

Rational responses to COVID

How to reduce risk of infection and serious disease

What is different in the second surge?

- It is the same virus, in a different shape
- Faster spread: higher infectivity, lower incubation period
- Symptomatic more often, but same range of symptoms
- Younger people more commonly symptomatic
- Even more prominently middle-class
- Proportion of those symptomatic becoming serious appears to be the same: virulence has not changed
- We are seeing more deaths among the young because more young are getting symptomatic infections, not because they are more vulnerable to serious disease
- Co-morbidities remain important determinants of serious disease: diabetes, hypertension, renal transplants, cancer patients on chemotherapy
- Good news: we have learnt a lot since the last surge
- Bad news: we are not communicating effectively what we have learnt

To a small extent, all of this is speculative in the absence of solid data. Lack of data is the single major barrier to understanding the disease better

Is COVID-19 just a scare, a scam?

- The existence of the virus, and the disease it causes are true
- For most people who get infected, the illness is like a usual flu, true
- People becoming serious and dying of COVID is true, young persons also dying of COVID is true
- It is true that the second surge is due to a mutant, a new form of the virus, this is how viruses behave, we need to learn to live with it; a new mutant is not necessarily more dangerous
- Our response to the disease is exaggerated, we can afford to be far more rational, (almost) normal life can go on, with due precautions and prompt care when infected
- It may be impossible to fully avoid infection, but very much possible to reduce this risk hugely
- It appears possible to avoid many, perhaps most, deaths with prompt and rational case management

How does COVID spread?

- Primarily air-borne: most outbreaks are from more than one person sharing closed, ill-ventilated indoor spaces – homes, workplaces, closed vehicles (typically, closed airconditioned spaces)
- Primarily through nose and mouth:
 - Output through breathing, speaking, singing, coughing, sneezing – in increasing order of risk
 - Intake primarily through breathing in; eating, drinking unlikely to be risky
- Requires a minimum number of viruses getting into the airways to establish infection, small numbers likely cause no disease, or asymptomatic infection – typically, it takes at least 15 minutes to breathe in enough viruses from room air to cause infection
- Outdoors, there is virtually no risk of getting infected, compared to indoors – that is why election rallies, kumbh mela are not followed by large outbreaks; the virus dissipates in open air, does not get concentrated in large enough numbers in the air at any place to cause infection when we breathe

Can asymptomatic cases transmit?

- Pre-symptomatics (who eventually become symptomatic) are highly infectious
 - Maximum risk of infection from 1-2 days before onset of symptoms to 3-4 days after onset of symptoms
- Asymptomatics (who never get any symptoms) can certainly transmit infection, but are much less efficient than symptomatic cases
- Symptomatic cases who are test negative are just as infectious as those who are test positive:
 - The problem is with the test – it does not detect infection in about 30% of those who are infectious

How do you avoid getting infected?

1. Keeping indoor spaces well-ventilated
 - All windows and doors open, even if AC is on
 - Fans on
2. Masking, when indoors
 - Use N95 masks
 - Ensure they are well-fitting

When someone at home or in the office/workplace is symptomatic, assume s/he is infected, and intensify the same measures

Why use masks when outdoors?

- To avoid getting caught and fined; a cloth face cover will suffice
- In case you keep forgetting to put on masks when going indoors

3. Vaccination

- When eligible, get the vaccine
- Carries small risks, but protects substantially from severe disease and death
- No vaccine guarantees protection: some will still get infected, get serious disease and die – but much, much lesser risk than not getting vaccinated

What about ...?

- ***What about hand sanitization, hand-washing?***
 - Less important than originally thought
 - Virus does not go into the body through the hand, but may go in if you pick your nose or lick your fingers
 - Regular handwashing with soap is a great preventive against many infectious diseases
- ***What about physical distancing?***
 - Useful concept to avoid crowding in indoor spaces, but distancing may make no difference if masking and ventilation are ensured
 - Crowding is important to avoid indoors since it increases risk of more than one infected person simultaneously putting out viruses into the room air while breathing or speaking
- ***What about transportation?***
 - Open trains, buses unlikely to be risky
 - AC vehicles likely to highly risky
- ***What about clothes, surfaces?***
 - Virtually of no consequence, unless you work in a heavily contaminated situation like a COVID ward
- ***What about use of face shields?***
 - Useful for healthcare workers who interact face-to-face with patients at close quarters
 - Of no consequence outdoors or indoors in most other settings

Correct use of N95 masks

- Reusable, but not washable
- Tight fit is critical
- Each mask can be used for ~100 hours, unless contaminated
- Keep 3-4 masks at a time, and use by rotation
- Hang up in open, dry air when not used
- Use mainly indoors
- Do not share masks

How to know if someone has COVID?

- Wide range of symptoms

Fever, sore throat, cough

Abdominal pain, diarrhoea

Loss of smell, taste

Fatigue, low energy

Breathlessness is a late symptom – don't wait for it

- Testing

- RTPCR, preferably

- Else, RAT and if negative, test with RTPCR

- In both cases, positive test result confirms COVID, negative result means nothing

- Highest likelihood of testing positive during the infectious phase (onset of symptoms -1 day to +3 days) – don't delay testing

- Why test?

- Positive test necessary for admission to COVID wards

- Negative test necessary for any other admissions

- If you have symptoms, assume that you have COVID, especially if anyone else at home or office has symptoms or has tested positive in last 5 days

What to do when you have symptoms?

- Put on a mask, preferably well-fitting N95
- Stay at home, or go home
- Inform colleagues, supervisor
- Get tested (RTPCR, or RAT followed by RTPCR), don't bother about result
- At home:
 - Ensure ventilation
 - Stay, sleep in a separate room, alone, keep door closed, windows open
 - Stay away from aged, and those with comorbidities
 - Patients and family wear masks, especially when in the same room
 - Everyone practices handwashing regular handwashing, especially if sharing bathroom
- Monitoring and treatment as per guidance, irrespective of test result
- Stay this way, preferably until 10 days after onset of symptoms (if RTPCR negative, this can be shortened to 3 days after cessation of main symptoms)

Why do some cases become severe?

- Virus itself is like any other flu virus, it lasts for < 10 days, all viruses are killed by body's immune defences by then
- Perhaps < 0.01 % of all infected persons, and about 2-5% of symptomatic persons experience severe disease
- Cause of severe illness: over-reaction of the immune system and the collateral damage that this causes to multiple organs ('cytokine storm')
- In people who are already diseased with conditions that affect the immune system (diabetes, cancer treatment, renal transplant etc), things can get rapidly worse, for the same reasons
- Typically, severe illness develops after 6 days of symptoms, but symptoms alone are not a good guide to developing severity – immune system markers need to be monitored, this can be done at home (CBC, CRP, IL-6, D-Dimer etc)
- COVID pneumonia – the commonest severe form – is also because of immune system hyperactivity. When this affects a significant part of the lung, SPO2 falls

Case management

- No known cure: antivirals do not work, not even remdesevir
- Ivermectin may have some benefit, being trialled
- Lots of claims of non-allopathic cures, none proven

- Paracetamol for high fever, avoid other 'painkillers'
- Plenty of fluids, normal diet, remain active

- Monitor and chart: SPO2, pulse, temperature, CBC, CRP + more as advised
- If indications of immune hyperreactivity, start steroids
- If SPO2 drops < 95 or 5% after 6 minute walk, start oxygen
- Timely starting of steroids and oxygen saves lives, can be done at home or ordinary facilities under medical guidance if proper hospital beds not available

Support to CARE staff and families from Patna

- Two layer counselling support:
 - Local nodal counsellor for each team (Bihar and elsewhere)
 - Team of doctors from Patna for clinical guidance
- Local interim informal admission facility in Patna
 - For staff and immediate family not getting hospital beds
 - Those that require close monitoring for other reasons
 - Includes lab, medicines and oxygen

Summary

- Stay outdoors as much as you want to – that is the safest, day or night
- Don't obsess over sanitation, but don't ignore fairly regular handwashing
- Emphasize ventilation and masking over all else; use N95 indoors
- Get vaccinated
- If symptomatic, assume you are COVID even if RTPCR negative, follow rational guidelines

- COVID infections can almost always be prevented
- Deaths from COVID can almost always be prevented

- Take due precautions and get back to normal lives