

COVID 3rd wave in children

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Plan of presentation

- Pandemic
- Covid 1st and 2nd wave
- Covid 3rd wave
- Covid in children
- Healthcare scenario in India
- Vaccination
- Role of doctors
- Myths and facts
- Conclusion

PANDEMIC:

A pandemic is an epidemic (usually of infectious origin) that has spread across a very wide area, crossing international boundaries and usually affecting a large number of people.

1st wave:

- Lesser preparedness
- Lockdown was inevitable
- Due to lockdown less people were affected
- More problem seen in elderly people and who were having pre-existing health issues
- Lesser damage
- Population affected
 - Elderly population
 - Number was around 1.9 crore

Short term memory, pseudo conquering image- celebration, irresponsible behaviour were responsible for the 2nd wave.

2nd wave:

- Carelessness and lack of awareness both by the government and public
- Less number of voluntary immunised people – less than 50% of health workers were vaccinated during that time
- Mutations – mutant virus effectively reduce our immune reaction by lowering the production of antibodies

↓
Escape of virus through our immune system

↓
Increased spread rate

↓
Increased death rate

- Denial and delay in approaching health care centre for treatment and vaccination
- Less availability of vaccines
- Faster doubling rate: 30-40 years of age group were more affected

Now we are back into Lock Down state

Why is 3rd wave expected?

- Nation can't be under lockdown forever
- Susceptible population is still high
- Short term memory of public
- Delayed response at the administrative level
- Low vaccination till date
 - 1st dose- around 9%
 - 2nd dose- around 3.1%

We have a rule in pandemic that if 60-70% of people have antibodies by means of vaccine/ previous infection, the disease stops to spread. Presently, only 30-40% of population has developed antibodies.

Why is 3rd wave more fearsome in children?

- According to documentation 4% of children were affected during 1st wave and 10-15% during 2nd wave.
- Unvaccinated status: the tests are being conducted first on healthy population later on pregnant women, lactating mothers and lastly on children
- New mutations are expected
- Infection of household members causing panic in children
- Equal rate of prevalence both among elderly population and children.
But children were
 - Less symptomatic
 - Apprehension to test
 - Will be the last to get vaccinated

Why children are less affected?

- Less receptors for virus – in children AC receptors are very less compared to elderly people
- Less immune response
- They are protected from contact with affected population

But children are super spreaders

Covid in Children

- Asymptomatic- 20-30% of children
- Symptomatic- mild fever and dullness upto 80%
- Covid pneumonia
- Severe pneumonia – 1-2%
- MIS-C (Multisystem Inflammatory Syndrome in Children): 2-6 weeks after recovery, children may develop inflammatory response that may affect various organ system

Other impacts in 3rd wave

- Worsening health inequalities due to economic injury
- Less of education – no schools
- Loss of socialisation – children will go under depression
- Increasing child abuse and domestic violence
- Bereavement and fear by the death of loved ones
- Need to keep up online education

IAP(Indian Academy of Paediatrics) stand point on 3rd wave :

- There is possibility of 3rd wave – difficult to predict timing and severity
- Children are as susceptible as adults to develop infection but with not severe disease
- It is highly unlikely that children will be predominantly affected
- Almost 90% of infections in children are mild/ asymptomatic. Therefore, incidence of severe disease is not high
- Severe disease occurs in children but no evidence to indicate that more will have severe disease
- Severe disease can occur both during acute illness and 2-6 weeks after due to late immune response (MIS-C), but majority are likely to recover if **treated in time**.
- We need to be prepared with more inpatient beds and ICU beds
- Management protocols for disease categories have been devised
- There is no reason to panic
- Children do not get severe disease even if it is small in number- so there is no harm in considering vaccinating them
- The safety and efficacy are being assessed in trials for this age

CLASSIFICATION OF DISEASE SEVERITY*

Mild Disease

- Fever, sore throat, rhinorrhea, cough, diarrhea, vomiting AND
- No fast breathing (age-based)

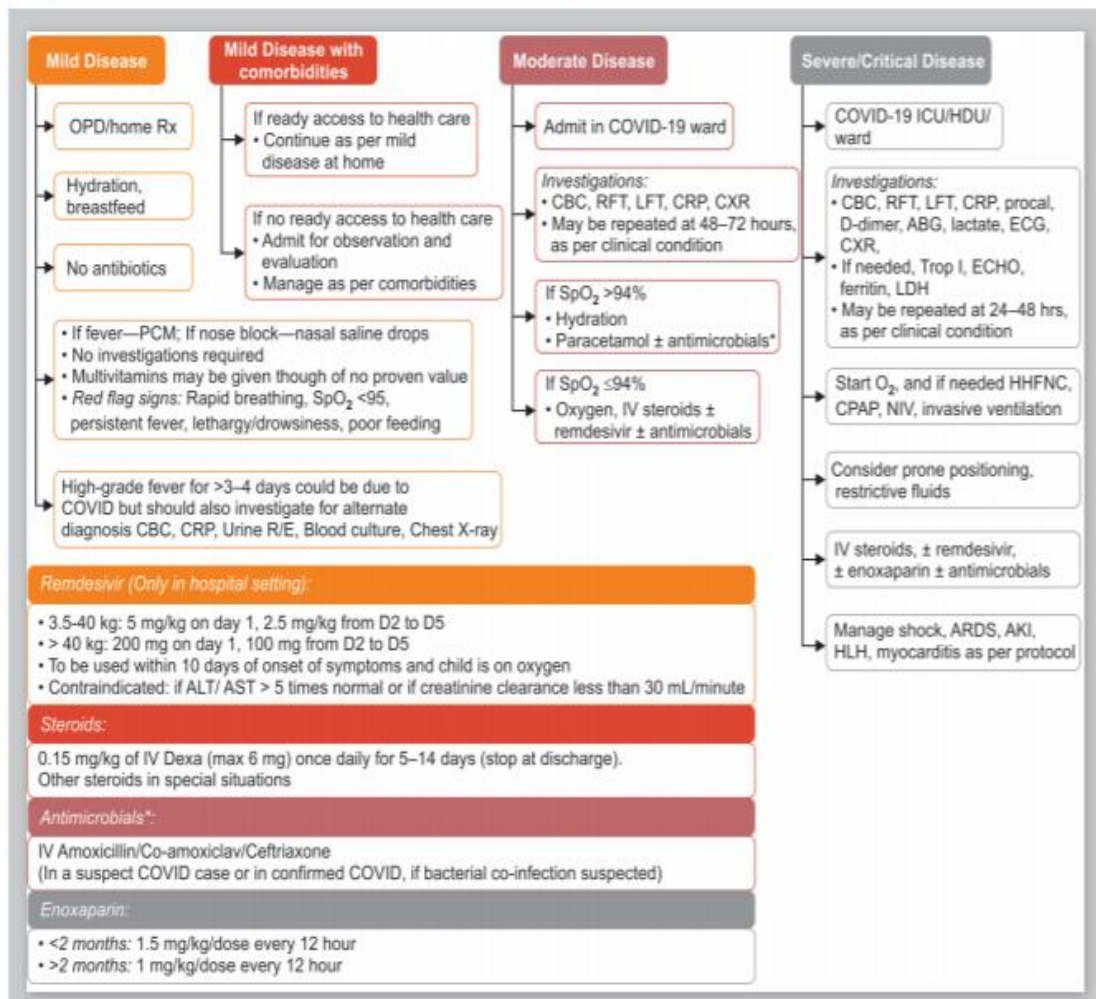
Moderate Disease

- Fast breathing (age-based) OR Presence of hypoxia (SpO_2 90–94% on room air) AND
- No signs of severe disease

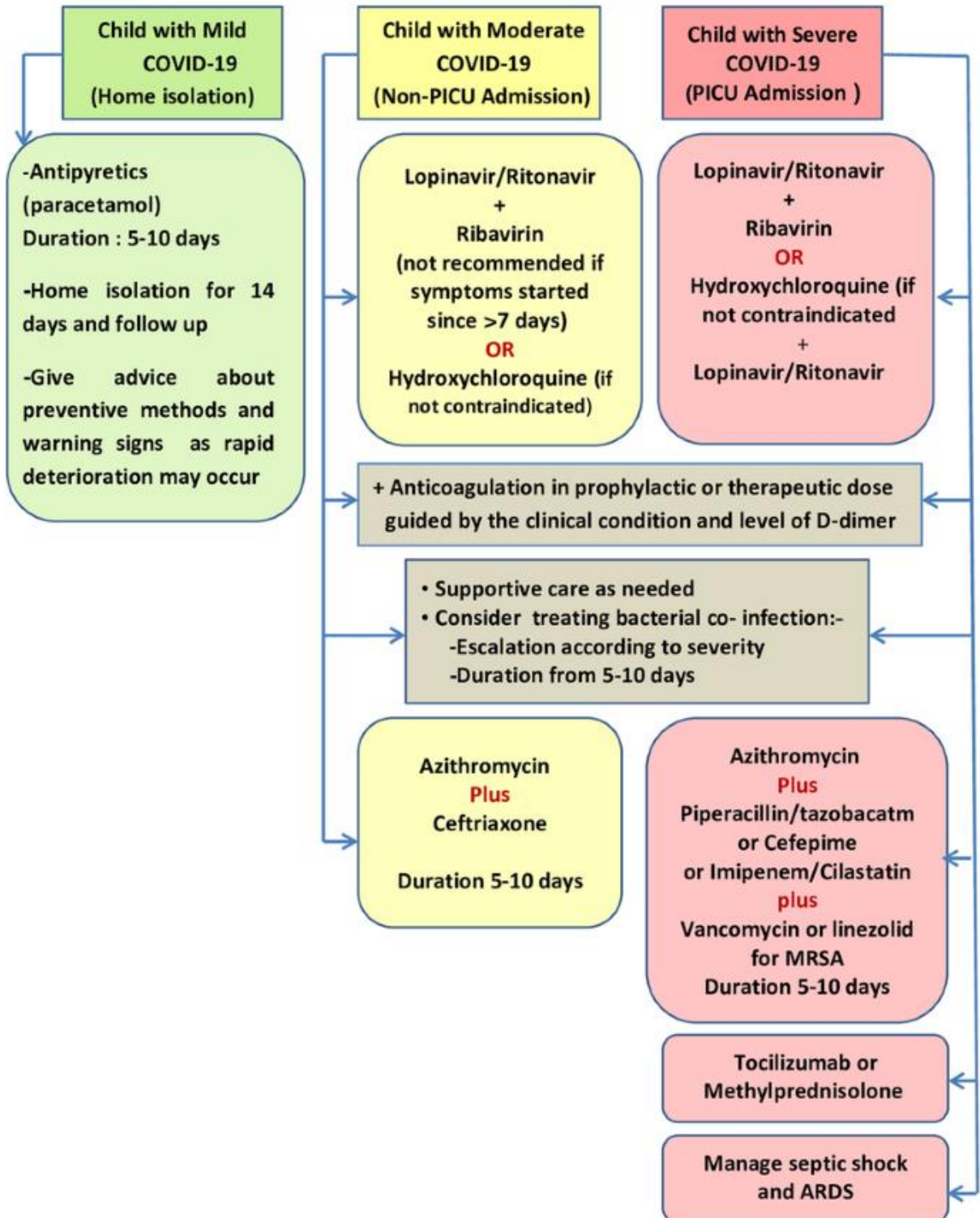
Severe Disease

- Pneumonia with any of these:
 - $<90\%$
 - Increased respiratory effort
 - Grunting, severe retractions
- Lethargy, seizures, and somnolence
- Severe diarrhea, vomiting, and abdominal pain
- Critical disease (a subset of severe disease) is defined, if any of these is present:
 - ARDS
 - Shock
 - Multiorgan dysfunction syndrome
 - Acute thrombosis

* Including children who have high index of suspicion because of a family member testing positive; but child's test result is awaited.



Management of a child with COVID-19



Measures to be taken

- Early and brisk response from the government with one uniform order
- Data collection and exchange
- Equitable distribution of aids
- Special task force
- Adequate resources (man power,bed,oxygen,medicines)
- Paediatric covid care centres
- Triaging
- Accelerating vaccination drive
- Mass production of N95 masks as per the size of child face
- Awareness must be spread among parents
- Gradual opening of restrictions

Health care scenario in India

	WHO recommendation	India
Doctor population ratio	1:1000	1:1511
Nurse population ratio	1:300	1:670
Bed population ratio	5:1000	1.4:1000

Public Health Response to Covid-19 Appropriate Behaviour

A set of 15 promises, we need to follow, as part of COVID 19 appropriate Behaviours

1. Greet without physical contact
2. Maintain physical distance
3. Wear reusable face cover or mask
4. Avoid touching eyes, nose and mouth
5. Maintain respiratory hygiene
6. Wash hands frequently and thoroughly
7. Do not chew tobacco, khaini etc. or spit in the public places
8. Regularly clean and disinfect frequently touched surfaces
9. Avoid unnecessary travel
10. Do not discriminate against anyone
11. Discourage crowd - Encourage Safety
12. Do not circulate social media posts which carry unverified or negative information
13. Seek information of COVID-19 from credible sources
14. Call National Toll-free helpline 1075 or State helpline numbers for any queries
15. Seek psychosocial support for any stress or anxiety

Take care of your health and protect others by following Covid-19 appropriate behaviour.

Vaccines- COVAXIN/ COVISHIELD/SPUTNIK

Covaxin:

- Developed by Bharath biotech in collaboration with ICMR and NIV
- Whole virion inactivated coronavirus vaccine
- Given MI as 2 doses, 4-6 weeks apart
- Stored at 2-8 degree Celsius
- Phase 3 trials showed 75% efficacy
- Effective against multiple variants of SARS-CoV-2

Covishield (Oxford-Astra Zeneca):

- Manufactured in India by SII, Pune
- Recombinant chimpanzee adenovirus vector vaccine

- Consist of 2 separate doses of 0.5ml each
- Given IM 12-16 weeks apart
- Stored at 2-8 degree Celsius
- Approved by WHO for emergency use in 141 countries
- Has an efficiency of 76%

Sputnik-V

- Heterologous recombinant adenovirus vector vaccine
- Developed by RDIF at Gamaleya National Centre (Russia)
- Manufactured in India by Dr.Reddy's laboratories
- Phase 3 trial showed efficacy of 91.6%
- Stored at 2-8 degree Celsius in dry form and -18 degree Celsius in liquid form
- Given IM, 2 doses, 21 days apart
- 67 countries have emergency authorization

Recent protocol regarding covid 19 vaccination

- Person with previous infection of covid 19 should postpone his vaccination for 3 months
- Person who undergone monoclonal antibody therapy/plasma therapy should postpone his vaccination for 3 months
- If the person gets covid infection after 1st dose of vaccination should wait for 3 months to get 2nd dose
- Person who is admitted to the hospital for any severe illness should postpone his vaccination for 4-8 weeks
- Person can donate blood after 14 days of vaccination/ after 14 days of negative RT-PCR report for previous infection
- Lactating women can take vaccination
- No need for rapid antigen test to get vaccination

Role of doctor:

- Be a role model
- Regular updation

- Early identification of the symptoms and progression of the disease
- Parent education and treatment
- Appropriate counselling
- Early referral

Myth and Facts

MYTH BUSTERS COVID-19

MYTH
Sunlight can kill the new Coronavirus

FACT
According to WHO, there is no evidence to prove that Sunlight kills the new Coronavirus

MYTH BUSTERS COVID-19

MYTH
India has entered stage 3 of the COVID-19 infection

FACT
Online news portal claiming that India has entered stage 3 transmission of COVID-19 is misleading

MYTH BUSTERS COVID-19

MYTH
An "old Chinese doctor" had found a cure to coronavirus - One bowl of garlic

FACT
There is NO scientific evidence to study this

MYTH BUSTERS COVID-19

MYTH
Lemon and turmeric prevents COVID-19

FACT
There's no scientific evidence that consuming lemon/turmeric can help prevent COVID-19. However, it is recommended to consume adequate fruits and vegetable as part of a healthy diet

MYTH BUSTERS COVID-19

MYTH
If you can hold your breath for 10 seconds without discomfort, you don't have COVID-19

FACT
Holding your breath for more than 10 seconds without discomfort does not prove whether you are infected or not

MYTH BUSTERS COVID-19

MYTH
Inhaling steam from hot water kills the Coronavirus

FACT
No, inhaling steam doesn't kill the Coronavirus. Respiratory hygiene, social distancing and washing hands are the effective measures to prevent COVID-19

COVID-19 VACCINE Mythbusters

MYTH
There is no need to follow covid protocols after getting vaccinated

FACT
Even after getting vaccinated, it is recommended to follow COVID protocols like wearing a mask, maintaining social distance and sanitising your hands

Source: Ministry of Health & Family Welfare

MYTH
There is no need to wear a mask or take precautions after getting vaccinated

FACT
Even when vaccinated, one must follow Covid precautions like wearing mask and maintaining physical distance

Busting Myths



MYTH

Prolonged usage of masks leads to intoxication of CO2 and oxygen deficiency in body



FACT

False. There is no scientific evidence that proves this. Stop the spread of Covid 19 by wearing mask properly.

Busting Myths

About 2nd Wave of COVID-19



MYTH

Hospitalisation is necessary after testing positive



FACT

No, hospitalisation is not required for all cases. Asymptomatic and mild cases can be managed at home and do not require hospitalization

*As per ICMR study of about 10,000 hospitalised patients

COVID-19 VACCINE Mythbusters



MYTH

There is no need for a Covid-19 recovered person to take the vaccine

FACT

It is advisable to receive a complete schedule of the vaccine irrespective of the past history of infection



Busting Myths



MYTH

Remdesivir is a life saving drug in #Covid19.



FACT

Remdesivir is an experimental investigational drug for people who are moderately sick and are receiving oxygen. Studies do not show mortality reduction with Remdesivir.

MYTHBUSTERS

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GOV
मेरी सरकार

MYTH

An oxygen concentrator can be used at home in an emergency.



FACT

Oxygen concentrators are to be used with accurate guidance from a chest physician or an internal medicine specialist as this can potentially be harmful.



Covidiots

- A person who refuses to follow social distancing during covid 19
- Some one who ignore the warnings regarding public health or safety
- Some one who hoards groceries, needlessly spreading covid 19 fears and depriving others other of vital supplies
- People not respecting others during pandemic