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National TB Control Program

COVID-19 AND TB CARE IN OPD SETTINGS

OPERATIONAL GUIDE

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I. Background:

Pakistan is fifth among high TB burden countries with an estimated incidence of 520K TB cases at 260 /100k population. Covid-19 outbreak and resulting lock down has badly impacted the case findings and diagnosis of TB. According to a rapid assessment, TB laboratory testing has decreased by 80% in last ten days of March'20 compared to first twenty days of the same month. This mean that many of the TB patients are currently facing delay in diagnosis and treatment. As the lockdown conditions are relaxed more and more people will be able to access for health care but risk of Covid-19 infection will remain for longer time. As both COVID-19 and PTB cause respiratory symptom, possibilities of patient with COVID-19 infection to present in chest OPDs are higher than other OPDs clinics. It is important for HCWs to be aware of COVID - 19 clinical presentation, be vigilant of possibility of COVID-19 patient presenting in OPD and infection control measures needed to limit the spread of this infection in OPD settings. It is equally very important that while COVID-19 testing is rolled out, diagnostic needs of TB patients are not neglected and presumptive TB cases are identified, investigated and put on treatment without delays.

II. Scope of the document:

Health care facilities, including those that diagnose and care for TB and lung diseases, are bound to receive patients with COVID-19, many of whom may be undiagnosed. The scope of the document is to provide guidance, limited to outdoor patient (OPD) setting where chest symptomatic patient present to seek health care and additional measures needed to identify presumptive TB cases and suspected case of COVID-19 infection.

Case definition for COVID-19: Following are case definition provided by NIH

I. Suspected Case Of COVID -19:

- i. A patient with ***acute respiratory illness*** (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), **AND**
 - a) history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.
 - b) having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;
- ii. A patient with ***severe acute respiratory illness*** (fever and at least one sign/symptom of respiratory disease, e.g. cough, shortness of breath; AND requiring hospitalization) in the absence of an alternative diagnosis that fully explains the clinical presentation.

- II. **Probable Case:** A. A suspect case for whom testing for the COVID-19 virus is inconclusive. OR whom testing could not be performed for any reason.
- III. **Confirmed Case:** A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.
- IV. **Definition of Contact:** A contact is a person who experienced any one of the following exposures during the 2 days before and the 14 days after the onset of symptoms of a probable or confirmed case:
- i. Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;
 - ii. Direct physical contact with a probable or confirmed case;
 - iii. Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment

Table 1: Comparison of TB and COVID-19

	Tuberculosis	COVID-19
Pathogen	<i>Mycobacterium tuberculosis complex</i>	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
How it is spread	Airborne	Droplet (Direct spread and contact)
Infectiousness	Range from less than 1 to up to 4 people infected per one person with TB	Currently average of 2.2 people infected per one person with COVID-19
Incubation Period		1-2 weeks
Onset of symptoms	Gradual onset of symptoms often over a period of weeks or longer	Acute onset of symptoms within days
Symptoms	Cough, low grade fever, weakness, shortness of breath,	Presentation in order is fever, fatigue/body aches and dry cough. Development of dyspnea. loss of smell Cough with sputum is less common (about 27%) Other less common presentation are abdominal or neurological symptoms
Clinical sample used diagnoses	Sputum tests for those with cough. Other samples depending on symptoms	Nasopharyngeal or oropharyngeal swab or wash in ambulatory patients, Sputum or endotracheal aspirate or broncho-alveolar lavage may be used in patients with severe respiratory disease
Diagnostic Test	AFB smear /Xpert MTB/RIF	Molecular testing (COVID-19) is currently recommended method PCR /Serological assays are not recommended for the routine diagnosis of COVID-19
Prevention	LTBI –Treatment for those with known contacts with TB Good respiratory hygiene measures	Social distancing, good respiratory hygiene measures and hand washing with soap for at least 20 seconds
Treatment	Anti TB Treatment : combinations of antibiotics	Currently Supportive treatments. Many drug trials under way
Vaccine	BCG has some protective effects, particularly for children	No

III. Management of Patient with Chest symptoms in OPD:

Following steps are suggested for management of patient with chest symptoms

Step-1: Ask about history of contact with known COVID-19 patient, travel history (within 14 days of onset of symptoms) or residence in a location reporting community transmission– If YES refer COVID -19 investigation

Step-2: If NO – Ask for clinical symptoms- Even if both TB and COVID-19 commonly involve the lungs and have similar symptoms, such as cough, fever and difficulty breathing, clinical features differ in certain respects

Table 2: Difference in clinical presentation of TB and COVID-19 patients

	Tuberculosis	Covid-19
Speed of onset	the clinical manifestations of TB typically develop over a much longer period (weeks or longer)	fever and cough in COVID-19 have a rapid onset and an incubation period of about two days to two weeks (within days)
Coughing	In TB is usually productive of sputum and even blood	While in uncomplicated COVID-19 it is more commonly a dry cough at presentation
Shortness of breath	In TB this usually happens at a much later stage or as a long-term sequela.	It develops early after onset in COVID-19
Outbreaks in the same household or in a congregate setting	While in TB the progression is rarely abrupt and may only become apparent after several months.	In case of COVID-19 usually becomes apparent within a week or two

Step-3: If symptoms are suggestive of COVID-19, refer for COVID -19 testing

Step-4: If symptoms are suggestive of TB refer patient to laboratory for TB testing (Xpert MTB/RIF where possible)

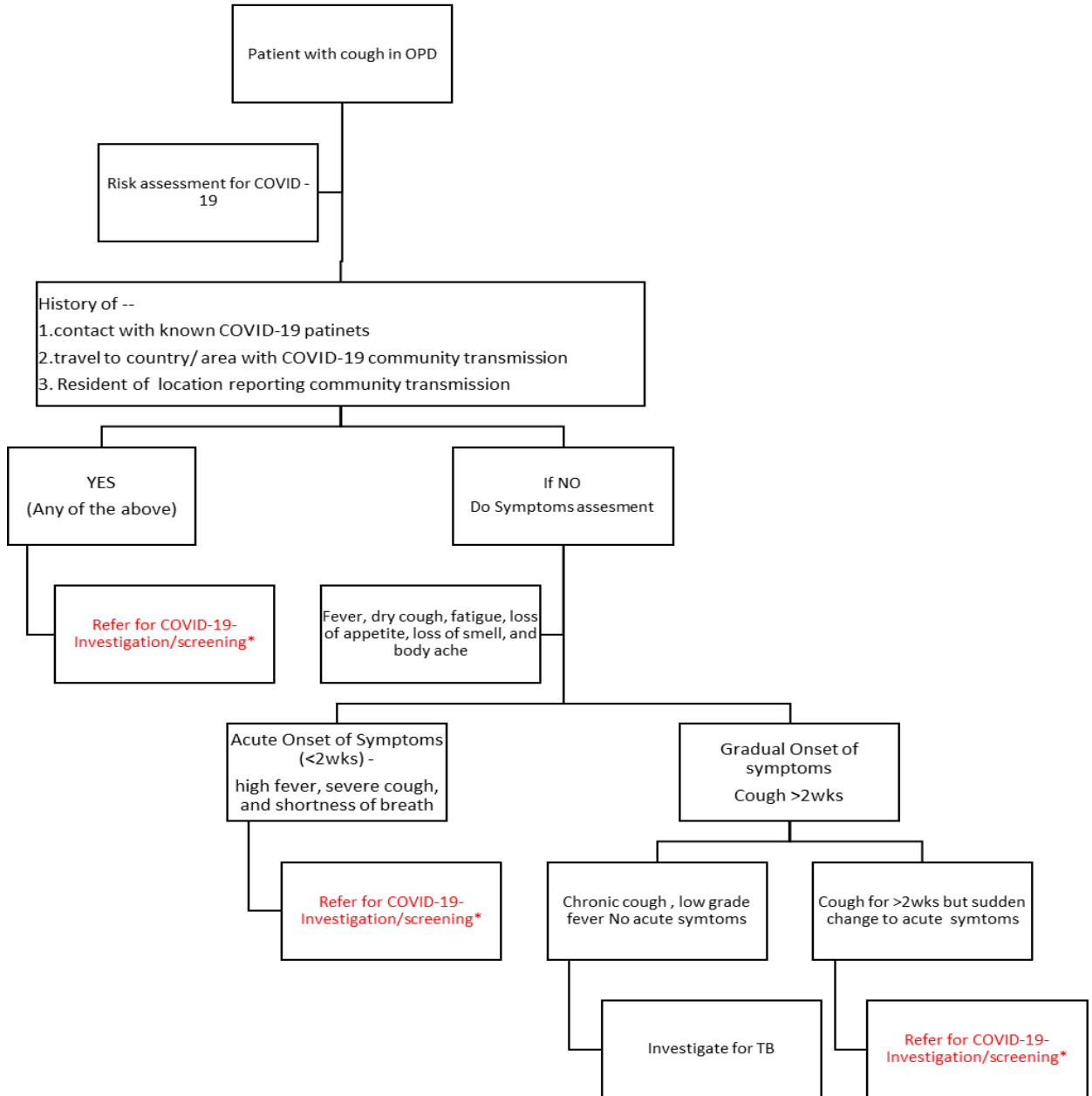
Step-5: If TB is bacteriology confirmed start TB treatment immediately

Step-6: If laboratory test is negative, follow NTP guidelines for TB diagnosis.

Note:-

- A negative Test does not exclude COVID-19 infection, consider investigation for TB with advise of sputum collection at home. Alternatively patient may be advised isolation for 2weeks preferable at home isolation and then investigate for TB, if patient remain symptomatic.
- A positive result for COVID-19 infection does not exclude the possibility of concomitant TB,. HCW need to consider the possibility of TB, if COVID-19 during the course of the illness after the first weeks suggests so, e.g. progression to hemoptysis, persistent fever, night sweats or weight loss

FLOW CHART SHOWING MANAGEMENT OF PATIENT WITH RESPIRATORY SYMPTOMS IN OPD



***IF TEST FOR COVID -19 IS NEGATIVE , INVESTIGATE FOR TUBERCULOSIS**

IV. Transmission of TB and COVID-19 & infection control measures in health care settings

While both TB and COVID-19 spread by close contact between people, the exact mode of transmission differs, explaining some differences in infection control measures to mitigate the two conditions.

TB bacilli remain suspended in the air in droplet nuclei for several hours after a TB patient coughs, sneezes, shouts, or sings, and people who inhale them can get infected. The size of these droplet nuclei is a key factor determining their infectiousness. Their concentration decreases with ventilation and exposure to direct sunlight.

COVID-19 transmission has primarily been attributed to two main routes of transmission

- Direct breathing of droplets expelled by someone with COVID-19 (within 1 m)
- Droplets may also land on surfaces where the virus could remain viable; thus, the immediate environment of an infected individual can serve as a source of transmission (contact transmission). Hand washing, in addition to respiratory precautions, are thus important in the control of COVID-19. Hospital procedures that generate aerosols predispose to infection of both conditions and should only be conducted within recommended safeguards.

i. Infection control Measures in OPDs

These health facilities should find separate triage area and waiting area for patients to separate the suspected COVID-19 and non-COVID-19 patients. A triage area should be established at the entrance to the facility, away from patient waiting areas

- Clear sign posts should direct the patient to this area
- A surgical/ medical mask should be provided to the patient immediately at the designated area or alternatively asked to cover nose and mouth below chin using scarf or napkin
- Measures should be taken to have hand washing facilities at the facility
- Continuous monitoring of adherence to such practices among staff and facility attendees
- The medical officer at the screening area should obtain a brief history (including contact and travel history) and conduct a brief examination (pulse, respiratory rate, oxygen saturation)
- Any patient who fits in to the definition of COVID-19 suspect should be managed as per the COVID19 protocols

- The patients who are **suspected of COVID-19** should be seen by a doctor in separate room and managed as per the COVID19 protocols. If the doctor managing the non-COVID19 patient requires a specialist opinion, s/he should contact the relevant specialist at the hospital.
- The **non-COVID19 patients** should be seen by another doctor (if possible) in a separate room.

S. No	Setting	Activity	Risk	Recommended PPE	Remarks
1.	Triage Area (Fever Clinic)	Triaging patients Provide Surgical/medical mask to patients	Moderate Risk	Surgical/ medical mask, Gloves	Patients with fever and suggestive symptoms to have surgical/medical mask Availability of sanitizers / hand disinfectants
2.	Screening area/Help desk area Registration counter	Provide information to patients	Moderate Risk	Surgical/ medical mask Gloves	Availability of sanitizers / hand disinfectants
4.	Holding area/ waiting area	Nurses/ Paramedics interacting with patients	Moderate Risk	Surgical/ medical mask Gloves	Social distancing of 2 meter needs to be maintained while seated Handwashing facility with soap
5	Doctors Chamber	Clinical Management (Doctors & Nurses)	Moderate Risk	Surgical/ medical mask Glove	No aerosol generating procedures should be allowed Handwashing facility with soap
6	Sanitary staff	Cleaning frequently touched surfaces/ floor/cleaning linen	Moderate Risk	Surgical/ medical mask Gloves	
7	Visitors accompanying young children and elderlies	Support in navigating various services	Low risk	Surgical/ medical mask	No other visitors should be allowed to accompany patients in OPD settings. The visitors thus allowed should practice hand hygiene

ii. [Bio-safety measures to protect staff working in TB laboratories, from COVID-19 infection?](#)

Existing recommendations for infection prevention and control for TB and for COVID-19 should be strictly implemented, including personal protection equipment

Special precautions are needed to avoid exposure of staff, patients and other individuals to both COVID-19 and TB .Precaution should be observed.

Specimen collection for TB:

- Collecting and transporting sputum samples and Broncho alveolar lavage fluid,
 - Sputum collection for TB at home, should be encouraged with specific instructions (e.g., to be done in open area outside the home and away from others).
 - If collection at home is not possible, sputum should be collected in an open, well-ventilated space – preferably outside of the health facility - and staff should not stand near the patient during collection.
- Reception and unpacking in the laboratory,

Testing of clinical specimens for TB : The use of biosafety cabinets would be preferred when handling sputum and any other infectious specimen during the pandemic. However, if a cabinet is not available the enforcement of all other requirements, such as

- Consistent use of the N95 respirator, goggles or protection shield, waterproof aprons, use of gloves,
- Regular decontamination of surfaces,
- Frequent handwashing,
- staff distancing in the laboratories,
- Ventilated workplaces.
- Safe transportation should be observed by operators in basic units.

The staff responsible for transport of samples to the site of testing and operators of the machines should also follow existing requirements to process COVID-19 samples.

iii. [Measures to protect staff working in healthcare facilities, and TB patients on treatment from COVID-19 infection](#)

The following additional, temporary measures should be considered during the COVID-19 pandemic to minimize risks of infecting the staff and vice versa:

- Subject to local circumstances, alternative arrangements should be made to reduce visits for TB follow-up, e.g. spreading appointments on specific days or times to avoid exposure to other clinic

attendees; using innovative communication technologies to maintain treatment support; limiting to when follow-up testing is needed

- Enough TB medicines will need to be dispensed to the patient or caregiver to last until the next visit - or the end of treatment if no other visit is planned. This will limit interruption or unnecessary visits to the clinic to collect medicines.

References

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