மக்கள் நல்வாழ்வு மற்றும் குடும்ப நலத்துறை

கொரோனா வைரஸ் (COVID-19)

24 மணி நேர கட்டுப்பாட்டு அறை

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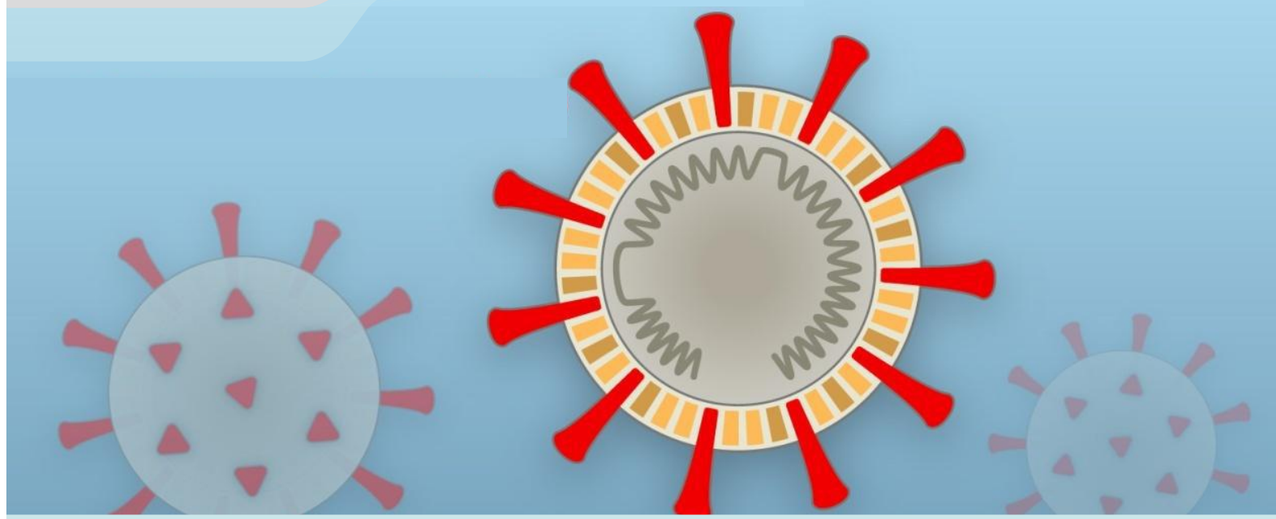
A comprehensive approach towards management of Respiratory diseases & TB diagnosis during COVID 19 Pandemic

Tuberculosis, Bronchial Asthma /COPD and Covid 19



NATIONAL HEALTH MISSION
தேசிய நலவாழ்வு திட்டம்
TAMIL NADU

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1. Tuberculosis / Bronchial Asthma / COPD and COVID -19

Methods to be adopted in Out Patient Departments:

- **Screening** for respiratory symptoms should occur as early as possible upon patient's arrival at the health care facility.

- All Patients with the complaints of Fever, Cough and Breathlessness can be effectively '**Segregated and fast tracked**' at the registration counter by a staff nurse at the registration counter. Such triaging would mitigate airborne infection to other patients waiting in the outpatient area.

- Non emergency clinic visits may be timed by prior appointments, preferably morning hours can be allotted exclusively for seeing such patients.

- Space for screening of patients should be adequate, a **separate** well-ventilated waiting area for respiratory symptomatic should be made available wherever possible.

- For reducing airborne transmission in waiting area social distancing must be followed, Patient education on cough hygiene and hand washing can easily be imparted to patients through posters and other means in the waiting area.

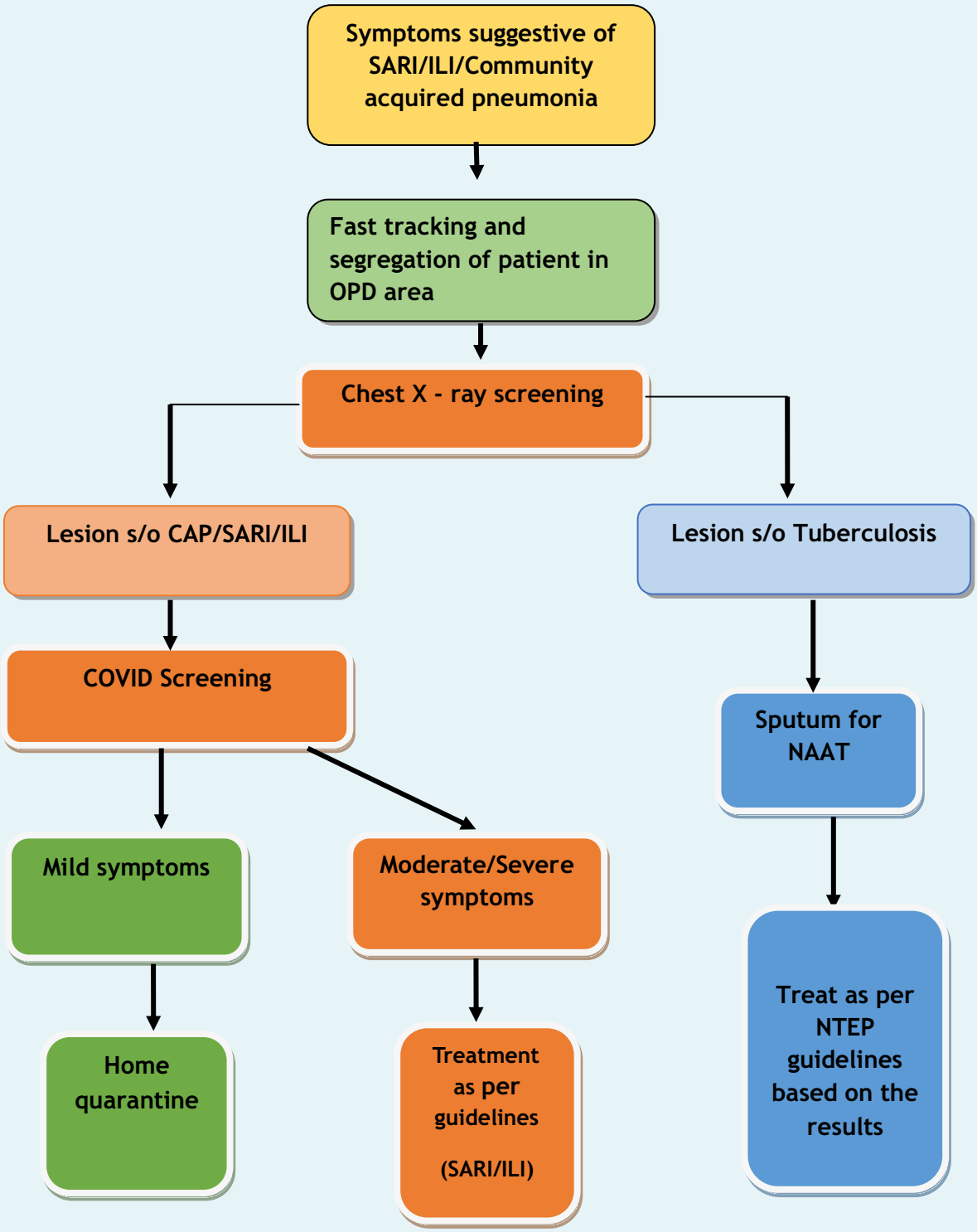
- All medical personnel are to wear an N95 particulate respirator while caring patient in OPD.

Do You Know ?

In TB, the specimen - sputum and other biological specimen
In COVID-19, the specimen – Nasopharyngeal/oropharyngeal swab

2.Diagnosis of Tuberculosis

The following flow Chart to be followed to diagnose Tuberculosis



3. Treatment of Drug Sensitive TB

Weight – category(kg)	IP-PHASE No. of Tablets to be consumed (HRZE - 75/150/400/275mg per tablet)	CP-PHASE No. of Tablets to be consumed (HRE - 75/150/275mg per tablet)
25 – 34	2	2
35 – 49	3	3
50 – 64	4	4
65 – 75	5	5
75	6	6

Daily FDC Regimen Schedule for Pediatric age group (<18 yrs)

Weight - category(kg)	IP-PHASE		CP-PHASE	
	No. of Tablets to be consumed (HRZ-50/75/150mg per tablet)	No. of Tablets to be consumed (E-100mg per tablet)	No. of Tablets to be consumed (HR-50/75mg per tablet)	No. of Tablets to be consumed (E-100mg)
4-7	1	1	1	1
8-11	2	2	2	2
12-15	3	3	3	3
16-24	4	4	4	4
25-29	3+1A(adult tab)	3	3+1A(adult tab)	3
30-39	3+2A(adult tab)	2	3+2A(adult tab)	2

Treatment of Drug Resistant Tuberculosis

Regimen class	Intensive phase	Continuation phase
H mono/poly DR TB (R resistance not detected and H resistance)		
All oral H mono-poly DR TB regimen[@]	(6) Lfx R E Z	
MDR/RR TB		
Shorter MDR TB regimen[@]	(4-6) Mfx^{h} Km/Am* EtoCfz Z H^{h} E	(5) Mfx^{h}Cfz Z E
All oral longer MDR TB regimen[@]	(18-20) Bdq(6) LfxLzd$^{\#}$Cfz Cs	

4. Procedure to be followed by Lab personnel

Lab personnel should strictly adhere to the procedure given below:

- Personal Protective equipment (PPE) should be worn in the following order
    - ✓ Disposable gloves,
    - ✓ Coats/suits/overalls,
    - ✓ Respirator/mask.
- **PPE should be removed in the following order before leaving the laboratory**
    - ✓ Respirator/mask,
    - ✓ Coats/suits/overalls,
    - ✓ Disposable gloves.

2. Management of Common Respiratory illnesses such as Obstructive airway diseases (Bronchial Asthma, COPD), Interstitial Lung Disease, can be managed in a following manner in OPD.

- All patients presenting with acute exacerbation suspect COVID.
- Stable patients treat as OP basis with inhaler with spacer and continue treatment.
- All IP patients do ABG & ECHO to rule out Acute or Chronic Etiology.
- Pulmonary Function Tests (spirometry) not advisable in OP/IP setup .
- Nebulizer not advised in OP and stable IP patients.
- If the patient is drowsy not able to use spacer, give nebulization in separate room.

Do You Know ?

Smoking increases SARS-CoV-2 receptors in the lung, making them more vulnerable. Cigarette smoke spurs the lungs to make more ACE2 (angiotensin-converting enzyme 2), the protein that the coronavirus responsible for COVID-19 grabs and uses to enter human cells that make them more vulnerable to severe infections.

- ✓ NIV in ward patient should be kept in separate room.
- ✓ All acute exacerbations in ILD should be screened for COVID and to do ABG & ECHO to rule out acute or chronic nature of illness.
- ✓ Patients on home oxygen and NIV should be advised to continued treatment

5.Bronchial Asthma and COVID 19

- COVID 19 May lead to worsening of asthma symptoms especially in severe asthmatics.
- Mild asthmatics can be managed at home thereby can avoid exposure to COVID 19.
- Asthma exacerbation will not cause fever, fatigue, myalgia.

❖ Precautions to be taken by people with bronchial asthma

1.	**Use asthma medications regularly.**
2.	**Inhaler corticosteroids can be continued**
3.	**There is some evidence suggested that inhaled corticosteroids associated with reduced expression of ACE -2**
4.	**Allergic rhinitis patients should continue nasal corticosteroids**

6.Chronic Obstructive Pulmonary Diseases and COVID - 19

COPD patients has 5 fold increased risk of developing severe COVID infection

- ❖ They can deteriorate rapidly.
- ❖ They have high mortality and morbidity.

- COPD patients should continue their inhaled therapy regularly without interruption.
- In case of acute exacerbation short course of oral corticosteroids can be started.
- Encourage the patients to quit smoking.
- Pulmonary rehabilitation with self home exercises should be continued.
- Those patients who are currently on long term oxygen therapy should continue the treatment.
- Appropriate precautions should be followed while performing airway clearance techniques.

7. COVID and Interstitial Lung Diseases

- The lung injury and repair caused by COVID 19 has many similarities with the onset and progression of Interstitial lung disease.
- COVID 19 has been reported to cause lung fibrosis in some people but the type of fibrosis that develops is distinct from that of ILD.
- ILD scarring is gradually progressive and exacerbation can occur.
- Post ARDS fibrosis is typically not progressive; do not worsen over time and recovery takes about one year.
- Pulmonary fibrosis patients more likely to develop more severe infections if they contract COVID 19.
- Individuals who are on immune-modulator therapy are also at high risk for COVID 19 infection.
- Symptoms of ILD are also observed in COVID 19 infections are fever, cough, myalgia, arthralgia, shortness of breath which further complicates the diagnosis.

- Chest imaging findings such as the presence of GGOs are also observed in some patients infected with COVID 19.

- Early detection of ILD and the timely administration of steroids are key elements of the treatment of patients with ILD, the use of steroids may be harmful to patients infected with COVID.
- Hence it is critically important to distinguish these two conditions during the COVID 19 crisis.
- Carry out routine oxygen assessment for ILD patients at home or OPD.

Do you Know ?

Transmission of TB and COVID-19 - While both TB and COVID-19 spread by close contact between people, the exact mode of transmission differs, TB bacilli remain suspended in the air in droplet nuclei for several hours after a TB patient coughs and people who inhale them can get infected. COVID-19 transmission has primarily been attributed to the direct breathing of droplets expelled by someone with COVID-19 and through objects handled.

8. Differentiating viral from bacterial pneumonia

A severe complication of COVID 19 is viral pneumonia. Distinguishing viral pneumonia from bacterial pneumonia is difficult in the community.

COVID 19 viral pneumonia	Bacterial cause of pneumonia
Presents with a history of typical COVID 19 symptoms for about a week	Becomes rapidly unwell after only a few days of symptoms
Patient has severe myalgia and anosmia	Has purulent sputum
Breathless but no pleuritic chest pain	Patient has pleuritic chest pain
Lower body temperature (Tachycardia or Tachypnea out of Proportion to elevated body temperature)	Higher body temperature
Bilateral positive lung findings	Unilateral or bilateral positive lung findings
Antibiotics are ineffective	Antibiotics are the choice of treatment

- ✓ Empirical coverage for Bacterial pathogens is recommended in patients with CAP without confirmed COVID 19.
- ✓ Testing for bacterial pathogens with sputum and blood culture is useful.

- ✓ Procalcitonin could be helpful in limiting overuse of antibiotics in patients with COVID 19 related pneumonia.

9.Protocols to manage your COVID ward care approach, to minimize team member contact with suspected or proven COVID – 19 patients.

- Separated ward for ILI/SARI patient, with separate rest room or bed pan with screen.
- Personal protective equipments guidance should be followed at all times.
- ASSESS AND REPORT: Pulse, Blood pressure, Respiratory rate,Spo2 with Fio2,Temperature
- ASK HOW IS/ARE YOUR - Cough and breathlessness, Appetite, Fluid intake, Pain, Bowels and passing urine.
- **SWITCH TO REMOTE (TELE) CONSULTATION:**

https://esanjeevaniopd.in

Wherever possible adopt an appropriate and feasible measure that reduces face to face contact that does not compromise patient care/ safety/ well being. Use Phones, 2- way Radios, intercoms.

Do You Know?

N95 respirator is a respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles. The 'N95' designation means that when subjected to careful testing, the respirator blocks at least 95 percent of very small (0.3 micron) test particles.

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