



" NOVEL COVID 19 CORONA VIRUS"

COMBATING CORONA VIRUS TOGETHER



India declares Covid-19 a disaster Mortality rate rises to 3.4%: WHO

Precautions & Interventions to fight Covid 19 (Corona Virus)

- Help in breaking the chain of transmission of the Virus.
- Use mask if you are a carrier or a case.
- Maintain hygiene.
- Wash hands with soap and water regularly.
- Avoid crowding (overcrowding).
- Avoid unnecessary Travelling.
- Eat home cooked food.
- Have balanced diet.
- Vitamin C (from lemon and other citrus fruits) would be helpful.
- Sleep well.
- Avoid fiddling with your mucus membranes (Mouth, Nose, Eyes and Ears).
- Avoid very cold food & Drinks.
- Encourage warm liquids as much as possible.
- Stay Hydrated.
- Don't hesitate to seek medical advise/Help if there are symptoms of Flu (Cold, Cough, Running nose, Red Eyes, Respiratory symptoms).
- Don't hesitate to opt for self quarantine if there is any doubt of any contact with a case or a carrier.
- Don't hide the history of any contact to a potential case or carrier.
- Don't hide the history of travel to epidemic zones.
- Avoid experimenting with unproven remedies.
- Listen to the expert health care providers.
- Take "Flu Vaccine (Influenza)" as recommended by your Health Care Provider to protect against other "Acute Respiratory Viral Illnesses.
- Yoga, Surya-namaskar and all the traditional exercise activities will be helpful to let you stay physically active without going to a crowded place. One can do Yoga at home itself.
- Antivirals like Lopinavir & Ritonavir may play some role in decreasing the duration and severity of the infection. This needs to be proven though.

At 31, Maha Covid-19 cases jump to highest in country, four more test positive in Mumbai

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Tracking corona in humans

A look at the toll the virus takes on the body and how it progresses through a body, according to a study published in The Lancet

NO SYMPTOMS

- Median incubation period after getting infected is 5.1 days, according to the study
- May be up to 14 days, with outliers of 27 days

DAY 1-3 ONSET OF SYMPTOMS

- Sars-CoV-2 virus may start with upper respiratory symptoms after the incubation period
- Fever generally appears 1st day
- Upper respiratory symptoms such as cough and sore throat may appear by Day 3

80%
patients just get these mild symptoms

DAY 4-9 IN THE LUNGS

- The disease may reach the lungs anywhere between 3 to 4 days
- Laboured breathing may start by 4th to 9th day
- Inflammation in the lungs may lead to acute respiratory distress. This can happen between Day 8-15

14%
of those infected experience these severe symptoms

DAY 8-15 IN THE BLOOD

- From the lungs, the infection may move to the blood
- Sepsis, a life-threatening complication, may develop by the end of the first week, the study said

5%
of those infected need ICU care

BY 3 WEEKS CRUCIAL PERIOD

Covid-19 may last, on an average, for 21 days with people either dying or being discharged by the end of the third week

FOR DEATHS

People studied generally died between Day 15-22 from onset of symptoms

FOR DISCHARGE

People were discharged between Day 18-25 from the onset of symptoms

SOURCE: A retrospective study on clinical course and risk factors for mortality in 191 adult patients from Jinyintan Hospital and Wuhan Pulmonary Hospital published in The Lancet

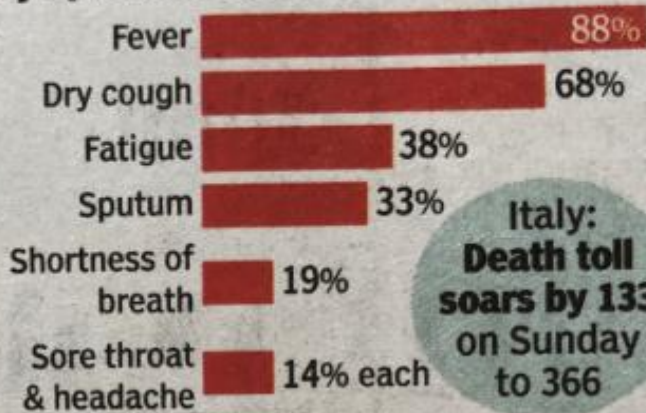
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SYMPTOM	COVID-19	COMMON COLD	FLU	ALLERGIES
Fever	COMMON	RARE	COMMON	SOMETIMES
Dry cough	COMMON	MILD	COMMON	SOMETIMES
Shortness of breath	COMMON	NO	NO	COMMON
Headaches	SOMETIMES	RARE	COMMON	SOMETIMES
Pain	SOMETIMES	COMMON	COMMON	NO
Sore throat	SOMETIMES	COMMON	COMMON	NO
Fatigue	SOMETIMES	SOMETIMES	COMMON	SOMETIMES
Diarrhoea	RARE	NO	SOMETIMES	NO
Runny nose	RARE	COMMON	SOMETIMES	COMMON
Sneezing	NO	COMMON	NO	COMMON

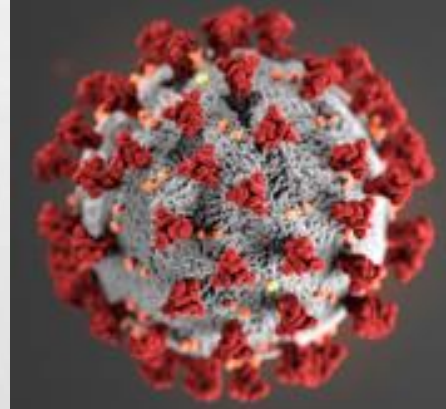
80% cases are mild to moderate, 14% severe, 6% critical

Symptoms Seen In Patients



Data from report of WHO-China Joint Mission On Covid-19

CDC, WHO, American College of Allergy, Asthma and Immunology



The report also said deaths in China happen mostly in patients with co-morbidities such as cardiovascular diseases, diabetes, hypertension and cancer

It's a false hope to say it will disappear like the flu [in the summer] ... we can't make that assumption. And there is no evidence.

MIKE RYAN, executive director of WHO Emergencies Programme

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WHEN IT GOES FROM BAD TO WORSE

80% patients have mild to moderate disease

Symptoms: Fever, dry cough, fatigue, sputum production, shortness of breath, sore throat, headache, muscle pain, chills, nausea or vomiting, nasal congestion, diarrhoea

14% have severe disease

Symptoms: Shortness of breath, increased rate of respiration, low oxygen saturation

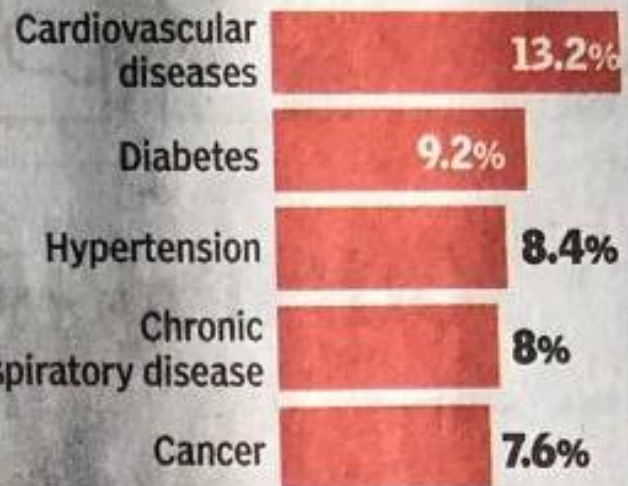
6% turn critical

Symptoms: Respiratory failure, septic shock and/or multi-organ failure

Mortality rate in Covid-19 cases, according to WHO

Patients with no co-morbid conditions: **1.4%**

Patients with co-morbid conditions



'PEOPLE ARE NOT WILLING TO REPORT THEIR SYMPTOMS'

Mortality Rate Among Chinese Patients

1.4% | No pre-existing conditions

13.2% | Cardiovascular diseases

9.2% | Diabetes

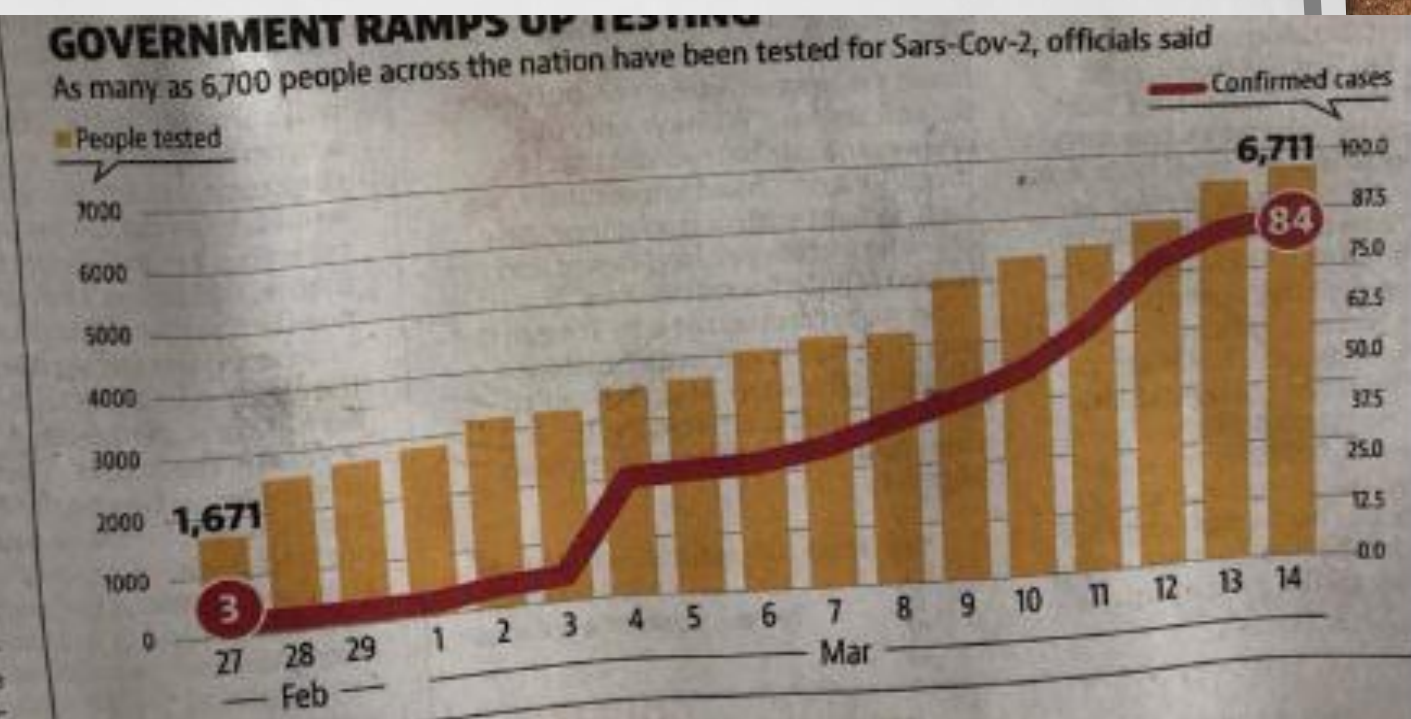
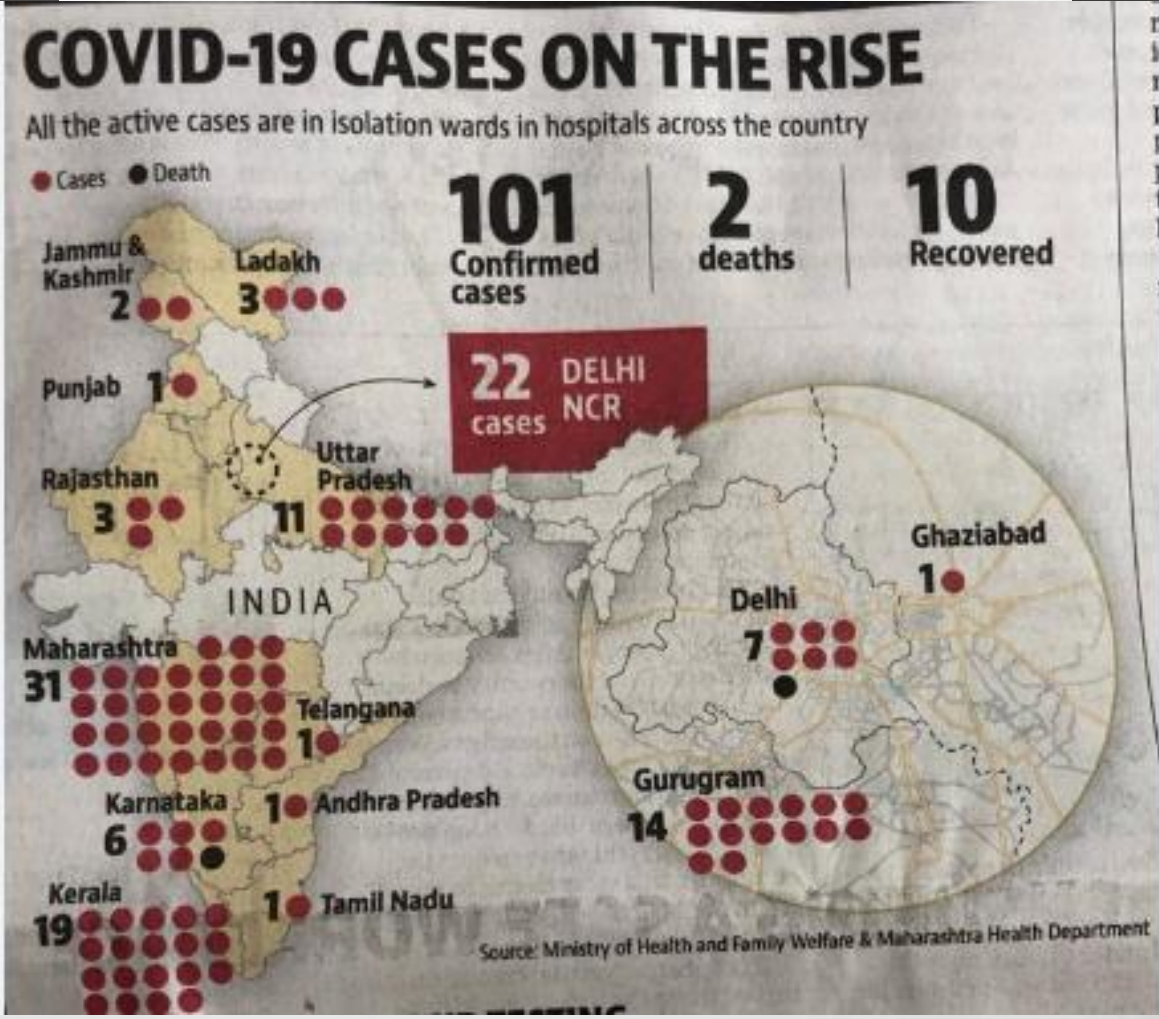
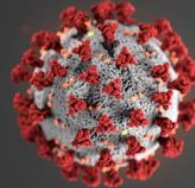
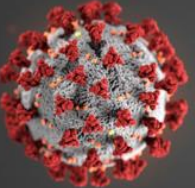
8.4% | Hypertension

8% | Chronic respiratory disease

7.6% | Cancer

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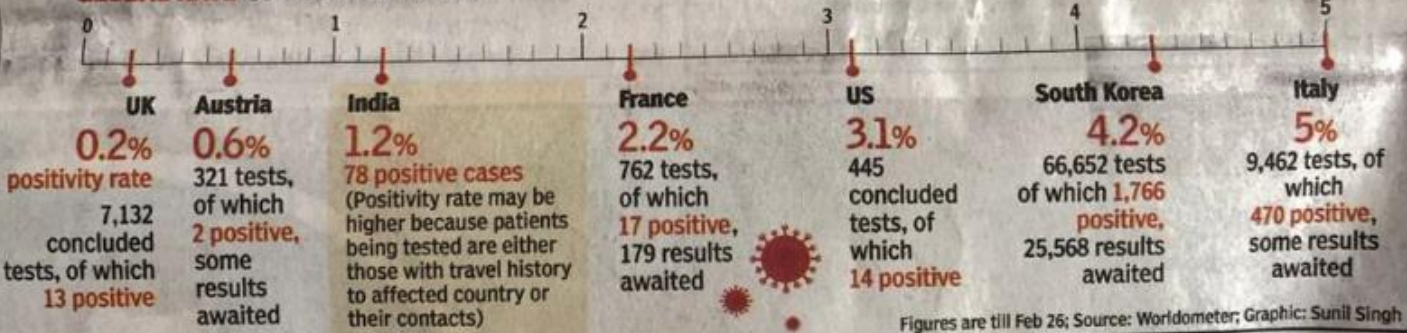
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4 STAGES OF A PANDEMIC...



GLOBAL RATE OF POSITIVE TESTS



Coronavirus Conference Gets Canceled Because of Coronavirus

By David Welch, 3/11/2020, 5:11:37 AM

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WHO's Covid-19 Myth-busters

Amid various myths doing the rounds after the coronavirus global outbreak, the World Health Organization has released a list of myth-busters



MYTH
Cold weather and snow kill virus

FACTS

no reason to believe that cold weather can kill the virus



Taking a hot bath prevents disease taking a hot bath with extremely hot water can be harmful

taking a hot bath with extremely hot water can be harmful



Can be transmitted through goods

Very unlikely that the virus will persist on a surface after being moved, travelled, and exposed



Can be transmitted through mosquito bites

No information or evidence available



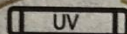
Spraying alcohol or chlorine kills virus

Spraying alcohol or chlorine won't help kill viruses substances can be harmful to clothes/ mucous membranes



Thermal scanners effective in detection

Yes but they cannot detect people who are infected but are not yet sick with fever



UV disinfection lamps' use

Should not be used to sterilize hands or other areas of skin as they can cause irritations



Hand-dryers kill the virus

Hand dryers are not effective in killing 2019-nCoV



Antibiotics prevent and treat virus

Antibiotics do not work against viruses, only bacteria



Garlic consumption prevents infection

No evidence from the current outbreak



Pneumonia vaccine prevents infection

Pneumococcal vaccine and Haemophilus influenza type B (Hib) vaccine do not provide protection



Pets can spread virus

No evidence



Older people are more susceptible

It can affect people of all ages. people with pre-existing medical conditions (such as asthma, diabetes, heart disease) appear to be more vulnerable



Regularly rinsing the nose with saline water

No evidence

NOTE: Till date, there is no specific medicine recommended to prevent or treat the new coronavirus (2019-nCoV) disease

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FOLLOW THESE STEPS TO BE SAFE



Wash your hands with soap and water, for at least 20 seconds, frequently



Do not touch nose, mouth and eyes with unclean hands



Doorknobs, desktops and other frequently touched surfaces should be cleaned and disinfected regularly



Carry a hand sanitiser in case soap and water are not available. Make sure the concentration of alcohol in the sanitiser is 60 per cent or more



Stay at least one metre or three feet away from a person who is sneezing or coughing



Maintain good hygiene in the kitchen



Always cover your mouth with a flexed elbow or tissue while coughing or sneezing and dispose of that tissue immediately



Boost your immunity by regular physical activity, exercise, balanced diet and enough sleep. Ensure daily intake of vitamin C, a powerful antioxidant, through fruits



If you feel mild cold, cough, fever or face breathing trouble, avoid close contact with people and seek medical advice

DON'TS IF UNWELL



Wearing multiple masks



Taking antibiotics on your own



Smoking

In any case, if you have fever, cough and difficulty breathing seek medical care early to reduce the risk of developing a more severe infection and be sure to share your recent travel history with your health care provider.



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FIGHTING A GLOBAL PANDEMIC

STEPS THE **GOVT** MUST TAKE

1 AGGRESSIVE, RANDOM TESTING
Aggressive and random testing is crucial, even for people who show no symptoms. Random testing is done to identify people who are carriers



2 INCREASE HEALTH CARE CAPACITY
Since Indian cases are largely travel-related, strict screening is needed at air, sea ports, etc. Increasing labs, procuring more test kits and better equipping hospitals will also help



3 ROPE IN PRIVATE SECTOR
India's private sector has a massive and well-equipped network of labs to carry out viral testing. Pvt hospitals can also be used to ease burden of overloaded govt hospitals



4 CONTACT LISTING, FOLLOW-UPS
International travellers, contacts of positive cases must be strictly followed up even after their initial tests in order to pick up people who develop symptoms early



5 CONSIDER PRE-EMPTIVE LOCKDOWN
China's area-specific lockdown has nearly wiped out new cases in the country. It is a model that has also been applied in other countries such as Italy and Iran, but not until it was too late





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FIGHTING A GLOBAL PANDEMIC

STEPS **YOU** MUST TAKE

1 NEVER CONCEAL SYMPTOMS

Do not take a paracetamol before boarding the plane to avoid getting picked up in thermal screening at airports. If you have symptoms, report it to authorities immediately



2 TAKE SELF-QUARANTINE SERIOUSLY

Home quarantine is key to ensure infections don't spread. So if you've come in contact with a confirmed patient, you must avoid all physical contact with others for 14 days



3 DON'T BE AFRAID OF ISOLATION WARDS

For those who get infected, hospital isolation is vital. Evading isolation wards means you are putting not just your life, but also the lives of others in danger



4 FOLLOW STRICT HYGIENE

Washing hands with soap or an alcohol-based hand rub is very important. Following cough etiquette such as coughing/sneezing into your elbow is also key



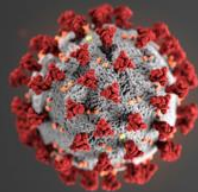
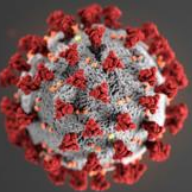
5 CUT OUT NON-ESSENTIAL TRAVEL

Mass gatherings and travel through high-footfall areas can be hot-bed for spreading or contracting infection, which is why government advises to refrain from both



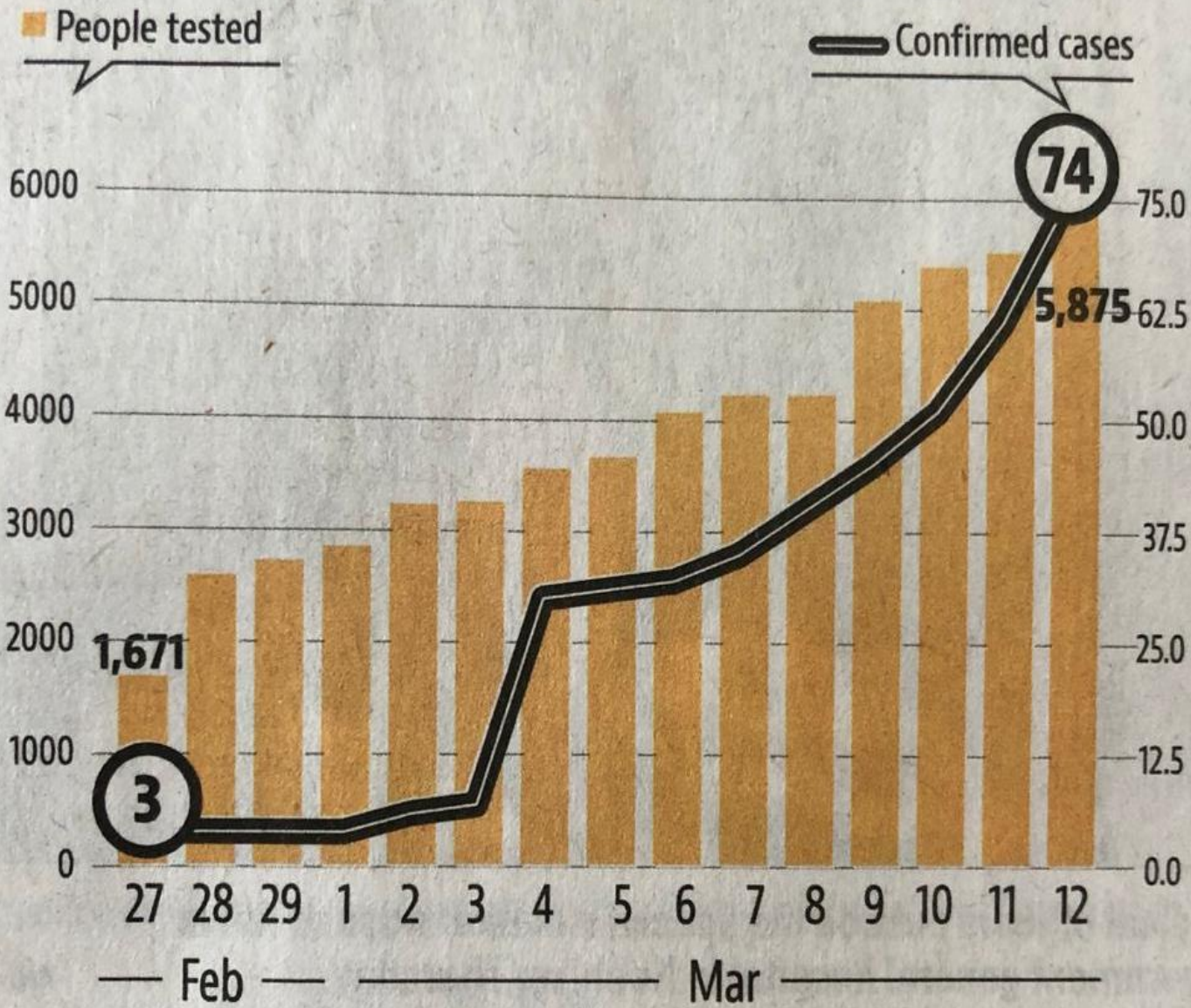
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Summer may not help tackle virus: Experts

AS TESTING PICKS UP, SO DO NUMBER OF CONFIRMED CASES



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SURFACE TO FACE

HOW TO STOP SPREAD OF VIRUSES FROM OBJECTS

'FOMITES' TO BLAME

A FOMITE IS ANY OBJECT WITH A SURFACE THAT CAN BE CONTAMINATED BY A PATHOGEN. THESE SURFACES CAN HELP IN TRANSMISSION

➤ So 'fomite transmission' means the spread of infectious disease through inanimate objects

INTO THE MOUTH

The new coronavirus can pass from an object to a person's mouth or nose if she/he touches an infected object. **But this is not its main transfer method**

DISEASES FOMITES CAN TRANSMIT

- RHINOVIRUS
- INFLUENZA
- ROTAVIRUS
- FOOT AND MOUTH DISEASE
- CERTAIN STDs
- CORONAVIRUS
- NOROVIRUS

DON'T BE ALARMED

- Wash your hands if you have touched a 'common surface'
- **IMPORTANT** | Avoid touching **public touchscreens** without gloves. These include ticketing counters, self check-ins at airports and screens at fast food outlets. Glass surfaces can harbour germs

FOMITES ARE ALL AROUND US

- Even the couch in the living room can turn into a harmful fomite if it's not cleaned well
- Surfaces can be contaminated with a virus via direct contact with secretions or fluids, contact with soiled hands, contact with **large droplet spreads, sneezing and coughing**



IS MY PHONE A FOMITE?

YES. If a virus settles on the screen, about 30% of it can be transmitted to your fingertips



CLOTHES ARE FOMITES TOO

- Soiled blankets have transmitted the Ebola virus



FOMITES IN HOSPITALS

- The inner sides of the BP cuffs were found to harbour more organisms (97%) compared to the outer surface (89%)
- Cuffs used **inside ICUs** were even more contaminated



Blood pressure cuffs are known carriers

VIRUS HUBS

A study found three to 1,800 PFU (plaque-forming units) of rhinovirus (cause of the common cold) from fingertips of healthcare volunteers who had handled contaminated doorknobs or faucets

65%

of a virus could be transferred to uncontaminated hands and 34% of it could end up in the mouth



- Virus survival on fomites is influenced by fomite properties or virus characteristics and extrinsic factors – environmental temperature, humidity

3 DAYS

The duration SARS & MERS stayed on glass screens



SOURCES: JOURNAL OF APPLIED MICROBIOLOGY; NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES; EUROPEAN CENTRE FOR DISEASE PREVENTION AND CONTROL; CDC; MEDIA REPORTS

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HOW TO SELF-QUARANTINE

If you have been exposed to someone who is carrying the virus or are coming from a Covid-19 affected area, then you must self-quarantine for at least 14 days. A look at what a self-quarantine entails and why it is crucial

Text: SWETA GOSWAMI

Illustration: MOHIT SUNEJA

IF SYMPTOMS ARISE

In case you become symptomatic, all your close contacts must be home quarantined. You should immediately call the govt helpline so officials can have you rushed to a hospital as soon as possible

ORDERING FOOD

In case you order food or item while under quarantine, you must pay for it online so you don't swap currency bills with anyone. Ask the delivery person to leave the item outside your door to minimise the risk of infecting the delivery person

DISPOSING MASKS, LINENS

Any linen or clothes worn by you should never come in direct contact with anyone else. Disposable gloves must be used when washing utensils. Utensils such as dishes, drinking glasses, cups etc should not be shared with others in the family

Used masks during quarantine should be disinfected and then disposed by either burning or deep burial

OTHER FAMILY MEMBERS

Elderly, pregnant women, children and persons with co-morbidities within the household should be kept at maximum possible distance from you. They should come in contact with your living space

Everyone in the house must wash their hands as often as possible thoroughly with soap and water or frequently use an alcohol based hand sanitizer



UNDER A CLOSE WATCH

45,000

Number of people who are currently under home quarantine based on latest central government data

IN ISOLATION WARDS

72

People who are admitted to hospitals across the country in isolation wards as of Saturday evening

ONE-ROOM CONFINEMENT

- Your movement should be strictly limited to a single room in the house, preferably with an attached toilet that no one else should use. No visitors should be allowed
- Wear a surgical mask all the time and it should be changed every 6-8 hours. These masks must never be reused, and be treated as if they are infected

SINGLE PERSON CONTACT

- If another family member must enter your room, they should maintain at least 1 to 3m distance from you. Only one family member should be assigned to care for you in this period
- The 'contact person' should always wear a mask around you, wear gloves and never let their skin come in contact with any surface touched by you. They must also wash their hands after removing their gloves

Avoid mass gatherings, says govt as corona cases hit 31

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ENSURING A SAFE WORKPLACE



AT THE DESK

- Every item on your desk must be cleaned using disinfectant wipes or liquid in such a way that the surfaces remain wet for 2mins. It is crucial that you disinfect your cellphone, keyboard and mouse

MEETING ETIQUETTE

- Do not shake hands — use other non-contact methods of greeting. Use videoconferencing for meetings as much as possible
- Consider adjusting or postponing large meetings. If meetings are essential, hold them in open or well-ventilated places

SHARING ITEMS/FOOD

- Limit sharing food with anyone in the office and ensure cafeteria staff practice strict hygiene
- Wash or disinfect your hand after you have touched any common contact item such as door handle, doorknob or handles of drawers

ENTRY CHECKS

- Everyone coming to an office must undergo a thermal scanner check to detect anyone whose temperature is above the normal range
- Workspaces should place alcohol-based sanitisers across the office space so people can maintain proper hygiene

- People with symptoms (respiratory infection and fever) are “highly recommended” to remain home.
- Standard time off for healthcare workers is suspended
- Closure of all educational establishments (schools, universities...), gyms, museums, ski stations, cultural and social centers, swimming pools, and theaters.
- Bars and restaurants have limited opening times from 6am to 6pm, with at least one meter (~3 feet) distance between people.
- All pubs and clubs must close.

LOCKDOWN IN CHINA AVERTED 700,000 CASES

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Why soap is the best bet to beat corona

With countries looking at lockdown mode to curb the spread of coronavirus that has reached almost every continent, here's the lowdown on how viruses self-assemble into a functional active menace, and how they can be tackled with something as simple as soap. An edited version of a tweet thread by **Professor Pall Thordarson** of the University of South Wales' School of Chemistry in Australia

A virus is a nano 'collaboration'

➤ Most viruses consist of three key building blocks: RNA, proteins and lipids

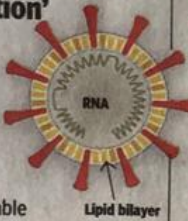
➤ These three units self-assemble to form a virus

➤ The viral self-assembly is based on weak interactions between the proteins, RNA and lipids

➤ The lipids form a protective coat around the virus and helps keep its components together. But the lipid outer layer is the weakest link in the virus' structure

➤ Together these act like Velcro to keep the self-assembled viral particle intact

➤ Since there are no strong bonds holding the three units together, the virus can be broken up without the use of harsh chemicals



How viruses interact with surfaces

➤ Most viruses, including the coronavirus, are between 50-200 nanometres – truly nanoparticles, which have complex interactions with surfaces they are on

➤ The tiny droplets from coughs and sneezes end up on surfaces and often dry out quickly but the viruses remain active

➤ Wood, fabric, skin interact strongly with viruses. In contrast are steel, porcelain and plastics like teflon. The flatter the surface, the less the virus will "stick" to it

➤ Rougher surfaces pull the virus apart but this does not mean such surfaces are completely safe

➤ The skin is an ideal surface – the proteins and fatty acids in the dead cells

on the surface interact with the virus

➤ When you touch, say, a steel surface with a virus particle on it, it will stick to your skin and get transferred onto your hands

➤ But you are not (yet) infected – If you touch your face though, the virus can get transferred from your hands and on to your face

➤ That makes the virus dangerously close to the airways and the mucus membranes in and around your mouth and eyes, which can lead to a viral infection unless your immune system kills the virus

➤ Covid-19 is thought to stay active on favourable surfaces for hours, possibly a day. Moisture, sun light and heat make the virus less stable

Why soap is saviour

➤ Most people touch their faces once every 2-5 minutes

➤ Once the virus is on your hands, you are at high risk unless you can wash the active virus off

➤ Washing it off with just water is not enough as the virus is sticky and may not budge

➤ Soapy water is totally different. Soap contains fat-like substances known as amphiphiles, some structurally very similar to the lipids in the virus outer membrane

➤ The soap molecules "compete" with the lipids in the virus' outer layer, effectively "dissolving" the glue that holds the virus together

➤ The soap also outcompetes the interactions between the virus and the skin surface

➤ Soon the viruses get detached and fall apart on the combined action of soap and water

➤ Skin is quite rough and wrinkled which is why you do need a fair amount of rubbing and soaking to ensure soap reaches very nooks and crannies on the skin surface that could be hiding active viruses



HERE'S HOW THE WORLD HEALTH ORGANISATION SAYS YOU SHOULD WASH HANDS



Wet hands with water



Apply enough soap to cover all hand surfaces



Rub hands palm to palm



Rub back of each hand with palm of other hand with fingers interlaced



Rub palm to palm with fingers interlaced



Rub with back of fingers to opposing palms with fingers interlocked



Rub thumb clasped in opposite hand using a rotational movement



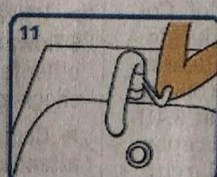
Rub tips of fingers in opposite palm in a circular motion



Rub each wrist with opposite hand



Rinse hands with water



Use elbow to turn off tap

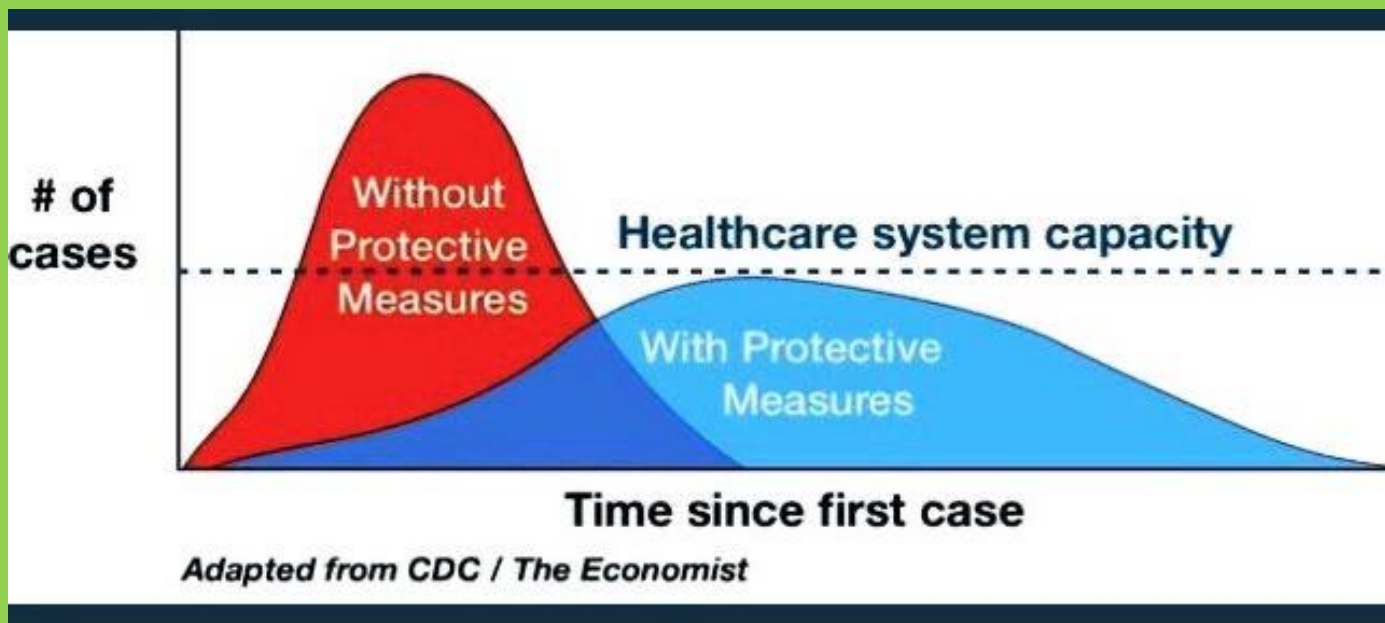


Dry thoroughly with a single-use towel

Source: National Institutes of Health, media reports

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