

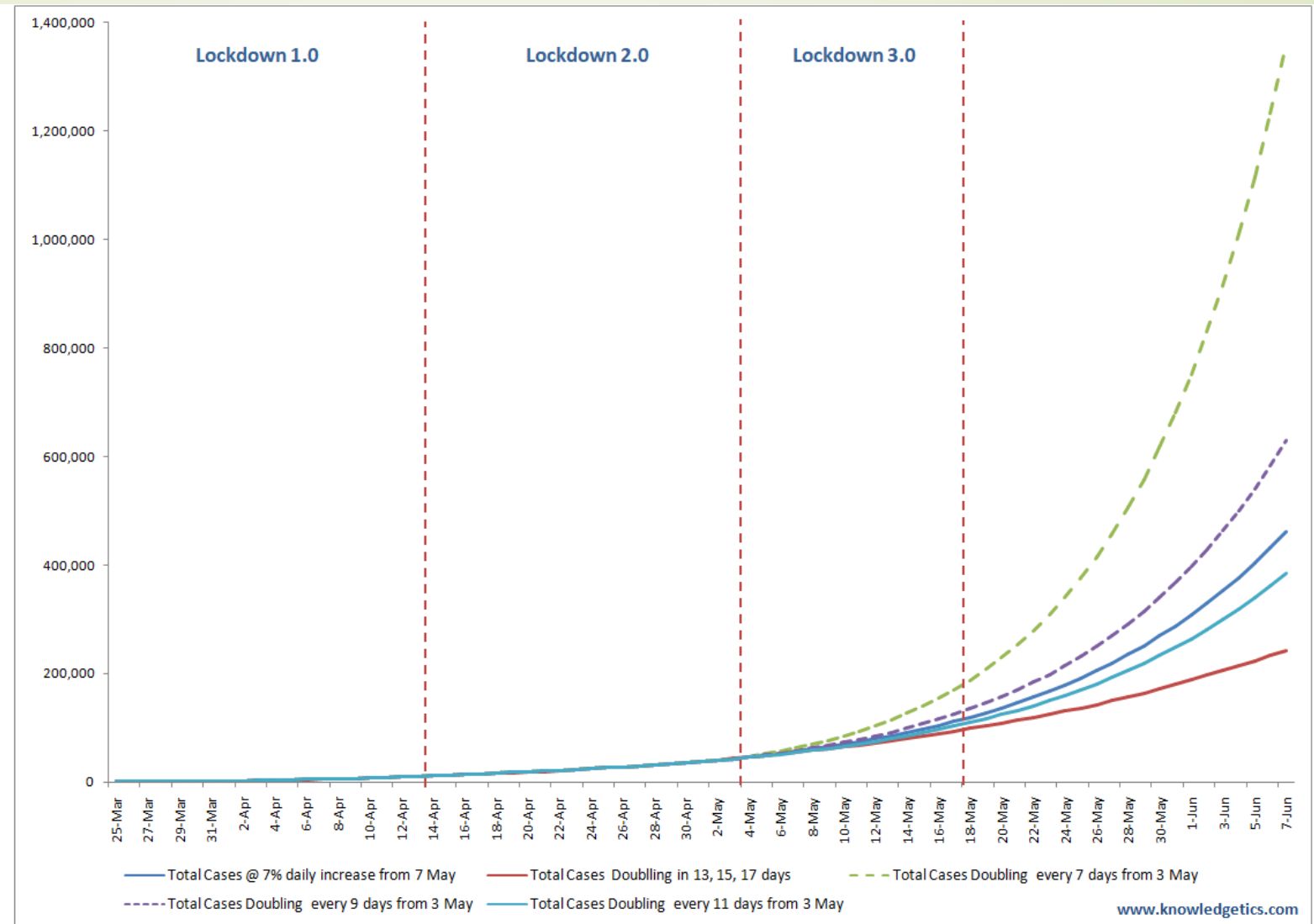
National Policy Workshop Webinar Series
On
Countermeasures for Riverine and Marine Plastic Litter in India
12 - 22 May 2020

Session 5: Impact of COVID-19 on plastic waste generation (used PPEs and wastes from HCFs) and upcoming challenges

Introduction to the Session

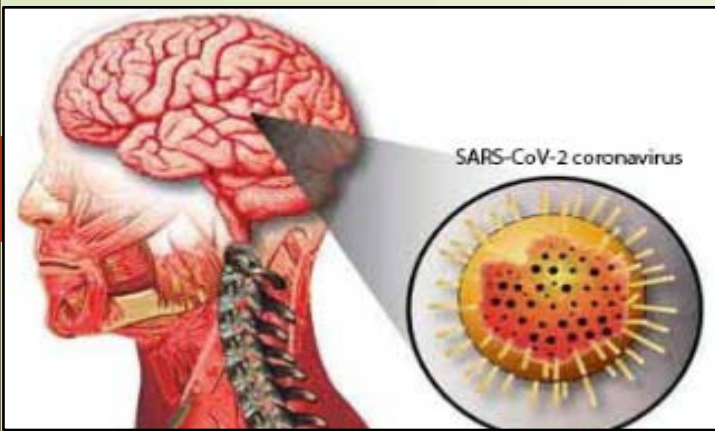
Harsh Thukral
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India Covid Trends And projections



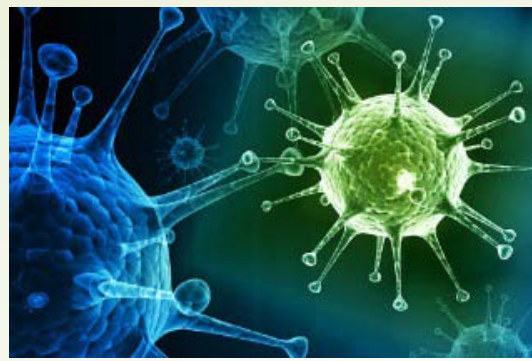
Now, if we consolidate all these three scenarios based on the above assumptions, the number of total cases in India could swing between 250,000 to 1,350,000 by 7th June.

<https://timesofindia.indiatimes.com/blogs/tastefully-contemporary/covid-india-what-is-the-trend-and-forecast-till-june-7-2020/>



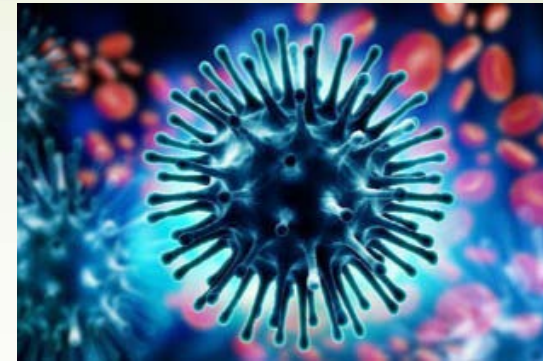
Coronavirus Can Also Attack The Nervous System, Causing Neurological Conditions And Even Viral Encephalitis :

Source : Coronavirus News
Mar 05, 2020 2 months ago



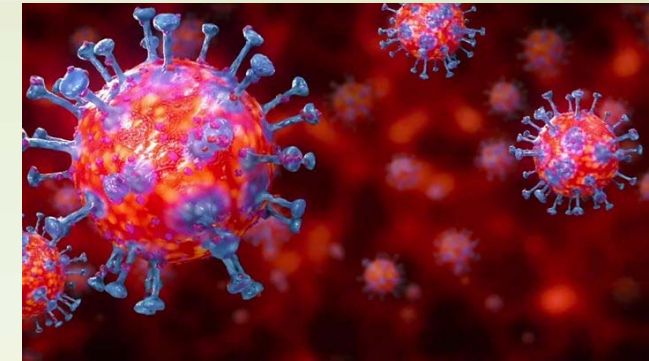
Two Strains Of Coronavirus Identified, One More Aggressive. Researchers Believe That Virus Has Mutated.

Source: Thailand Medical News
Mar 05, 2020 2 months ago



More Emerging Chinese Research Studies Shows That The SARS-Cov-2 Coronavirus Also Attacks The Kidneys, Pancreas and Liver

Source: Coronavirus Research
Mar 11, 2020 2 months ago



Study Shows More Than 50 Percent Of Clinically Recovered Covid-19 Patients Are Still Infectious With The SARS-CoV-2 Virus

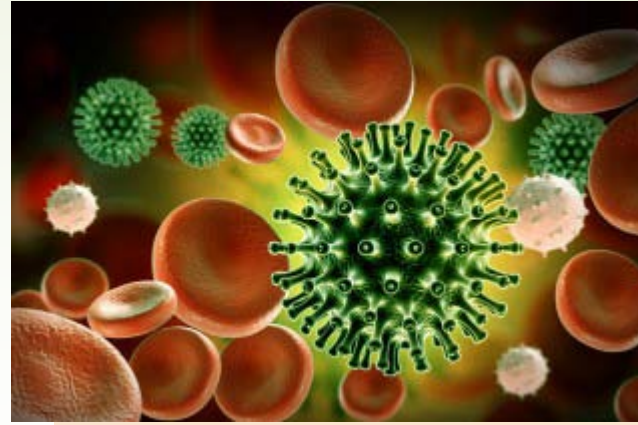
Source: Covid-19 Research

Mar 31, 2020 2 months ago

New Research Indicates SARS-CoV-2 Coronavirus Is Indeed Mutating Into Various Strains That Have Specific Preference Of Attacking Human Host Cells : Source: Coronavirus Research, Mar 16, 2020 2 months ago

Coronavirus Showing Resistance To Earlier Antivirals, Seems To be Evolving

Source: Thailand Medical News
Feb 05, 2020 3 months ago



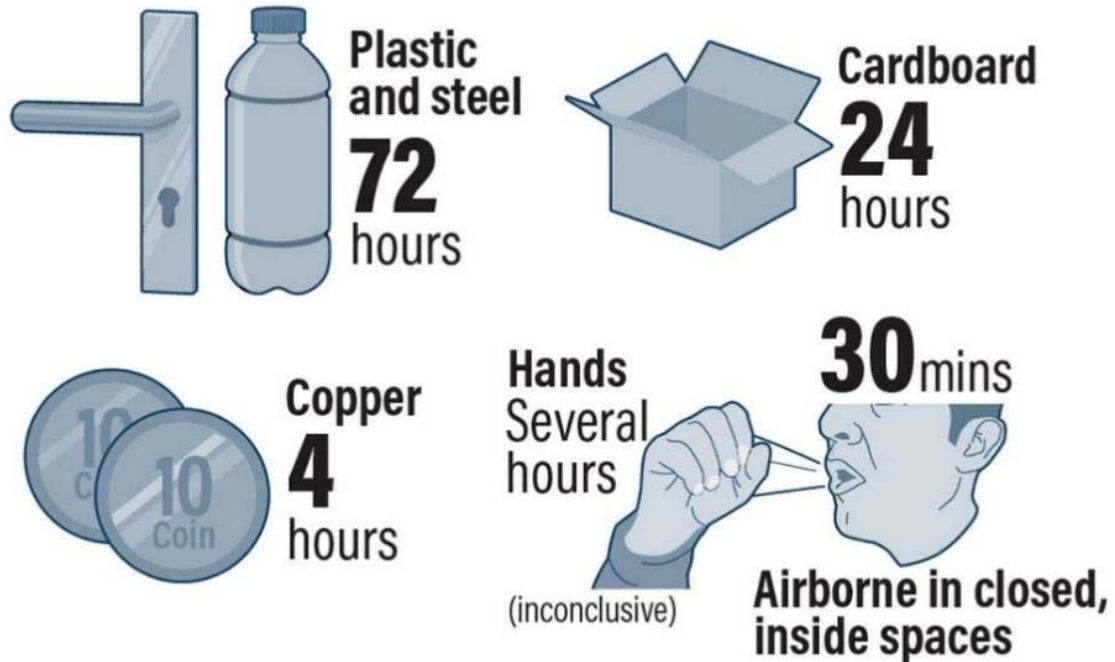
Latest Coronavirus Research Reveals That The Virus Has Mutated Gene Similar To HIV and Is 1,000 Times More Potent.

Source: Coronavirus Research News
Feb 29, 2020 3 months ago

Research Reveals That COVID-19 Attacks Hemoglobin In Red Blood Cells, Rendering It Incapable Of Transporting Oxygen. Current Medical Protocols Could All Be Wrong!

Source: COVID-19 Research
Apr 09, 2020 1 month ago

VIRUS LIFESPAN ON SURFACES

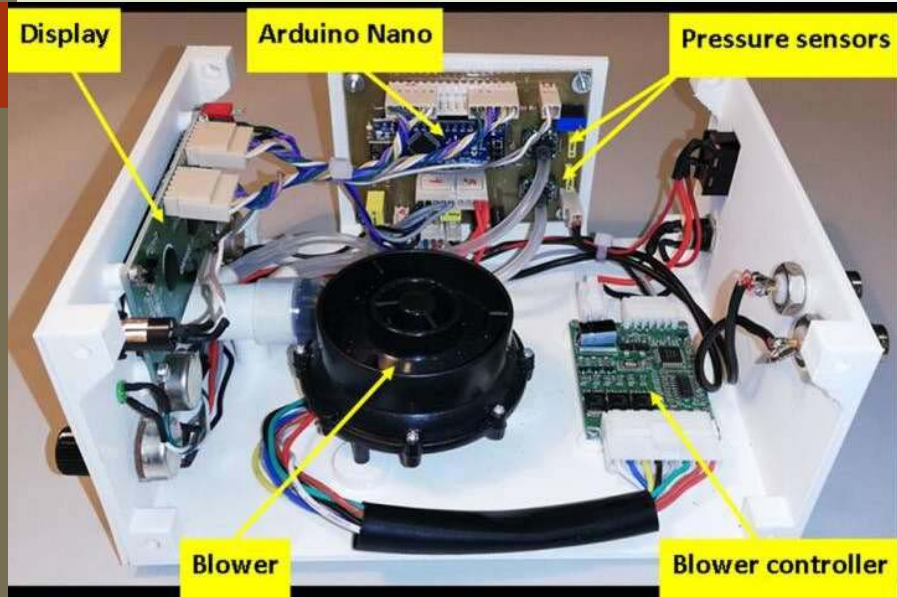


New Research Reveals Coronavirus Can Remain Infectious For As Long As 9 Days On Surfaces!

Source: Thailand Medical News
Feb 08, 2020 3 months ago

Is it adding to a tsunami of Plastics !!

About 19,398 ventilators are available in India and orders have been placed for 60,884 more. Of these, 59,884 will be produced indigenously



The AgVa ventilator which weighs just 3.4 kilos (7.5 pounds) will help move less critical patients back to their homes as their machine is easy to transport and install, and needs low power

Plant near New Delhi



The internal build of the ventilator prototype with labels indicating the off-the-shelf components, including the blower and controller, display panel and pressure transducers. Credit: Prof. Ramon Farré.

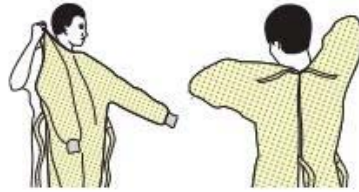
[https://www.thailandmedical.news/news/covid-19-ventilators-the-two-best-innovations,-an-indian-us\\$1,700-toaster-sized-ventilator-and-a-us\\$75-open-source-ventilator-from-spain](https://www.thailandmedical.news/news/covid-19-ventilators-the-two-best-innovations,-an-indian-us$1,700-toaster-sized-ventilator-and-a-us$75-open-source-ventilator-from-spain)

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



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PPEs

Against the projected demand of around 2.01 crore PPEs, orders have been placed for more than 2.22 crore such equipment.

"Earlier, there was limited domestic manufacturing of PPE in the country and almost all of them were imported. Now, we have 111 indigenous manufacturers. PPE production capacity has increased so much that it has become a Rs 7,000-crore industry in India, the biggest after China,"

According to the government, the current domestic production of PPEs per day is around 1.87 lakh

Infected Waste

Used PPE (Personal protective equipments)

Dispose in yellow bag



Air Quality Index

AQI	Remark	Color Code	Possible Health Impacts
0-50	Good		Minimal impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart diseases
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Affects healthy people and seriously impacts those with existing diseases

AQI captures various air pollutants, such as particulate matter (PM), nitrogen oxide, sulphur dioxide, ozone, carbon monoxide, and so on. The ones that are of most concern is particulate matter with a diameter of 2.5 and 10 microns. These are too small to be filtered out of the body.

According to a study conducted by the Indian Institute of Technology (IIT) Delhi, India has witnessed a 43% drop in PM 2.5 levels, a 31% decrease in PM 10, 10% in CO, and 18% in NO2 levels during the lockdown period compared to the previous years.

LOCKDOWN REDUCES AIR POLLUTION



NORTH INDIA'S INDUSTRIAL HUB SHOWS MAXIMUM IMPROVEMENT IN AIR QUALITY

CITY	NON LOCKDOWN (16-24 MARCH)	LOCKDOWN DAYS (25-27)	CHANGE %
BHIWADI	207	42	-80
MANDI GOBINDGARH	117	42	-64
MANESAR	123	46	-63
GHAZIABAD	188	81	-57
KHANNA	73	34	-54
NOIDA	152	71	-54
BALLABHGARH	102	51	-50

COMPARISON WITH AIR POLLUTION LAST YEAR

CITY	AQI (25-27 MAR) 2019	AQI (25-27 Mar) 2020	CHANGE %
BHIWADI	221	42	-81
MANDI GOBINDGARH	149	42	-72
MANESAR	158	46	-71
GHAZIABAD	168	81	-52
KHANNA	75	34	-55
NOIDA	141	71	-50
BALLABHGARH	217	51	-76

Air Quality Index

0-50 Good 51-100 Satisfactory 101-200 Moderate
 201-300 Poor

Source: Central Pollution Control Board

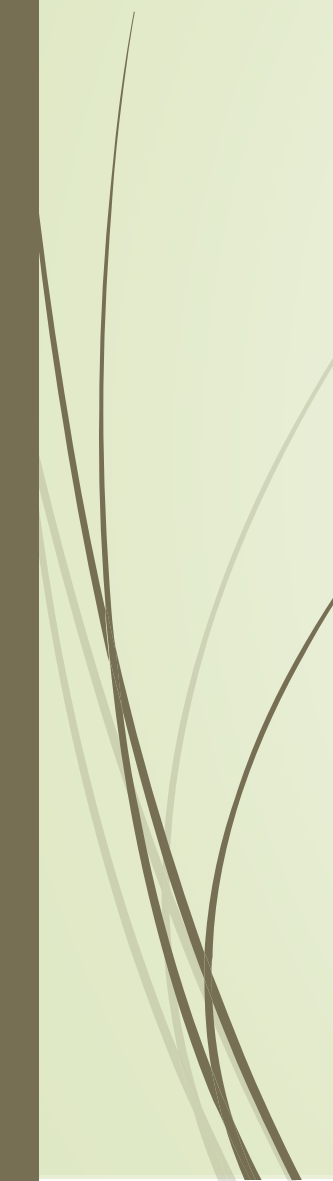



Precautionary
initiatives being taken
/ provided by pre-
cooked Food
Delivery firms !

(A case of
Coimbatore)



Some of the indicative features of Covid 19 impact being observed



Health Sector Impact	Polymer / Plastic Production enhancement	Industrial and Economic Slowdown	Environmental Self - purification
Bio-Medical waste	Plastic Waste	Sectoral shift in employment	Online Education, College admissions, Webinars etc.
Improved Hygiene, Water Consumption / Sanitizer consumption / Soap etc.	Recycling Industry	Old and New Normal Deliberations	Pubic services, Community kitchens, Philanthropy
Aarogya Setu App	Construction sector / Real estate slowdown	Food sector impacts	Guidelines, Advisories / Lockdown etc

This Webinar 5 seeks to address :-

- Covid 19 and pandemics - the impact on Health Sector & implications on plastic material consumption
- PPEs - Types and composition, production and consumption scenario and value chain features and use by Doctors / Nurses and Health Care specialists and of risks and desired features
- Medical equipment: Historic designs and emerging innovations for plastics and polymer usage - besides need for reuse - recycling, disinfection and microbes control and management
- Demand analysis and Supply and coordination of delivery of Plastics and PPEs to establishments including Health Care Facilities and other agencies engaged in epidemic / Pandemic management
- Innovations, Standards, testing and specifications concerning PPEs
- Single Use disposable Masks and increasing challenge on waste management
- Existing Bio Medical Waste Management system in India and the guidelines and initiatives to tackle Covid 19 epidemic scenario for the Bio Medical Waste Management facilities (BMW Management Facility) and in Plastic Waste Management
- Discussions and recommendations to explore approaches to PPEs value chain management during epidemics / pandemics



Thank You !

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