests that the 14-day quarantine period recommended by the WHO is reasonable. 97.5% of people who develop symptoms will do so within 11.5 days of exposure.

## Pharmacy operations and facilities:

### Ensuring safety for all and continuity of service

#### **Professional oversight/managing pharmacist**

In case the managing pharmacist cannot assure his/her presence and role at the pharmacy, these can be taken up by a second pharmacist who may or not belong to the pharmacy personnel.

#### **Opening hours**

In case a pharmacy cannot assure its normal opening hours due to non-availability of staff, the new opening hours should be displayed in a visible place at least outside the pharmacy.

#### **Patient/customer service**

In order to assure the continuity of the supply of medicines and services to communities where there is only one pharmacy in a community, contact with patients/customers should be minimised by dispensing medicines through a small window on the facade or door, like those often used for night services. Pharmacies in general are also advised to dispense medicines through such a window whenever it is necessary to minimise contact while ensuring continuity of service.

A transparent plastic shield can also be placed on the counter or in front of the dispensing area, and marks placed on the ground to indicate the 1 or 2m distance that is to be kept between customers and staff.

In case neither of these measures is possible, patients/customers should not enter the pharmacy and pharmacists are advised to use appropriate individual protective equipment, where needed.

In order to avoid having too many people inside the pharmacy, patients/customers should wait outside the pharmacy. Patients/customers should keep a distance of 1 to 2 metres between them while waiting .

#### **Medicines supply**

Whenever possible, delivery of medicines to pharmacies should be done without the courier entering the pharmacy (or at least the non-public areas of the pharmacy). Cases used by wholesale distributors for the delivery of medicines should be cleaned and disinfected before they are taken inside the pharmacy facilities.



CRITERIA	INTERVENTION	
<ul style="list-style-type: none"> <li>• No symptoms (cough, fever or breathing difficulties) <b>AND</b></li> <li>• No known recent contact with confirmed or suspected cases of COVID-19 <b>and</b> no recent travel history to affected areas</li> </ul>	<ul style="list-style-type: none"> <li>• Offer reassurance</li> <li>• Highlight preventive measures</li> <li>• Recommend social distancing, home confinement and avoidance of non-essential travelling (domestic and international) whenever possible</li> </ul>	<ul style="list-style-type: none"> <li>• Provide evidence-based information and advice (oral and/or written)</li> </ul>
<ul style="list-style-type: none"> <li>• Symptoms (cough, fever or breathing difficulties) <b>AND</b></li> <li>• No known recent contact with confirmed or suspected cases of COVID-19 <b>and</b> no recent travel history to affected areas</li> </ul>	<ul style="list-style-type: none"> <li>• Offer reassurance</li> <li>• Inform that risk of COVID-19 may exist</li> <li>• Whenever possible, isolate the patient in a separate room</li> <li>• Do not physically examine the patient</li> <li>• Take self-protective measures, including the use of an appropriate respirator, gloves and goggles</li> <li>• Highlight measures to prevent further transmission, including the use of a face mask by the patient</li> </ul>	<ul style="list-style-type: none"> <li>• Recommend strict social distancing (including from family and close relations), home quarantine and avoidance of all travelling (domestic and international) for at least 14 days</li> <li>• For individuals in high-risk groups, advise contacting the emergency number or hotline or the appropriate healthcare facility for testing and follow-up care and treatment.</li> <li>• Provide evidence-based information and advice (oral and/or written)</li> <li>• Disinfect any potentially contaminated areas and surfaces</li> </ul>
<ul style="list-style-type: none"> <li>• No symptoms (cough, fever or breathing difficulties) <b>AND</b></li> <li>• Known recent contact with confirmed or suspected cases of COVID-19 <b>and/or</b> recent travel history to affected areas</li> </ul>	<ul style="list-style-type: none"> <li>• Offer reassurance</li> <li>• Inform that risk of COVID-19 may exist</li> <li>• Recommend social distancing, home quarantine and avoidance of non-essential travelling (domestic and international) for at least 14 days</li> <li>• Recommend tracing contacts history</li> </ul>	<ul style="list-style-type: none"> <li>• In case symptoms appear in the 14 days following contact with confirmed or suspected case, contact the emergency number or hotline and follow the appropriate instructions</li> <li>• Provide evidence-based information and advice (oral and/or written)</li> </ul>
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## **Public area**

1. Access to products for self-selection by customers should be restricted to avoid multiple people touching these products. They should be accessed only by pharmacy personnel.

## **At the counter**

1. Whenever possible, allocate one employee per station or location at the counter and avoid swaps.
2. Keep only essential objects at the counter.
3. Wipe and disinfect the counter after each customer/patient.
4. Have an alcohol-based solution at hand to disinfect hands after attending to each patient/customer.
5. Where possible, encourage patients to order their medicines through the pharmacy's webpage and delivered to their home or workplace.

## **Social distancing**

1. Limit the number of patients/customers entering the pharmacy at any one time.
2. Keep a distance of at least 1 metre (preferably more) when attending to a patient.
3. If necessary, a tray may be used to collect prescriptions, hand over medicines and process any payment in order keep this distance.
4. Advise patients to keep a distance of at least 1 metre between them while waiting, and use marking tape on the floor to indicate where they should stand.

## **Visiting a pharmacy**

1. Advise patients/customers to avoid long stays in the pharmacy.
2. Advise patients/customers to avoid visiting the pharmacy if they are elderly or have co-morbidities. Whenever possible, such patients should ask a family member, a friend or a neighbour to go to the pharmacy instead of them.

## **Recommendations for pharmaceutical services and activities in the pharmacy**

1. When performing point-of-care tests (e.g., measurement of blood pressure, cholesterol, glycaemia, pregnancy tests), , administering vaccines or injectables , or providing any other services that require direct contact with a patient, additional protective measures, such as the use of a mask and gloves, should be taken.
2. These services may need to be restricted or interrupted if they could pose a risk to the health of the team (e.g., if the patient has symptoms of respiratory infection).

## **Recommendations for the pharmacy team**

1. To ensure continuity of pharmacy activities, whenever possible divide the team into shifts (for example, morning and afternoon), with a brief closure of the pharmacy between them to disinfect the entire pharmacy, ensuring that the members of each shift do not have contact with each other at shift changes.
2. Employees with conditions that compromise their immune system should use masks and preferably perform back office tasks. Hand hygiene measures should be reinforced.
3. Employees should change coats more often.
4. Wearing accessories, such as bracelets, watches and rings, should be avoided.
5. Whenever it is necessary to put on a mask, hygiene and disinfection of the hands should be performed before and after.

# How to use Medical Masks:

Medical masks can be used to prevent the spread of respiratory infections

There are 2 main types of medical masks: **face masks** and **N95 respirators**.



**Face masks** fit more loosely and prevent the wearer from spreading large sprays and droplets when coughing or sneezing.

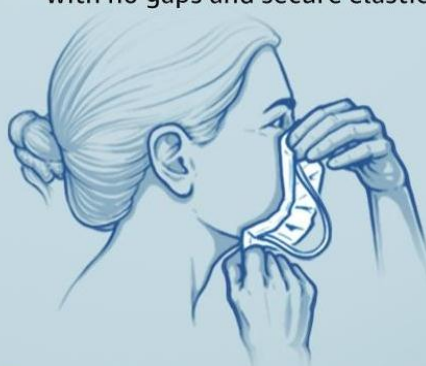
**N95 respirators** fit more tightly and prevent the wearer from inhaling smaller, airborne infectious particles. **N95 respirators are not recommended for use by the general public.**

## Face masks should only be used by

- ✓ Individuals with symptoms of respiratory infection such as coughing, sneezing, and sometimes fever
- ✓ Health care workers
- ✓ Persons taking care of or in close contact with someone with a respiratory infection

## How do I use a face mask?

- 1 Wash hands for at least 20 seconds prior to putting on a face mask.
- 2 Place face mask over nose and mouth. Ensure a tight seal with no gaps and secure elastics or straps.



- 3 Avoid touching the front of the face mask. If you do, wash hands for at least 20 seconds.
- 4 Remove the face mask without touching the front. Discard in a closed bin.
- 5 Wash hands again for at least 20 seconds.



Angel N. Desai, and Preeti Mehrotra. JAMA, 2020-03-04. doi:10.1001/jama.2020.2331



# COVID-19

## Request to Pharmacy Customers



Follow social distancing  
at all times (minimum one  
meter distance from others)



At pick-up, show your original  
prescription to pharmacist  
for verification



Cover your nose  
and mouth



Elderly and patients with chronic  
conditions (like Diabetes or Heart  
ailments) should avoid visiting  
pharmacy



Carry your  
prescription



Do not hand over your mobile  
(with prescription) to staff to  
handle, or to speak



Plan your requirements  
in advance to spend  
minimum time



Pay by digital payment rather  
than cash if possible



WhatsApp or email your  
requirements and prescription  
to Pharmacy if possible



Do not insist for stock of  
medicines more than a month

## Pharmacist: Your Partner in Health



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### Indian Pharmaceutical Association

[www.ipapharma.org](http://www.ipapharma.org)



# WE SALUTE YOU FOR YOUR DEDICATED SERVICE

Pharmacists and other staff: You are providing great service to your patients in this Covid19 pandemic. It is important to take care of yourself by following some of the recommendations below, for your safety and well being:



## SOCIAL / PHYSICAL DISTANCING

- Ensure minimum 1 metre distance between you and the client/patient
- Make an additional barrier at the counter to re-ensure it
- Try to take payment by digital modes, to reduce handling/exchange of cash



## SANITIZATION

- Wipe the counters at least once every 3 hours and mop the floor at least 2 times a day with a good disinfectant
- Wipe the door handles, and frequently touched surfaces with disinfectant liquid
- Ensure that the boxes/cases in which the medicines/supplies are delivered are cleaned and disinfected before they are taken inside



## PERSONAL SAFETY

- When on duty, wear a mask that covers your mouth and nose completely
- Always wear Apron or Gown, Gloves when at the Counter
- A disposable mask should be disposed-off in the right manner, while cloths mask should be washed daily
- Wash hands thoroughly every 30 mins with soap and water (for 20+ seconds) or using Hand Sanitizer
- Do so more frequently if you have touched too many things/patients mobiles/etc
- DO NOT touch your face, mouth, eyes, mask, or spectacles. (By doing this, you may either transfer infections to yourselves, or your infections to others/patients)
- If you have to scratch, adjust mask, or spectacles, do so using your elbow, back of your forearm or back of your hand. Or, wash your hands thoroughly, and then touch
- DO NOT cough, sneeze, etc. when at counter (If at all you get an urge, or you feel you are going to cough/sneeze, rush inside and do the same)
- DO NOT handle, or speak on the patient's/customers mobile. Request them to put on speaker mode
- For more safety, wear a transparent plastic/ acrylic hood besides the mask
- When you go home, Do not touch anyone till you have washed your hands thoroughly
- Go straight to the bath – put all your clothes for a wash and have a good thorough bath
- If you are running a fever, having a cold, or cough, refrain from coming to duty



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<https://ipapharma.org/3d-flip-book/covid-poster-ipa-pharmacy-customers/>



# Hand Hygiene Technique with Soap and Water:

Duration of the entire procedure: 40-60 seconds

 <p>0</p>	 <p>1</p>	 <p>2</p>
<p>Wet hands with water;</p>	<p>Apply enough soap to cover all hand surfaces;</p>	<p>Rub hands palm to palm;</p>
 <p>3</p>	 <p>4</p>	 <p>5</p>
<p>Right palm over left dorsum with interlaced fingers and vice versa;</p>	<p>Palm to palm with fingers interlaced;</p>	<p>Backs of fingers to opposing palms with fingers interlocked;</p>
 <p>6</p>	 <p>7</p>	 <p>8</p>
<p>Rotational rubbing of left thumb clasped in right palm and vice versa;</p>	<p>Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;</p>	<p>Rinse hands with water;</p>
 <p>9</p>	 <p>10</p>	 <p>11</p>
<p>Dry hands thoroughly with a single use towel;</p>	<p>Use towel to turn off faucet;</p>	<p>Your hands are now safe.</p>

WHO Guidelines on hand hygiene in health care: a summary, Part II. Consensus recommendations, Figure II.2: How to handwash, 13-14.



# Hand Hygiene Technique with Alcohol-Based Formulation:

Duration of the entire procedure: 20-30 seconds

1a



Apply a palmful of the product in a cupped hand, covering all surfaces;

1b



2



Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

4



Palm to palm with fingers interlaced;

5



Backs of fingers to opposing palms with fingers interlocked;

6



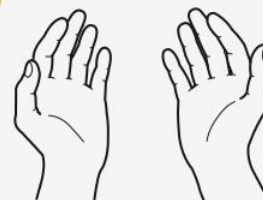
Rotational rubbing of left thumb clasped in right palm and vice versa;

7



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

8



Once dry, your hands are safe.

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