



A Triannual Official Publication of
VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN

Approved by AICTE, PCI, Affiliated to JNTUK & An ISO 9001:2015 Certified Institution



A Special bulletin on Novel Coronavirus (Covid-19)

Chief Patron:

Sri B.S. Appa Rao

Patron:

Sri B. S. Sri Krishna

ADVISORY COMMITTEE

Dr. S. Satyanarayana

Retd. Prof, Andhra University

Mr. A. V. Krishna Raju

Scientist,
Laila Impex, Vijayawada

Dr. K. Vijaya Sekhar

Govt. Gen. Hospital, Guntur

Dr. Sankar

Registrar., NTR Health University.,
Vijayawada

EDITORIAL BOARD

Editor-in-chief :

Dr. K. Padmalatha

Principal,
Vijaya IOPS for Women

Editorial Members

Mr. T. Sreenu

Mr. Y. Naveen

Dr. N. Prathibha

Dr. M. Tabitha Sharon

Dr. B. Dhanush

Mrs. V.V. Vandana

Student Co-ordinators

Thahera Mubeen

M. Sujana

K. Babitha

K. Devi Chandana

A. Naga Sai Maneesha

N. Mounika

B. Sowmya

Y. Ramya

K. Siresha Tirumala

P. Megana

M. Shalini

Dear reader

A very Happy New Year! And, may your visions be achieved and hard work rewarded!

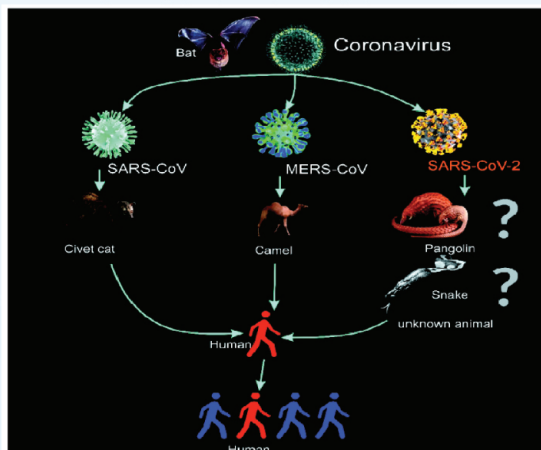
It's high time that one must think of the society than look for one's individual benefits. The world is in panic as the New Year unfolds many a dangerous situation. with the outbreak of the pandemic, corona virus, millions of humans are at risk. COVID-19 is a new variant of the same coronavirus that was responsible for SARS. The warning signs were not paid any attention, especially by the community of scientists and world leaders. Now, the government's orders for lockdown have to be obeyed stringently to prevent the spread of the invisible enemy.

Now, the government's orders for lockdown have to be obeyed stringently to prevent the spread of the invisible enemy. It is therefore, important for those of us who can relax on our sofas to save our lives, to appreciate the great job being done by the doctors, nurses, health care professionals and the associated workforce. Students, I urge you to utilize the time to come out with new ideas and innovations to make your place in the health care profession, and your stories must instill hope in the minds.

COVID-19 TOWARDS CONTROLLING OF PANDEMIC

In late 2019 a previous unidentified Corona virus disease currently named as the COVID-19 emerged from Wuhan, China resulted in dreadful outbreak globally. Corona virus are group of related viruses that causes diseases in mammals and birds. In humans corona virus cause respiratory tract infections such as severe acute respiratory syndrome (SARS), Middle east respiratory syndrome (MERS), and recently discovered Corona virus (COVID-19). Due to proportional increase of diseased globally, it is declared as pandemic by World health organization (WHO) on March11, 2020.

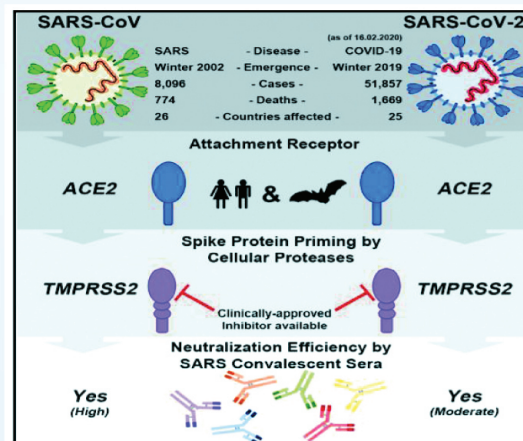
TRANSMISSION OF COVID-19 :



COVID-19 virus is transmitted during close contact through respiratory droplets (such as coughing) and by fomites. The virus can spread directly from person to person when a COVID-19 case coughs or exhales producing droplets that reach the nose, mouth or eyes of another person. Alternatively, as the droplets are too heavy to be airborne, they land on objects and surfaces surrounding the person. Other people become infected with COVID-19 by touching these contaminated objects or surfaces, then touching their eyes, nose or mouth.

PATHOGENESIS :

SARS-CoV-2 is transmitted predominantly via respiratory droplet, contact, and potential in fecal-oral. Primary viral replication is presumed to occur in mucosal epithelium of upper respiratory tract (nasal cavity and pharynx), with further multiplication in lower respiratory tract and gastrointestinal mucosa, giving rise to a mild viremia. Few infections are controlled at this point and remain asymptomatic. Some patients have also exhibited non-respiratory symptoms such as acute liver and heart injury, kidney failure, diarrhea implying multiple organ involvement. ACE2 is broadly expressed in nasal mucosa, bronchus, lung, heart, esophagus, kidney, stomach, bladder, and ileum, and these human organs are all vulnerable to SARS-CoV-2.

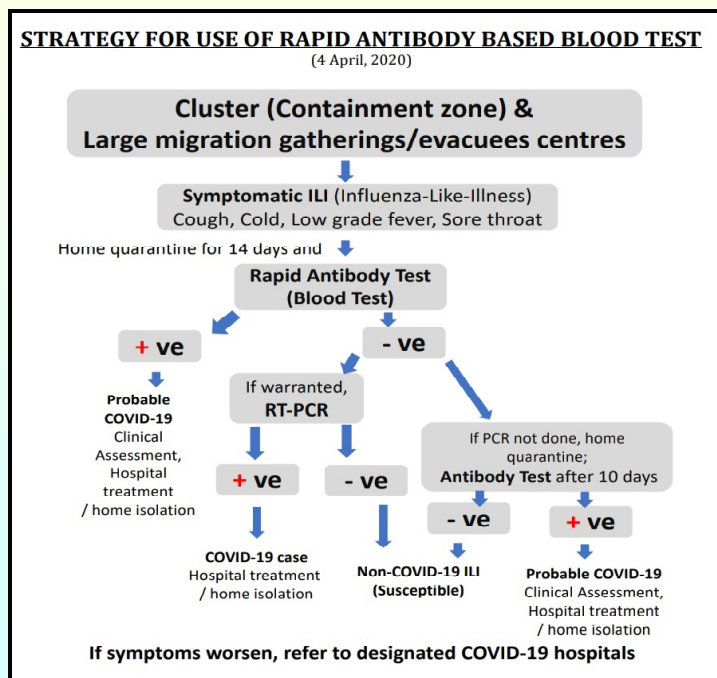


SYMPTOMS :

The most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhea. Some people become infected but do not develop any symptoms and do not feel unwell.



DIAGNOSIS :



THE GOLD STANDARD: RT-PCR

Most of the tests being rolled out against COVID-19 are based on reverse transcriptase polymerase chain reaction (RT-PCR). An ideal diagnostic is both specific and sensitive, which means that people who test positive truly have the disease and none of the people carrying the virus slip through the test as a false negative. RT-PCR meets both criteria, with specificity and sensitivity rates of 90 percent and above. The RT-PCR test starts with a throat or nasal swab, which is designed to capture virus genetic material. Once at the lab, the RNA must first be converted to DNA using an enzyme called reverse transcriptase. Then, specific sequences of DNA (primers) designed to recognize complementary virus sequences are added, so that another enzyme—usually a modified form of Taq polymerase—can make a copy of a short length of viral DNA. This process is repeated for 20-30 cycles, exponentially amplifying the amount of viral DNA so that it can be detected. Having the entire virus genome was crucial for designing primers that would detect only SARS-CoV-2 and not SARS-CoV or any other closely related corona viruses.

RAPID TESTS KITS :

Fast but not as accurate. Instead of detecting viral genetic material, rapid tests kits target the immune response of the person being infected, looking out specifically for antibodies against the virus or virus antigens. The trouble is that antibodies only develop several weeks after an infection, which means that antibody-based tests might miss asymptomatic cases or people in the earliest stage of the disease. People with mild symptoms tend to produce less virus-specific antibodies in their blood, so a test that is 80 percent accurate in severely ill patients might be less accurate at detecting patients with only mild symptoms, that is not to say that antibody-based tests are not useful.

On the contrary, antibody-based tests have proven to be crucial in linking clusters of infection, by detecting people who were infected but discovered too late to test positive via RT-PCR. As RT-PCR looks for virus RNA, it will only give a positive test result if there is an ongoing infection. On the other hand, antibodies can persist for months or years, allowing tests to identify anyone who has ever been infected.

Diagnostic Test Sensitivity in the Days After Symptom Onset[†]

SARS-CoV-2 Test	Days after Symptom Onset		
	1-7	8-14	15-39
RNA by RT-PCR	67%	54%	45%
Total Antibody	38%	90%	100%
IgM	29%	73%	94%
IgG	19%	54%	80%

CURRENT TREATMENT



Are there any specific medicines to prevent or treat the new coronavirus?

There is no specific treatment to treat or prevent corona virus, However scientists are testing existing drugs to treat COVID-19 patients. Some of these drugs are already approved for treating other diseases, such as malaria, HIV, and arthritis.

CHLOROQUINE : It has been used to treat patients with malaria for nearly a century. It is a synthetic version of quinine. Chloroquine works by essentially slowing down virus entry to cells which can slow the rate of replication.

HYDROXYCHLOROQUINE: It is closely related to chloroquine. It works by disrupting communications between cells in the immune system. Scientists hope it might help mitigate cytokine storms.

AZITHROMYCIN: It is an antibiotic and thus ineffective alone against viruses, some clinicians have seen limited success in COVID-19 disease patients when adding it to chloroquine and/or hydroxychloroquine .

FAVIPIRAVIR : It is a flu drug developed in Japan. It has shown promising results in treating mild to moderate cases of COVID-19. It was approved as an experimental treatment.

CONVALESCENT PLASMA: Recently Convalescent plasma has been widely recommended to be used for covid-19 but the effect of Convalescent plasma cannot be discerned from the effects of patient co-morbidities, stage of illness.

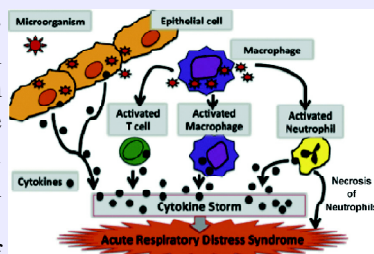
TOCILIZUMAB: It is an immunosuppressant that is used to quiet cytokine storms. It blocks a cell receptor that binds interleukin 6 (IL-6) a cytokine released by immune system that can trigger dangerous inflammatory cascades.



VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN

CYTOKINE STORM

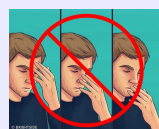
Of all possible effects of COVID-19, the disease caused by the novel corona virus, the cytokine storm is one of the most feared. In the case of any flu infection, a cytokine storm is associated with a surge of activated immune cells into the lungs, which instead of fighting off the antigen, leads to lung inflammation and fluid build-up, and respiratory distress. Increased pro-inflammatory cytokine responses against human corona viruses such as SARS-COV-1, SARS-COV-2 (which caused COVID-19 pandemic) and MERS can result in Acute Lung Injury and Acute Respiratory Distress Syndrome (ARDS) and lead to multiple organ failure.



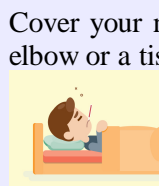
PREVENTIVE MEASURES FOR COVID 19



Clean your hands often. Use soap and water, or an alcohol-based hand rub.



Don't touch your eyes, nose or mouth.



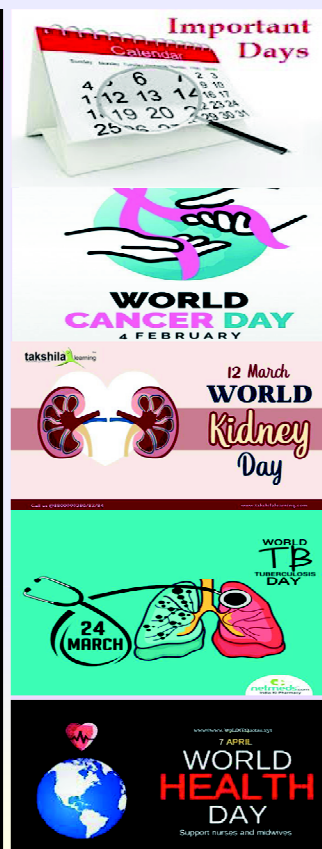
Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.

Stay home if you feel unwell.



DRUGS AND VACCINES UNDER CLINICAL TRIAL FOR COVID-19

Type	Target	Phase	Current status & plans
Treatment	Remdesivir	III	Remdesivir is now being tested in five Covid-19 clinical trials that have been set up at breakneck speed.
Treatment + Vaccine	Plaquenil©	Preclinical	Conduct additional CTs and supply millions of doses of an existing anti-malaria product
Treatment + Vaccine	New mRNA vaccine	Preclinical	Co-development of a new product clinical testing in humans. Germany's BioNTech uses strands of mRNA to spur the production of protective antibodies
Treatment	Lopinavir/ Ritonavir combination	III	The company is collaborating with select health authorities and institutions globally to determine antiviral activity as well as efficacy and safety of lopinavir/ritonavir against COVID-19
Treatment	Polyclonal antibody therapy	Preclinical	Collaboration with several health and regulatory agencies and health care partners across the globe on its TAK-888. The company is trying to access to source plasma from people who have successfully recovered from COVID-19
Vaccine	mRNA-1273	I	A vaccine candidate was identified by Moderna just 42 days after the novel coronavirus was sequenced. The clinical trial started recruiting healthy participants in the first week of March.
Vaccine	Covid-19 vaccine	I	CanSino's approach involves taking a snippet of coronavirus' genetic code and entwining it with a harmless virus, thereby exposing healthy volunteers to the novel infection and spurring the production of antibodies.



BOOSTING THE IMMUNE SYSTEM

Stay active – Exercise causes your body's antibodies and white blood cells to circulate more rapidly.

Watch your diet – Eat plenty of vegetables, fruits, nuts and seeds to provide your body with the nutrients your immune system needs.

Keep calm – There's a link between your immune health and your mental health. A daily exercise routine or meditation, reading may help. Sleeping is a natural immune system booster. If you're sleep-deprived, your body produces stress hormones that can suppress your immune system.

Catch some rays – Sunlight triggers the production of vitamin D. Low vitamin D levels link to a greater risk of respiratory infection.

Variety of nutrients are essential to a strong immune system and can help fight off illness and other health problems.

Protein is especially important for healing and recovery. Some protein foods include seafood, lean meat, poultry, eggs, beans and peas, soy products and unsalted nuts and seeds.

Vitamin A helps regulate the immune system and protect against infections by keeping skin and tissues in the mouth, stomach, intestines and respiratory system healthy. Foods full of vitamin A include sweet potatoes, carrots, broccoli, spinach, red bell peppers, apricots and eggs.



VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN

Vitamin C supports the immune system by forming antibodies. Choose citrus fruits (oranges, grapefruit and tangerines), red bell peppers, papaya, strawberries and tomato juice.

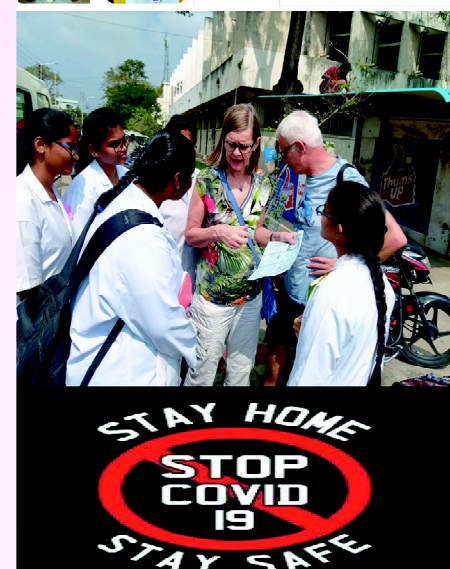
Vitamin E works as anti-oxidant to support immune function. Sunflower seeds, almonds, vegetable oils (sunflower or safflower oil), hazelnuts and peanut butter provide vitamin E.

Zinc supports the immune system and helps wounds heal. It can be found in lean meat, poultry, seafood, milk, whole grain products, beans, seeds and nuts.



MYTHS VS FACTS OF COVID-19

MYTH		FACT
Virus can't be transmitted in hot and humid climatic conditions		The new covid-19 can be transmitted in the place of both hot and humid climates.
Taking bath with hot water can kill the virus		Taking bath with extremely hot water may harm the person but it doesn't kills this virus
There are vaccine for the prevention of this new virus		Till date there is no availability of any vaccine for preventing this new virus.
Face masks will protect you from covid-19		Masks can help you with a respiratory illness for the prevention of further transmission.
Can be spread by pets		Can't be transmitted from pets.



Campus News

- ❖ On Feb 2, 2020; Health Camp at Gani Atkur was organized and IPA student members participated under the guidance of doctors.
- ❖ On Feb 4, 2020; World Cancer Day Awareness Programme was organized at GGH, Vijayawada. IPA student members distributed leaflets on the cause, prevention and treatment of the dreadful disease to the patients and doctors.
- ❖ On Feb11, 2020; Sri G. Satheesh Suryanarayana, Assoc. Prof., Vignan College of Pharmacy delivered a guest lecture to the students of Pharm D on the topic, *Higher Studies Abroad after Pharm D*.
- ❖ V. Lakshmi Chaitra from V Pharm D received the **Best Oral Presentation Award** at a national level conference at MAM College of Pharmacy, Narasaraopet conducted on 13th and 14th of Feb,2020
- ❖ IPA Student Members, M. Raja Kumari, M. Phani Mounika, S. Sahitya, K Lavanya Rekha, A. Ramya Sravanthi and E. Lavanya of V Pharm D received Awards of Appreciation from **India Health Initiative 2020** for their ongoing and dedicated service.

To,

We are pleased to receive your feedback and suggestions to :

The Editorial Board,
 A Pharmacy Practice News Letter,
Vijaya Institute of Pharmaceutical Sciences for Women (VIPW),
 Enikepadu, Vijayawada - 521 108, Ph: 0866-6460999.
 Email: vijayapharmacyfw@gmail.com Website: www.vipw.in

“Pharmacists are the backbone of our medical support in the war against COVID-19. Their efforts and selfless dedication are saving the lives of people each and every day. I thank them for their invaluable service to the country”.

-Nitin Gadkari

