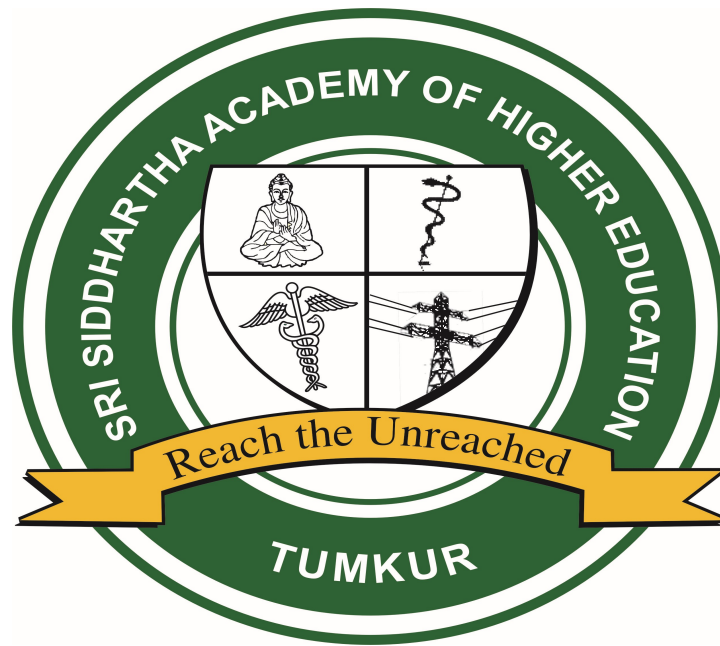


Sri Siddhartha Academy of Higher Education



COVID -19: BULLETIN:- 2

09/05/2020

Under the **Guidance** of Honorable Vice Chancellor Dr. Balakrishna shetty, Sri Siddhartha Academy of Higher Education has prepared COVID-19 Bulletin.

Prepared by:

1. Dr. Sudeep Kumar M, Deputy Registrar, SSAHE
2. Dr. Girish Babu R.J, HOD Microbiology, SSIMS&RC
3. Dr. Narayana K, HOD Pharmacology, SSIMS&RC
4. Dr. Keerthi H, Dept of Psychiatry, SSIMS&RC
5. Dr. Ramya K.S, Dept of Community Medicine, SSIMS&RC

POLITICAL SCENARIO

USA

- More US states begin lifting virus lockdown orders.
- Salons and spas could reopen in Georgia and Oklahoma while Alaska lifted restrictions on restaurants.
- New York to allow tests in pharmacies
- The president said state governments should "seriously consider" reopening public schools before the end of the academic year in May. But officials have warned that doing so could pose major health risks.
- We will have a vaccine by the end of year: US President Donald Trump
- The vice-president says the virus task force may wind down by the end of May or early June.

SPAIN

- Spain has announced a four-phase plan to lift its stringent coronavirus lockdown and return to a "new normality" by the end of June.
- Spain allocates time slots for outdoor activity
- Gatherings of up to ten people will also be permitted from that date onwards as part of Spain's Phase 1 plan to ease Covid-19 lockdown measures.
- Spain will officially enter Phase Zero on Monday May 4 which is the preparatory stage of the government's 'plan to transition to the new normal'.

ITALY

- Italy reopen first in 'Phase Two' of lockdown
- Italian PM vows to reopen schools in September
- Italy's churches to reopen for mass from May 18th
- Italy had more than 11,000 unexplained 'excess deaths' in March
- Italy's health ministry has issued new guidance on reducing the risk of infection when using public transport

FRANCE

- France has banned the online sale of nicotine products and limited their sale in pharmacies, after researchers suggested that nicotine may play a role in protecting against coronavirus.
- France mandates masks for schools and transport
- France's winter eviction truce extended until July
- France prepares plan to re-impose lockdown if coronavirus cases spike

GERMANY

- Germany extended a warning against global travel until 14 June.
- Many children are going back to school while hairdressers and museums are reopening. Meanwhile, one German state has already relaxed the contact ban
- Berlin is set to allow all shops to open – and is also getting ready to restart its hospitality sector.
- We are at a new phase in the epidemic,' in Germany, says top health institute

UK

- Boris Johnson's return to work 'a boost for the country'
- Prime Minister Boris Johnson says the UK is at point of "maximum risk" and he won't ease restrictions too quickly
- NHS sets out six-week plan for 'return to normal'
- Coronavirus has 'dramatic' impact on film industry
- A study has identified a mutation that its authors say could make the coronavirus more infectious.
- Prisoners to make PPE for NHS staff

RUSSIA

- Two Russian lawmakers — Leonid Kalashnikov and Dmitry Novikov, both of the Communist Party — have been infected with the coronavirus
- President Vladimir Putin has extended the national “non-working” month through May 11 as Russia continued to see sharp daily rises in new coronavirus infections in recent days.
- Moscow will start constructing temporary hospitals that will hold a total of 10,000 beds for coronavirus patients.
- Russian Prime Minister Mikhail Mishustin has been diagnosed with coronavirus
- Officials credit quick moves to close the country’s borders, as well as widespread testing and tracking of infections.

CHINA

- China has rejected calls for an independent international investigation into the origin of the coronavirus.
- Schools start reopening in China's biggest cities
- WHO maintains highest alarm over COVID-19, appreciates Wuhan people's fighting efforts
- In China, the live-streaming industry has become an important platform for economic recovery.
- New measures being introduced at Shanghai Disneyland could be a blueprint for firms restarting operations.

INDIA

- Coronavirus lockdown: Nobel prize economist says India must do more for poor
- India's main medical research organisation has asked states to pause the use of rapid testing kits over concerns that they are faulty.
- Hotspot districts moving towards being non-hotspot districts: Health Minister Harsh Vardhan
- No resumption of CBSE exams till government lifts lockdown completely: HRD Ministry
- Gujarat govt. to try Ayurvedic drugs on select COVID-19 patients
- Punjab Govt Makes 21-Day Isolation Must For Returnees

EPIDEMIOLOGY SCENARIO

Table 1. Laboratory-confirmed COVID-19 cases and deaths (Data as on 6 May 2020)

Country	Total Confirmed cases	Total confirmed new cases	Total deaths	Transmission Classification
USA	1 171 185	16 200	62 698	Community transmission
Spain	219 329	1318	25 613	Community transmission
Italy	213 013	1075	29 315	Community transmission
France	131 292	1050	25491	Community transmission
Germany	164 897	1037	6996	Community transmission
UK	194 994	4406	29 427	Community transmission
China	84 406	2	4643	Clusters of cases
India	49 391	2958	1694	Clusters of cases

Sporadic cases: with one or more cases, imported or locally detected.

Clusters of cases: experiencing cases, clustered in time, geographic location and/or by common exposures.

Community transmission: experiencing larger outbreaks of local transmission defined through an assessment of factors including, but not limited to: large numbers of cases not linkable to transmission chains; large numbers of cases from sentinel lab surveillance; and/or multiple unrelated clusters in several areas of the country/territory/area.

Definition of COVID-19 death- COVID-19 death is defined for surveillance purposes as a death resulting from a clinically compatible illness in a probable or confirmed COVID-19 case, unless there is a clear alternative cause of death that cannot be related to COVID disease (e.g. trauma). There should be no period of complete recovery between the illness and death.

Fig 1.Number of confirmed COVID-19 cases, by date of report and WHO region, 30 Dec 2019 through 6 May 2020

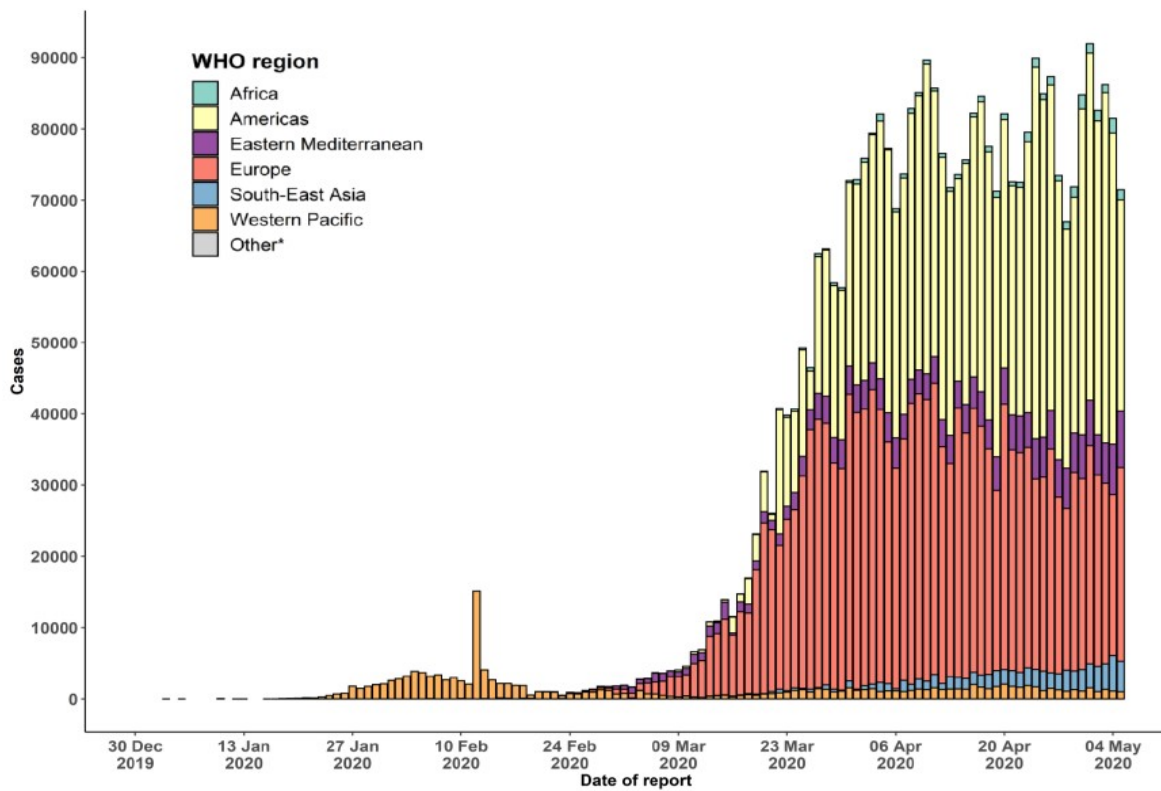
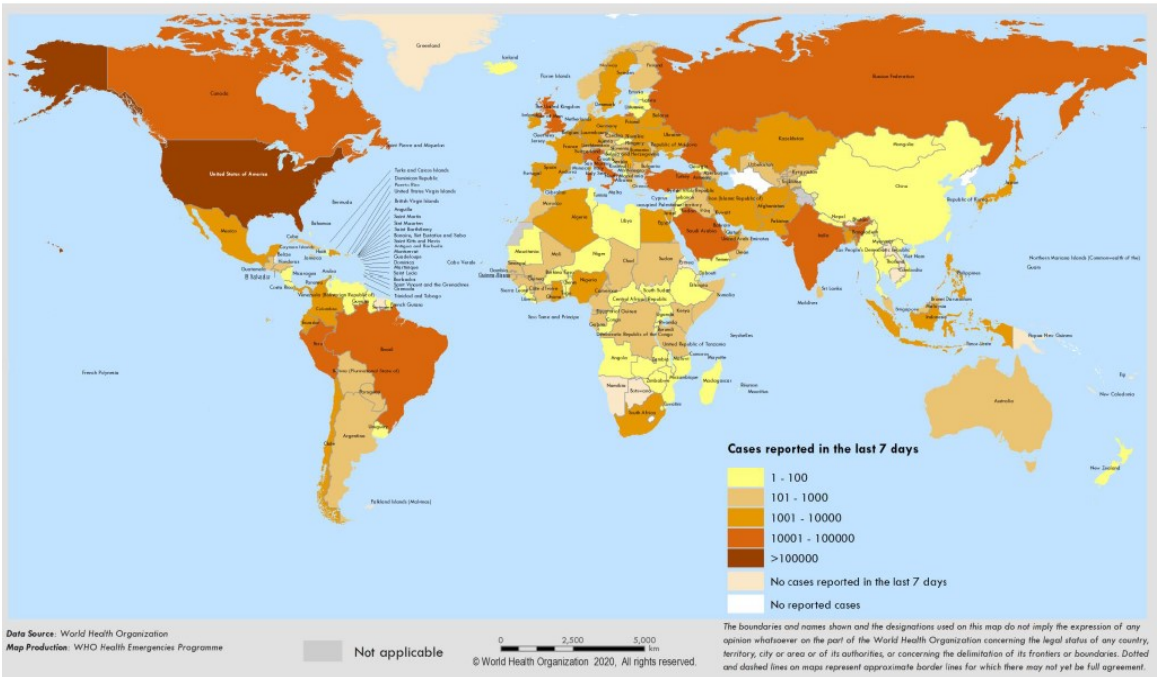


Fig 2. Number of confirmed COVID-19 cases reported in the last seven days, 30 April to 6 May



CLINICAL SCENARIO

Multi-system inflammatory syndrome

On May 4, the New York City Health Department issued a warning that 15 children in the city between the ages of 2 and 15 years had been hospitalized with multi-system inflammatory syndrome, which officials said is potentially linked to COVID-19. There have been reports of similar illnesses among children in Europe who also tested positive for COVID-19. Clinicians described the symptoms as similar to toxic shock syndrome or Kawasaki disease: the children all presented with fever and some with a combination of rashes, abdominal pain, vomiting, and diarrhea. Children are thought to have a lower risk of contracting COVID-19 and getting ill, and doctors have documented multi-system inflammatory syndrome only in rare cases.

Strokes and blood clots

Among adult patients, scientists around the world have observed a correlation between SARS-CoV-2 infection and dangerous blood clots, even among patients who wouldn't usually be at risk. In a recent report in the *New England Journal of Medicine*, researchers described five patients between the ages of 33 and 49 in New York City who were admitted to the hospital suffering severe strokes in conjunction with COVID-19. Only one had a prior history of stroke. While the likelihood of young adults suffering a stroke as a result of COVID-19 is low, results published in *Thrombotic Research* in April show 31 percent of COVID-19 patients in Dutch intensive care units suffered "thrombotic complications."

"COVID toes"

A red or purple rash resembling frostbite or chilblains sometimes accompanies COVID-19 infection, particularly in younger and otherwise healthy adults. Other viral infections are known to provoke circulatory system inflammation that leads to similar skin lesions, and experts say this could be happening during COVID-19 infection.

Silent hypoxia

Although difficulty breathing is an official symptom of COVID-19, many patients show exceedingly low blood oxygen levels without the accompanying breathlessness. Scientists are investigating why COVID-19 causes this unusual form of hypoxia.

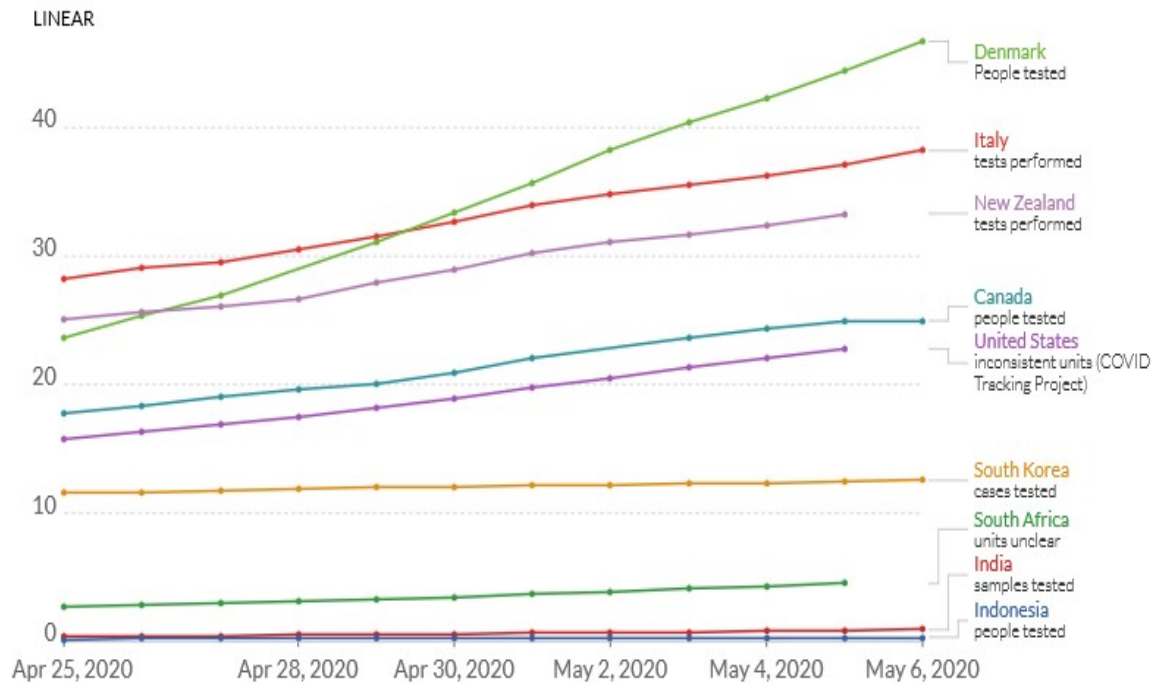
Gastrointestinal issues

Researchers in California, who published their study of 116 COVID-19 patients in the journal *Gastroenterology* in April, found 32 percent of people experienced mild gastrointestinal (GI) symptoms that included a loss of appetite, nausea, and diarrhea. SARS-CoV-2 is known to bind to ACE2 cell receptors, which are widely abundant in the GI tract and elsewhere in the body, which might explain the multifaceted nature of COVID-19 infection.

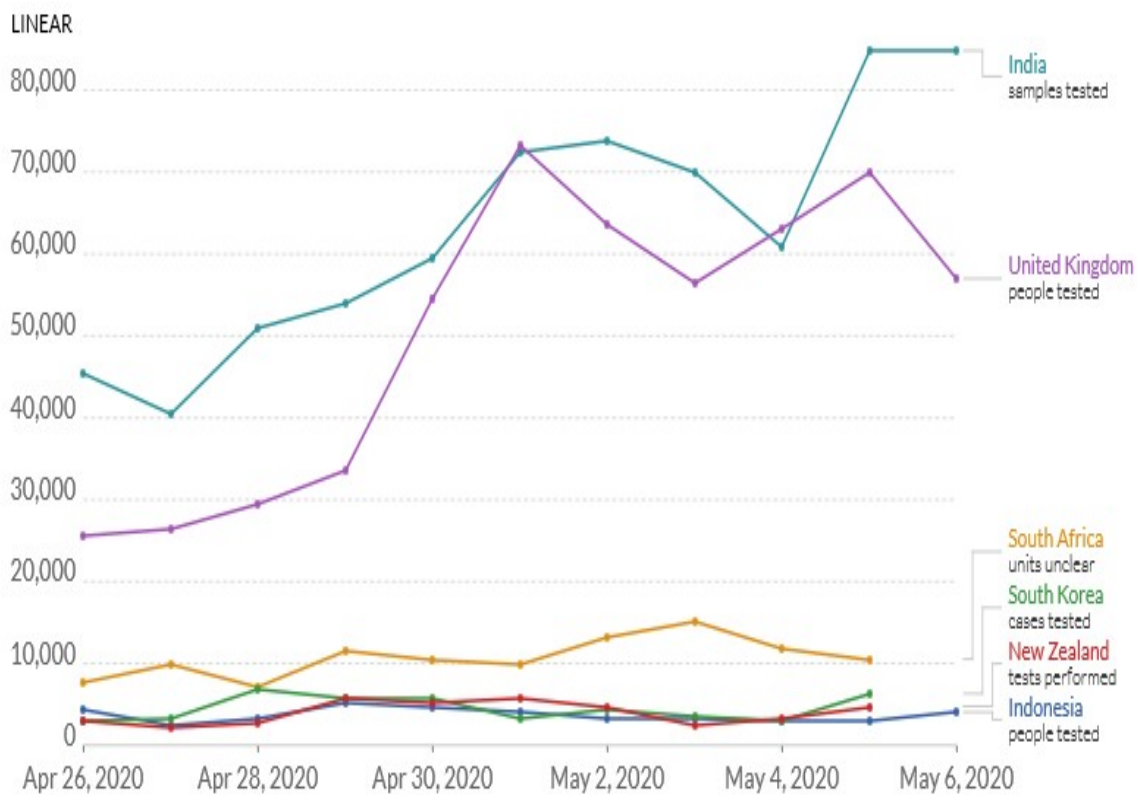
Delirium

Among seniors, a COVID-19 infection can be accompanied by disorientation and confusion. Researchers from the University of Lausanne Hospital published clinical guidelines in the *Revue Medicale Suisse* (translated using Google Translate) for diagnosing elderly patients with COVID-19. The common symptoms they highlight include falls and delirium in addition to fevers and GI issues. The link between infections such as urinary tract infections and delirium in older patients is well-known, though it hasn't been rigorously investigated.

LABORATORY TESTING SCENARIO



Total Covid -19 Tests Per 1000 People



Daily Covid -19 Tests

WHO COVID-19 Reference Laboratory Network Last update 29 April 2020**

Country	City	Laboratory
China	Beijing	China CDC
France	Paris	Institute Pasteur Paris
Germany	Berlin	German coronavirus diagnostic working group, Institute of Virology, Charité and Robert Koch Institute
Italy	Rome	Italy Rome National Institute of Infectious Diseases (INMI), L.
USA	Atlanta	Respiratory Viruses Diagnostic Laboratory, US-CDC
UK	London	Public Health England
Australia	Melbourne	Victorian Infectious Diseases Reference Laboratory
United Arab Emirates	Abu Dhabi	Reference Lab for Infectious Diseases Abu Dhabi, Sheikh Khalifa Medical Center
South Africa	Johannesburg	Centre for Respiratory Diseases and Meningitis, National Institute for Communicable Diseases
India	Pune	ICMR - National Institute of Virology

COVID-19: Clinical Specimen

Clinical Specimen	Positive Rate
Broncho alveolar Lavage Fluid	93%
Sputum	72%
Nasal Swab	63%
Fibrobronchoscope Brush Biopsy	46%
Pharyngeal Swabs	32%
Feces	29%
Blood	1%
Urine	0%

Laboratory Abnormalities Observed in Adult Patients with unfavourable COVID-19 Progression

Laboratory Test	Abnormalities
Complete Blood Count	Increased White Blood Cell Increased Neutrophil Count Decreased Lymphocyte Count Decreased Platelet Count
Blood Gases	Estimated Modifications
Albumin	Decreased
LDH	Increased
ALT	Increased
AST	Increased
Total Bilirubin	Increased
Creatinine	Increased
Urea	Estimated Increase
Cardiac Troponin	Increased
D-Dimer	Increased
Prothrombin Time	Increased
Procalcitonin	Increased
C-reactive Protein	Increased
Ferritin	Increased
Cytokines (IL-6)	Increased

THERAPEUTIC SCENARIO

Current Status as far as management of Novel Corona Virus is concerned

At present, there are no specific treatments for COVID-19. WHO recommends four treatments for COVID 19 with drugs i.e Remdesivir, Lopinavir/ ritonavir, Lopinavir/ ritonavir with interferon beta -1a, and chloroquine or hydroxychloroquine.

Covid- 19 Registered Trails and Analysis

Every day there seems to be a new “magic bullet” drug therapy in the news headlines and another pre-print of a drug trial fast-tracked into publication. However, some of these studies are methodologically flawed, subject to bias, and are at high risk of medical reversal once well designed clinical trials are completed. For example, one study appeared in a high profile journal (the *New England Journal of Medicine*) with clear industry conflicts while offering no real evidence of a clinically important benefit and was most notable for having nearly as many authors as there were patients enrolled (Grean et al, 2020). Meanwhile in another high profile journal (*JAMA*), a study was published with outcome data even though about 80% of the patients were still being treated in ICU (Richardson et al, 2020). This led to a sensational reaction among the medical community and in the media (“nearly 90% die...”) and required subsequent correction of the ventilated mortality rate by the journal but with far fewer corrections appearing in the lay press that had reported on it.

Medidata analysis shows COVID-19 impact on trials. Covid-19 pandemic has shaken up the clinical trials. The number of people enrolling for studies has been drastically been reduced.

A study is being done in US Max hospital which aims to confirm the antivirus effectiveness of Ivermectin on coronavirus i.e COVID 19 then to explore its potential use in the combating to the COVID 19 pandemics.

Glenmark Pharmaceuticals has received approval from the Drug Controller General of India (DCGI) to evaluate antiviral drug favipiravir in clinical trials to treat patients with Covid-19.

The Gujarat government has received the permission from the Centre to conduct ‘Solidarity Trial’ for the Covid-19 virus. The Solidarity Trial will compare four treatment options against standard of care, to assess their relative effectiveness against Covid-19. The four medicines are Remdesivir, Lopinavir, Interferon (beta 1 a) and hydroxychloroquine or Chloroquine.

An anti-helminthic drug called niclosamide demonstrated "very potent" antiviral activity against SARS-CoV-2, according to coauthors Sangeun Jeon, Meehyun Ko, and their collaborators, of the Zoonotic Virus Laboratory, Institut Pasteur Korea, Seongnam, Korea

With its proven anti-inflammatory activity, ciclesonide may represent as a potent drug which can manifest [the] dual roles [of antiviral and anti-inflammatory] for the control of SARS-CoV-2 infection. The anti-inflammatory activity might play a critical role in dampening or preventing the cytokine storms, an immune inflammatory overreaction that can kill COVID-19 patients.

Scientists from the Russian Academy of Sciences and Belgorod University are developing SARS-CoV-2-sensitive mice that can be used as models to test potential Covid-19 vaccines and drugs. The modified mice will show human-like pathogenesis and symptoms of Covid-19

Painter, a virologist and chemist by training, has devoted his career to working on antivirals, coinventing several approved drugs for HIV and hepatitis B. Painter and his collaborators have seen the antiviral drug EIDD-2801 a promising therapeutic for influenza to a potential weapon in the fight against COVID-19

Experiences on Drugs used in management of Novel Corona Virus

A new drug developed by UK scientists to treat Covid-19 patients is being trialled at University Hospital Southampton. Developed by UK bio-tech company Synairgen, it uses a protein called interferon beta.

Zyudus Cadila has also reached the central government's Department of Biotechnology to investigate the role of Pegylated Interferon Alpha-2b for Covid-19.

Several hospitals in the United States continue to use malaria drug hydroxychloroquine in the treatment of Covid-19 positive patients. Hydroxychloroquine is first-line at Yale because in-vitro data shows potent inhibition of the virus and possible clinical benefit, which is about as good as evidence gets at the moment," Indian American cardiologist Nihar Desai told the medical publication.

Gilead Science Inc's antiviral drug remdesivir was granted emergency use authorization by the U.S. Food and Drug Administration for COVID-19 on Friday, clearing the way for broader use of the drug in more hospitals around the United States.