rGLC report format

TECHNICAL ASSITANCE REPORT

Country:	Timor-Leste
Dates of TA provision:	28-29th May 2020
Consultant(s):	Dr Erlina Burhan, MD, MSc
Clearance of the report	The content of the report has been fully cleared by the National Tuberculosis Program of Indonesia.
Sharing of the report	1. The report is being shared with The Global Fund Portfolio Manager, Indonesia and the TGF GLC Focal Point. 2. In-country circulation of the report done via WHO Country office in Indonesia
TA coordination	rGLC/SEAR Secretariat and WHO Country Office Timor-Leste
Summary of the TA provided	Tuberculosis (TB) is one of the deadliest infectious disease in the world with annual mortality reaching 1.6 million deaths globally and incidence as high as 10 million people in 2018. Despite the decreasing number of TB in developed world, many developing nations still suffer from TB disease. Two third of these TB cases are suffered by developing countries, putting more burden on already strained national's economy. Timor-Leste has the second highest TB incidence rate in WHO South-East Asia Region. According to data released by WHO in 2018, total TB incidence in Timor-Leste is 498 per 100.000 population. As a comparison, incidence rate in Indonesia is 316 per 100.000, in India 199 per 100.000, and in China 61 per 100.000 population. One of the biggest challenges in ending TB is the increasing number of Drug-Resistant TB (DR TB). It is estimated that 3.1 % of all TB case in Timor-Leste is drug-resistant (DR) or Rifampicin-resistant TB (RR-TB). DR TB is significantly more difficult to treat compared to Drug-Sensitive TB with lower success rate and higher chance of adverse effect during course of treatment. Treatment of DR TB therefore need to be given by highly-trained medical personnel fluent in management of DR TB regiment.

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	Therefore, DR-TB management training is urgently needed in Timor-Leste. However, due to COVID-19 situation, conducting direct training is not feasible. Therefore, virtual training and workshop is conducted as substitute. The Virtual workshop on clinical management of Multi-Drug Resistance-TB (MDR-TB) in Timor-Leste was held on 28-29th May 2020 through Skype meeting. The Online training was facilitated by me, Erlina Burhan MD, MSc, as source person with support from NTP and WHO. The event was opened by Timor-Leste National TB Programme, Timor-Leste Ministry of Health, Disease Control and Prevention's director of Timor-Leste, and World Health Organization (WHO) The agenda was comprised of the following topics on the first day: 1. Diagnosis of DR-TB (National TB/ DR-TB Guidelines, 2020) • Presumptive DR-TB Criteria • TB Diagnostic Algorithm In this session, the step needed in diagnosing TB, especially DR-TB, is explained. The algorithm is according to Timor-Leste NTP guideline. 2. Principles of DR-TB Treatment • All oral Short DR-TB Treatment Regimen In this session, the basic principle of DR-TB treatment is explained. The recommendation for DR-TB treatment according to WHO is explained in this session. • DR TB Treatment Guideline of Timor-Leste. In this third and last session of the first day, the DR-TB treatment specific for Timor-Leste is explained in detail. The regimen explained is according to Timor-Leste NTP guideline, which is a little bit different due to different availability of drug. The first day of training was ended with QnA session. Question asked on the first day: • How to identify patient with presumptive TB easily? • Do we have to check every patient with cough for TB? • What if GeneXpert result was indeterminate?

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	• What to do if patient symptom is very closely resembling TB, but GeneXpert and smear is negative?
	• Should every patient be checked with GeneXpert and DST? Is it efficient?
	• Why Timor-Leste drug regimen is different with WHO?
	• When should we use longer regimen?
	• Can you explain the dosage of each TB drug?
	
	The training was continued in the second day. The 2nd day agenda was comprised of the following topics:
	1. Case Presentation. This session was brought by practitioner from Klibur Domin practitioner
	2. Discussion on the regimen
	3. Exercise by Case illustration
	
	In these 2nd and 3rd session, I presented two training case. One case is a simple DR TB case which was eligible for shorter all oral treatment. The second case was a more complex DR TB case which warrant longer all oral treatment.
	
	The illustration used in the 1st case:
	
	• Mr. H, 27 years old, 48 kg, diagnosed with pulmonary TB with positive smear on early January 2020. Patient was started on standard TB drug (2RZHE / 4 RH) on 15 January 2020. At the end of intensive phase (11 March 2020), patient was complaining of persistent cough, bloody sputum, and still losing weight. Sputum smear at 11 March 2020 intensive phase was positive. Patient have no history of contact with pre-XDR / XDR TB patient. No history of consuming levofloxacin.
	• CXR shows lesion in apex of left lung. GeneXpert test on 11 March 2020 was positive, rifampicin resistant
	• LPA test on 11 March 2020:
	    • Rifampicin resistant
	    • Isoniazid resistant
	    • No resistance to fluroquinolone and SCI drug
	• This 1st case is discussed interactively between audience and me, we concluded that this 1st case needed to be treated with all-oral shorter regimen.

- The regimen used is 2 Lzd - 6 BDQ - Lfx - Cfz - Z - E / 5 Lfx-Cfz-Z-E under Operational Research conditions while the updated WHO guidelines are being adopted. This is because of non-availability of high dose INH in the country. Moreover, this regimen is being tried in South-Africa with considerable success.

The illustration used in 2nd case:

- Mrs. F, 26 years old, 42 kg, with history of persistent cough of 1 month with occasional bloody sputum. Diagnosed with pulmonary TB with positive smear on 29 May 2020. Patient have history of consuming Levofloxacin prescribed by local doctor (patient does not remember the dosage and the duration). Patient have no history of contact with pre-XDR / XDR TB patient. Patient is sexually active and have not had menstruation in the last 2 months
- CXR shows wide lesion, GeneXpert shows rifampicin resistant.
- LPA shows:
  - Rif resistant
  - INH resistant
  - FQ resistant
  - Kanamycin sensitive
- This 2nd case is discussed interactively between audience and me, we concluded that this 2nd case needed to be treated with all-oral longer regimen.
- **6 Bdq - Lzd – Cfz – CS - Z / 12 Cs – Cfz - Z**

4. Reading ECG.

This session was brought by Persahabatan Hospital's Cardiologist, dr. Suryana. This session was focused on the basic of ECG and how to use ECG as a tool to detect adverse drug reaction during DR TB treatment. During this session, hands on ECG training was done. Audience was trained on how to set up and use ECG machine provided by the training committee. The audience were also trained on how to read ECG. Audience were attentive and excited during the hands-on training session.

5. Treatment of HIV co-infection, pregnant mothers, children, and other special situations

This session was focused on important point that need to be considered when treating DR TB patient with HIV, pregnancy, smoking, diabetes, and young age.

6. Monitoring and Evaluation; aDSM

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	7. Exercise on Monitoring and Evaluation In the two-last session, I taught the basic of active finding of adverse event. In this session I started by explaining the definition of adverse event and adverse drug reaction. I also teach the basic of causality assessment. I emphasize on the importance of identifying adverse event and serious adverse event in patient and how they affect the outcome of DR TB treatment. I introduce aDSM as the way on monitoring adverse event in patient. I then presented the aDSM form and with the help of training committee on site, I ask the audience to try filling the aDSM form. Audience were attentive during the training session. 8. Next Steps: • Clinical Management DR-Committee Activation • DR-TB Coordination • R&R • Drugs & Logistics The last session was a discussion on the next step. Brought by Timor-Leste NTP Question asked on the second day of training: • When do we use shorter and when do we use longer regimen? • What is the dosage of medicine in patient with case 1? • Should we change dosage if patent weight increases? • In case 2, is it okay to use levofloxacin when patient is FQ resistant? • If patient have history of contact with XDR TB patient, what regimen should we use? • How to read ECG easily? • What common ECG finding we can find in patient with DR TB treatment? • Why diabetes worsens TB? • Why smoking worsens TB? • Is DR-TB medication safe for pregnant women and children?
Summary of the recommendations to follow up	It is recommended to have a follow up meeting for Short DR-TB Treatment Regimen especially aDSM. Follow up meeting is important to make sure that knowledge discussed in this training is well retained. It is also recommended to do regular refreshment training (e.g. annually or biannually) to stay up to date with current knowledge.

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	It is also recommended to conduct hands-on training in aDSM in the similar training in the future, especially in the usage of aDSM form. Hands-on training is very beneficial as it enables audience to directly experience the usage of aDSM in their daily practice.

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