

## Rapid Assessment Report

# Effect of COVID-19 Pandemic on Tuberculosis Program in Nepal



Government of Nepal  
Ministry of Health and Population  
Department of Health Services  
**National Tuberculosis Control Center**



# ACKNOWLEDGEMENTS

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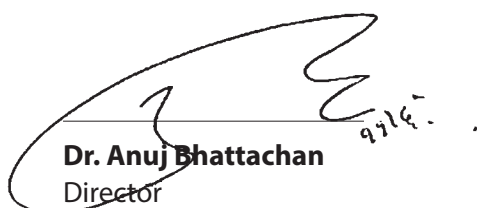
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# EXECUTIVE SUMMARY

## BACKGROUND

With the increasing influence of COVID-19, TB diagnosis and treatment are likely to be affected. This study explored the barriers and enablers to the implementation of TB program during the COVID-19 pandemic in Nepal.

## METHODS

Under the leadership of NTCC, 4 teams were formed composing of members from NTCC, province supported by partners. The teams visited the field and carried out assessment at 49 TB treatment centers and also interviewed 71 TB patients through out the country. The duration of the study was from May-June 2020. Semi-structured questionnaires were used to collect data regarding TB status and services from the treatment centers and knowledge of TB and COVID-19 from TB patients.

## RESULTS

There was 67.3%, 45.5%, and 41.7% decline in the mean number of sputum courier, enrollment, and follow-up of TB patients during the COVID-19 lockdown with partial

disruption of reporting TB data. However, TB drug stock and supply were maintained. Patients took TB drugs at home (as per interim guidelines) and few developed minimal side effects that were locally managed. About 93.0% of patients had heard about the COVID-19 with correct knowledge.

## CONCLUSION

The assessment shows that there has been a significant effect of COVID-19 on TB program with regards to diagnosis, treatment, and follow-up. However, interim guidelines for longer provisions of the ATT drugs to be taken at home are important for the continuation of TB treatment in these situations. NTPs should prepare for catch-up plans to find missing TB cases.

# 1. BACKGROUND

Tuberculosis (TB) is an infectious disease, caused by *Mycobacterium tuberculosis* and is spread through the air via respiratory droplets. Signs and symptoms of TB and COVID-19 are similar and both primarily infect the lungs.<sup>[1]</sup> TB remains a public health challenge in Nepal, with an estimated 69,000 new cases per year and more than 50% of them estimated being missed.<sup>[2]</sup>

Nearly 33.6 million people have been infected with COVID-19 globally.<sup>[3]</sup> The COVID-19 pandemic is increasing in Nepal as well with nearly 74,800 confirmed cases with 20,105 currently active cases and 481 deaths due to COVID-19 have been reported as of 29<sup>th</sup> September 2020.<sup>[4]</sup> To minimize the virus transmission, the government of Nepal initiated various public health response activities and imposed lockdown,<sup>[5]</sup> which had its impact on health and other social sectors.

Timely diagnosis and enrolment in the treatment are essential for the positive outcome for TB treatment. However, the COVID-19 lockdown has affected people's movement and the use of TB service. Even those who are diagnosed and taking medication, lockdown and fear of going out to get medication might be an additional barrier.<sup>[6]</sup> The effects could be more in low and middle-income countries. Furthermore, reduction in

the quality of TB care, and stigma towards TB patient due to similar symptoms with the virus will create diagnostic confusion and led the TB patient prone to the severity of COVID-19.<sup>[7]</sup>

A study showed where most TB and respiratory hospitals have been engaged in the diagnosis and management of COVID-19, the number of daily outpatient visits for infectious diseases decreased, which has adversely affected the TB diagnosis and treatment. Restricted movement and change in the role of TB hospitals have been identified as major barriers to the patients leading to delayed diagnosis and treatment and increased transmission among household contacts. It has also interrupted treatment of multi-drug resistant TB and patients infected with MDR-TB were requested to return later for examination and treatment.<sup>[6]</sup>

In the context of Nepal, this assessment aims to identify the effect of COVID-19 on TB diagnosis and treatment, which has not been adequately explored and it is currently unclear whether the lockdown and diversion of health resources towards COVID-19 management have hindered TB services. The objectives of the study are to understand the situation of TB program and patient's perception towards TB and COVID-19.



## 2. METHODS

There were 4 teams with each team lead by NTCC and supported by members from province and TB partners who carried out the assessment.

Semi-structured questionnaires were used to collect data from selected TB treatment centers and TB clients. The first set of questionnaires was used to collect data on health facilities regarding TB treatment management status, TB diagnosis status, TB drug management, TB information management, and TB program management. Where-as, the second set was used to collect data from patients regarding socio-demographic information, registration and diagnosis information, treatment information, the side effects of anti TB drugs, perception towards on-going TB services, and patients' knowledge, experience, and view towards COVID-19. The assessment was completed during the month between May and June 2020.

Convenient sample was drawn to select 49 health facilities from all seven provinces (Table1). Any TB patients<sup>1</sup> attending the sampled facility on the day of the facility visit

were eligible to participate. In cases, when TB patients were not met in the health facility, they were selected from the TB treatment register and contacted by telephone for interview. A total of 71 TB patients were interviewed. Data regarding numbers of patients registered and follow up were taken from TB register. Data management was done in Microsoft Excel and Stata15 was used for analysis. Frequency distribution, comparison graphs <sup>2</sup>, and thematic analysis approach were applied to examine the facility situation and patient's perspectives about TB services and COVID-19.

This is a part of regular National Tuberculosis Program (NTP) monitoring and no additional specimen were collected from TB clients. Secondary data were the major source of information. Therefore, ethical approval was not sought from the Nepal Health Research Council. However, approval from NTCC, Technical Working Group was received. Informed consent from service providers and TB client were received before collecting their views.

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1. All form of TB (New or retreatment) and of all age groups including children, for registration and initiation of Treatment or for follow up all were considered.

2. Comparison were made of different variables in % change of mean number (average events / month before 3 months compared average events of same / month after 3 months of COVID-19 led lockdown in the country and in local community)

### 3. RESULTS

Out of 49 visited facilities, 55.1% were from Bagmati Province, 14.3 % from Gandaki Province, followed by Province1 (10.2%), Karnali Province (8.2%), Sudurpaschim Province (6.1%), Province2 (4.1%), and Province5 (2.0%). Similarly, one third (34.7%) of the health facilities were health posts followed by hospitals (16.3%), PHCC<sup>3</sup> (16.3%), UHC<sup>4</sup> (16.3%), health office/DOTS clinic (6.1%), NGO (6.1%), and medical colleges (4.1%) (Table1).

Regarding TB patients; 80.3% were aged between 15-65 years, 16.9% were elderly (65 years and above), and 2.8% were children <15 years of age. (Figure 1)

Other findings have been divided into two parts. First, the results of the facility assessment and then the patient interview has been described in the following sections.

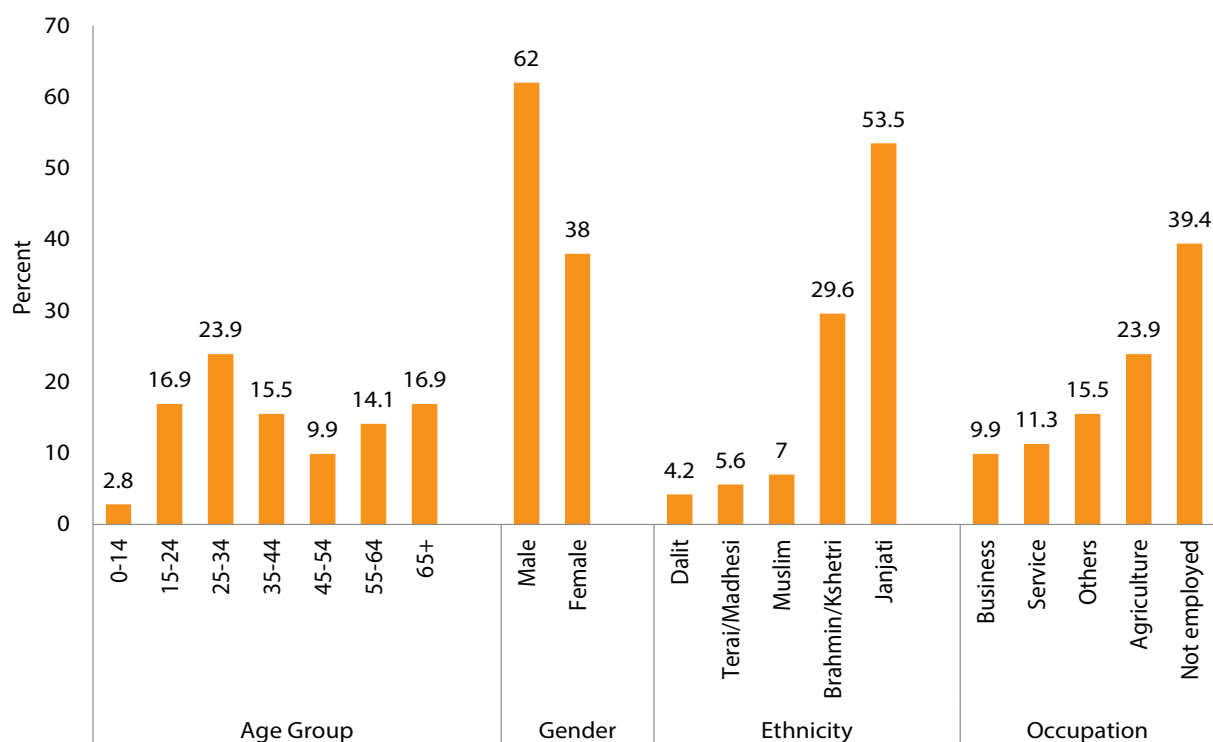
#### 3.1 Findings regarding facility assessment

After the COVID-19 led nationwide lockdown, mean number of sputum collection for diagnosis of TB reduced by 67.3% with highest decline of 90.0% at UHC and lowest of 48.0% at Health Posts (Figure 2, Figure 5).

There was 45.5% reduction in TB case enrolment with highest decline of 70.0% at Medical Colleges and lowest of 5.0% at PHCCs (Figure 3, Figure 5), and 41.7% reduction in case follow-up (Figure 4, Figure 5).

Half (49.0%) of the facilities were regularly reporting the TB information to I-HMIS online. Status of IHMIS reporting was excellent (100%) in Province5, Karnali and Sudurpaschim Provinces, but no reporting was being done by province2, while facilities reporting online

**Figure 1:** Percent distribution of age and socio-demographic characteristics of participants (TB patient) including side effect management (n=71)

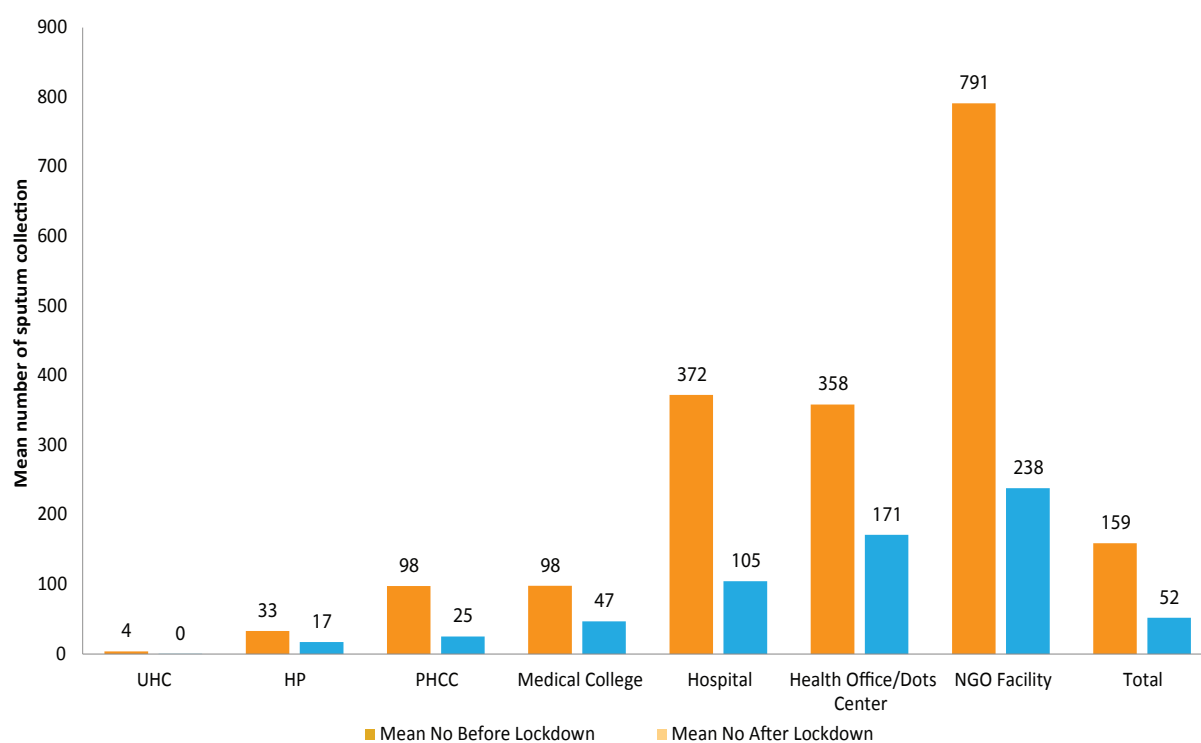


<sup>3</sup>. Primary health care Center

<sup>4</sup>. Urban health clinic

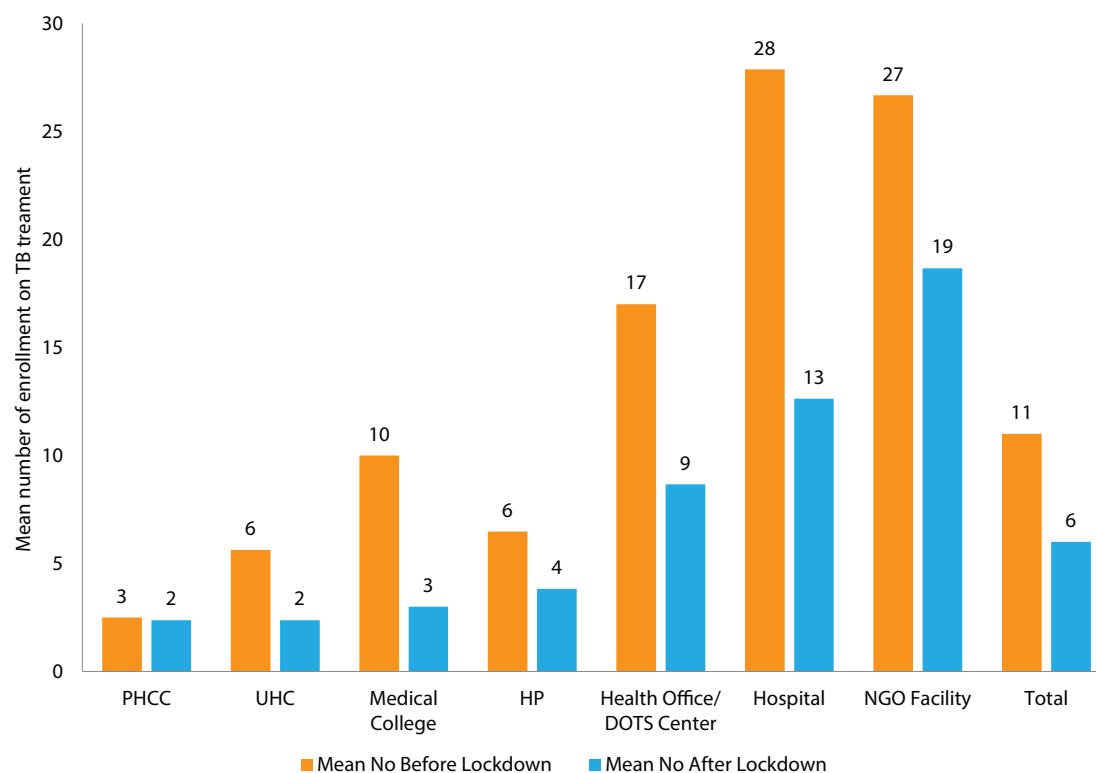


**Figure 2:** Status of the mean number of sputum sample collected (no. of sample/month), 3 months before and after the COVID-19 lockdown, segregated by type of facilities to testing for TB.



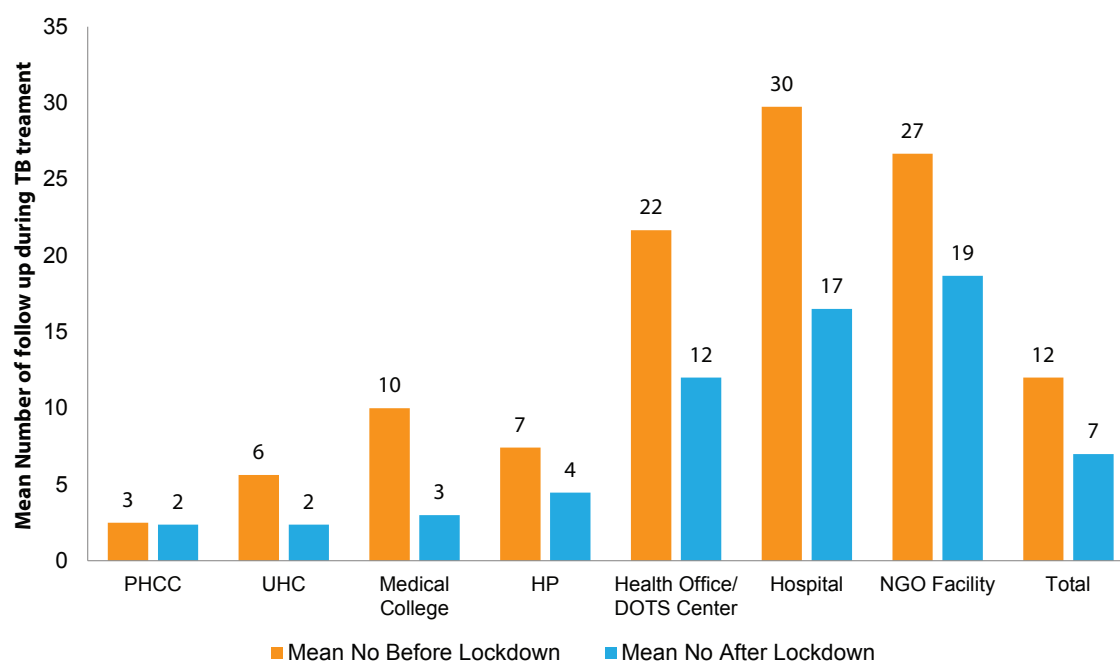
(Note: UHC- Urban Health Center, HP- Health Post, PHCC- Primary Health Care Center)

**Figure 3:** Status of the mean number of TB patient enrolment on treatment (no. of enrollment/month), three months before and after lockdown by type of facility.



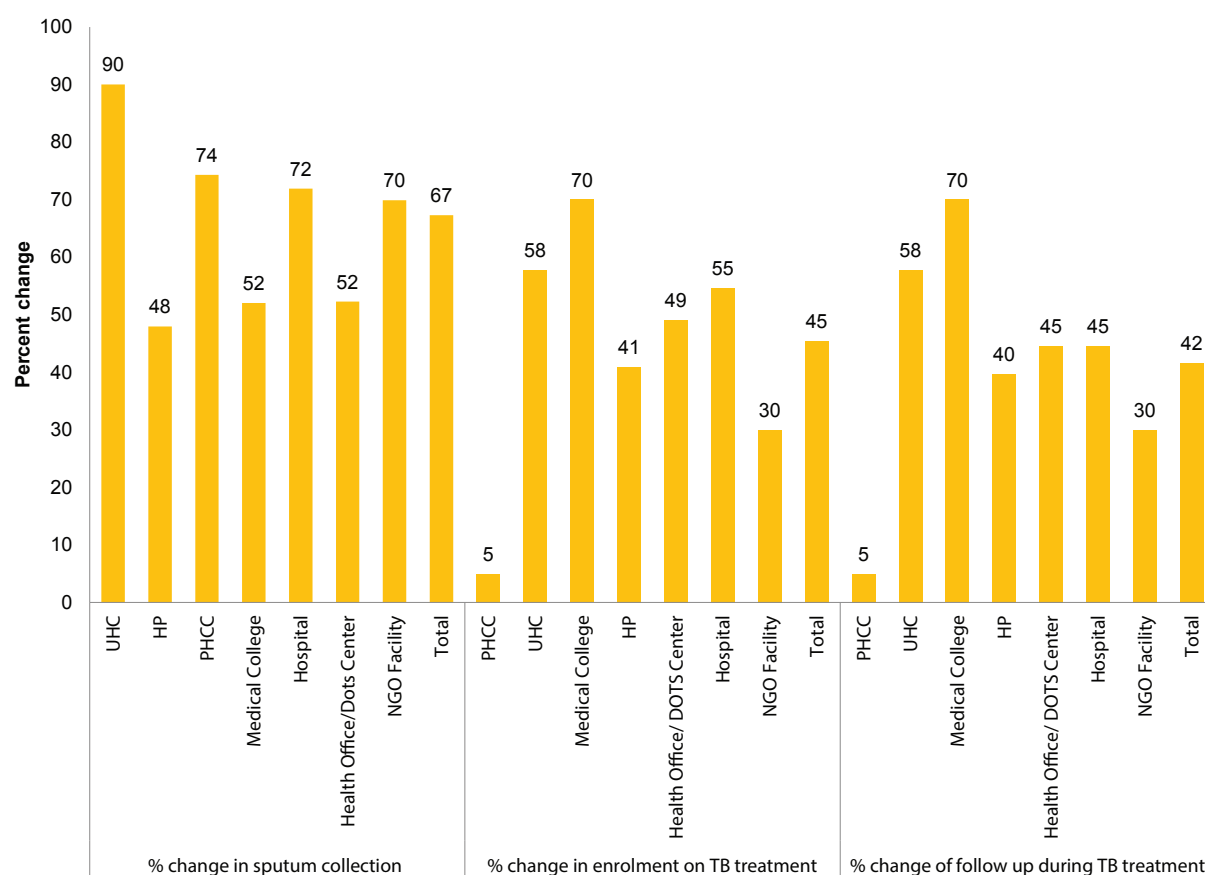
(Note: PHCC-Primary Health Care Center, UHC-Urban Health Center, HP-Health Post)

**Figure 4:** Status of the mean number of TB patient follow up (no. of follow-up/month), three months before and after lockdown by type of facility.



(Note: PHCC-Primary Health Care Center, UHC- Urban Health Center, HP-Health Post)

**Figure 5:** Percentage change in the mean number of services provided per facility 3 months before and after lockdown.



(Note: PHCC- Primary Health Care Center, UHC- Urban Health Center, HP- Health Post)

to IHMIS were 40.0%, 44.4% and 28.6% in Province1, Bagmati Province and Gandaki Province respectively. Reporting status was relatively better in hospitals and PHCC (75.0% each), followed by the Health Office/DOTS clinic and NGO, whereas medical colleges and UHC did not report to the IHMIS (Table1).

**Table 1:** No. of facilities, ATT drugs stock status and status of online reporting by province and by types of facilities

Facilities	Facility by Province		Status of ATT <sup>a</sup> drugs		Status of Online Reporting to I-HMIS <sup>s</sup>		
	N=49	Col %	N=49	Drugs stock (Month)	N=49	No Row %	Yes Row %
<b>Provinces</b>							
Province1	5	10.2	5	1.0	5	60.0	40.0
Province2	2	4.1	2	1.0	2	100.0	0.0
Bagmati province	27	55.1	27	1.4	27	55.6	44.4
Gandaki province	7	14.3	7	1.0	7	71.4	28.6
Province5	1	2.0	1	3.0	1	0.0	100.0
Karnali province	4	8.2	4	1.0	4	0.0	100.0
Sudurpaschim province	3	6.1	3	1.0	3	0.0	100.0
<b>Facility Type</b>							
HP*	17	34.7	17	1.2	17	52.9	47.1
Health Office/DOTS Center**	3	6.1	3	1.0	3	33.3	66.7
Hospital	8	16.3	8	1.0	8	25.0	75.0
Medical College	2	4.1	2	1.0	2	100.0	0.0
NGO Facility	3	6.1	3	1.7	3	33.3	66.7
PHCC <sup>#</sup>	8	16.3	8	1.3	8	25.0	75.0
UHC <sup>##</sup>	8	16.3	8	1.8	8	100.0	0.0

<sup>a</sup>Anti-TB treatment, \*Health post, \*\*A district-level DOTS center at district level hospital or health office, <sup>#</sup>Primary Health Care Center, <sup>##</sup>Urban Health Center, <sup>s</sup>Integrated Health Management Information System

The drugs were available on an average of 1.3 months during the day of facility visits. The buffer stock of the drug was highest in UHC (1.8 months) followed by NGO (1.7 months) (Table1). The drug availability stock ranged between one month to 1.8 months.

Other key suggestions obtained from facility assessment are as follows;

### 3.2 Key suggestions from facilities

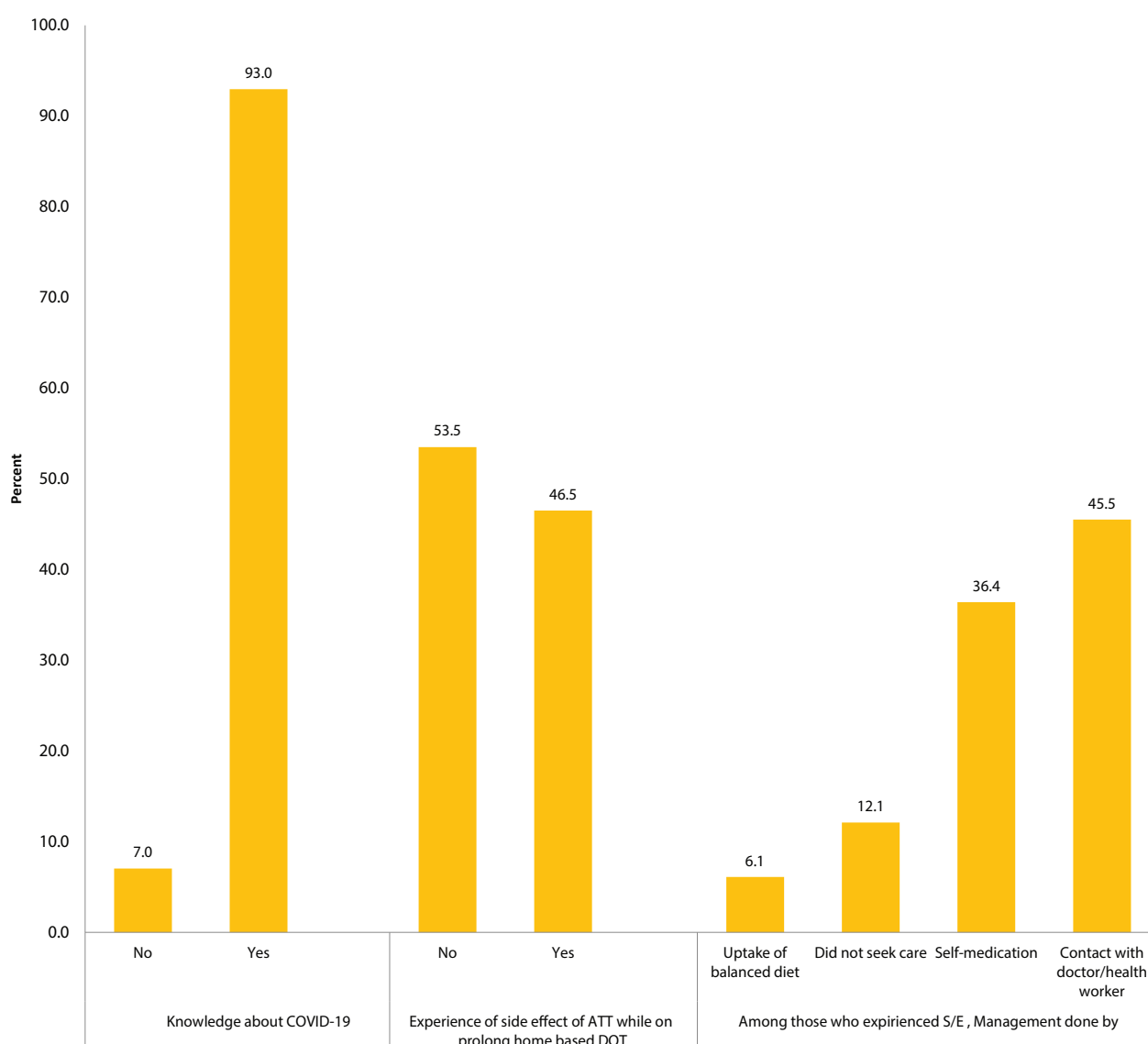
- Training, orientation, and seminar on TB management in the context of the COVID-19 pandemic are urgently required.
- Even during the COVID-19 pandemic, supervision and monitoring needs to continue.
- ATT drugs should be managed and supplied to maintain adequate buffer stock.
- Provide adequate PPE at the diagnostic and treatment center level. Provide surgical masks to patients if possible.
- Conduct TB screening camp at the COVID-19 quarantine and isolation center.

### 3.3 Findings regarding TB patient

Out of 71 TB patients interviewed, 2.8% were children, about 16.9% were elderly, 62.0% were male, more than half the respondents were Janjati (53.5%), about 29.6% were Brahmin. 39.4% were either unemployed (Figure 1). About half of the patients reported that they had experienced some side effects of TB drugs at home, however, the side effects were not severe and about half of the patients managed

the side effect by consulting health personnel, more than one-third (36.4%) managed by self-medicating and 12.1% did not take any action (Figure 6). Most of the respondents (93.0%) reported that they knew about COVID-19 and its preventive measures (Figure 6). Community leaders, family members, friends, health workers, and social media (newspapers, radio, television, and internet) were the main source of information for COVID-19.

**Figure 6 :** TB patients' knowledge regarding COVID-19 and their experience and management of side effects while on anti-TB treatment at home



## 4. DISCUSSION

This assessment has given significant insights about diagnosis and treatment services during the COVID-19 pandemic situation. COVID-19 had a significant impact on the identification of presumptive TB cases, diagnostic services, treatment services, and follow-up in Nepal. No death of TB patients by the COVID-19 was reported during the assessment period, however, a higher proportion of lost to follow-up was reported. A study carried out in one of the treatment centers of Nigeria demonstrates that there was a substantial reduction in presumptive and active TB case registration as well as increased lost to follow up during three months of lockdown in 2020 compared to the same period in 2019.<sup>[7]</sup> The restriction in movement during the lockdown also significantly affected the sputum collection and transportation from the treatment center to the diagnostic facility that contributed to the decline of the TB case notification in Nepal. By maximizing sputum examination among presumptive cases, more TB cases likely to be identified from the community that is hidden after the emergence of the deadly virus.

Proactive measures by NTP with regards to ensuring availability and supply of ATT drugs, before and even during the lockdown, was key to making treatment available to the patients. NTP's proactiveness in producing interim guidelines for the management of TB during the COVID-19 pandemic situation, which enabled patients to take ATT drugs for a month at home, was also key in the continuation of TB treatment and minimizing avoidable exposure.<sup>[1]</sup>

During the pandemic situation, the continuation of TB services is pivotal and the frontline health care warriors play a crucial role in providing uninterrupted services, where personal protective equipment (PPE); face masks, gloves, and sanitizers are adequately available at the treatment centers and diagnostic centers. The article published by Rush University, Chicago indicated that shortages of appropriate PPE may lead to risks for healthcare workers.<sup>[8]</sup> Another study also suggested that appropriate personal

protective equipment measures to reduce the risk of both TB and COVID-19 transmission.<sup>[9]</sup>

Recording and online reporting of the TB information from the treatment center to the IHIMS has been disrupted during the lockdown. It is also observed that health care providers have increased their attention to managing comorbidity (TB and COVID-19) effectively at the health institutions. A paper published from the USA also indicated that there has been less attention in activities like non-essential training, research, surveillance, and regular reporting during the COVID-19 Pandemic.<sup>[10]</sup>

One-month provision of ATT drugs to be taken at home by the patient was a strategy implemented by NTCC through interim guidance to minimize the difficulties faced by TB patients due to COVID-19 led lockdown.<sup>[1]</sup> This strategy was helpful to the patients. Most (53.5%) of the respondents did not experience any side-effects of TB drugs. Among those who had side-effects, most were mild and locally manageable, and most were able to resolve the adverse events by consulting with health workers by phone, symptomatic treatment from over the counter drugs. Similar practices and provision of ATT for one month or more were also made in India,<sup>[11]</sup> Indonesia,<sup>[12]</sup> and Srilanka.<sup>[13]</sup>

Most patients had correct knowledge on COVID-19 and measures of its preventions. The article published in the union also indicated that universal precautions for all infectious causes of respiratory tract infection including COVID19 are needed for safety and the prevention of further transmission onwards and to health care workers. The use of masks may also reduce transmission in the community and the workplace.<sup>[14]</sup>

This assessment is limited to purposively selected TB treatment centers and TB clients, therefore findings may not reflect the true situation of Nepal. A separate comprehensive study should be planned to examine the true impact of COVID-19 on TB.

## 5. CONCLUSIONS AND RECOMMENDATIONS

COVID-19 led lockdown at the national and local level, had a significant impact on TB services in Nepal. There was a decline in the identification of new cases and had impacted at all fronts, from sputum courier, diagnosis, enrolment, and follow up including recording/reporting. Because of the prior adequate supply of ATT drugs with sufficient buffer stocking, before and also during the pandemic, there were no drug shortages at any sites. Due to the timely dissemination of interim guidelines for the management of TB in the COVID-19 situation by NTCC, allowing for one-month Anti-TB drugs to be taken by patients at a time, most patients could continue their treatment at home. Few of them developed side effects, but mostly manageable at home, which assured uninterrupted ATT uptake with very little unwanted exposure to health facilities at this time. TB patients were well informed about COVID-19 from mass media, family members, and local leaders and volunteers and practiced preventive measures as suggested by the government.

These findings recommends to prepare a comprehensive catch-up plan to address:

1. To manage the high influx of presumptive TB cases at the facility level when COVID-19 lockdown eases off, diagnostic and treatment services at the facility levels should be scaled up. The program must make sure that the

service sites are adequately staffed, function optimally with adequate diagnostic resources like Xpert MTB/RIF and a robust sputum courier system in place. The drug stocking should also be beefed up and maintained to be able to cater to the possible anticipated surge of TB cases.

2. Develop separate plans to scale up case findings activities at the community level, implement different locally tailored ACF modalities including intensified contact tracing of index cases, screening among vulnerable and at-risk population e.g. children, slums, monasteries, old age homes, refugee camps, prison as identified by NTP.

3. Activities to address TB and COVID-19 together will be a way forward and programs should be designed to address diseases through better infection and control practices at all levels.

4. Activate rapid response teams and their functions. NTPs should keep reaching out with all necessary communications to all its service delivery units through timely revisions and dissemination of the interim guidelines until the situation is resolved. It is also important to reach out to patients through mass/ social media informing them regarding TB management in these contexts.

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**Ministry of Health and Population**  
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**FORM1: ASSESSMENT OF TB PATIENT STATUS IN COVID 19 SITUATION**

*This study is being carried out by NTCC to examine TB client's knowledge and perceptions towards TB service provided in the context of COVID-19 pandemic. This will take about 15 minutes to complete. The information provided will be kept confidential and will only be used to improve quality of service in the facility. This is voluntary and participant can end interview any time if they want.*

SECTION 1: SOCIO-DEMOGRAPHIC INFORMATION		
NUMBER	QUESTION	RESPONSES
101	Name of respondent	
102	Age of respondent (in completed years)	_____ years
103	Sex/Gender of respondent	Male .....1 Female .....2 Other .....3
104	Ethnicity of respondent	Dalit ..... 1 Janjati .....2 Madhesi .....3 Muslim .....4 Brahmin / Kshetri .....5 Others.....6
105	Occupation of respondent	Not employed .....1 Agriculture .....2 Business ..... 3 Service ..... 4 Other (Specify _____)..... 5
106	Address of respondent <b>Province</b> <b>District</b> <b>Municipality</b> <b>Ward no.</b>	..... ..... ..... .....
107	No. of Family members	.....
108	No. of family members with confirmed COVID (if any)	.....
109	Household (family) income	Nrs. .... / Month
SECTION 2: REGISTRATION AND DIAGNOSIS INFORMATION		
201	Registration on treatment (Registration number)	.....
202	Date of Diagnosis (DD/MM/YYYY)	...../...../.....
203	Place of diagnosis	.....
204	Diagnosed by	Smear..... 1 Xpert MTB/Rif.....2 Culture..... 3 Other methods ( for PCD and EP)..... 4
205	Type of TB	Smear positive new .....1 Smear negative new .....2 Extra-pulmonary new .....3 Retreatment .....4 Transfer in .....5 Other (Specify _____).....6

206	Date of enrolled in treatment (dd/mm/yyyy)	...../...../.....
206	Treatment phase	Intensive ..... 1 Continuation ..... 2
207	Respondent had a history of TB in the family	Yes ..... 1 No ..... 2
208	If the respondent had a history of TB in the family, who was suffered? And when?	..... .....
<b>SECTION 3: TB TREATMENT INFORMATION</b>		
301	Are you taking TB medicine now?	Yes ..... 1 No ..... 2
302	If yes, how are you managing drugs?	.....
303	Have you recently taken medicine from the treatment center?	Yes ..... 1 No ..... 2
304	If yes, for how long?	.....
305	When are you planning to visit the treatment center to collect the medicine again (days of follow up visit)	.....
306	Where and how do you keep the medicine at your home?	.....
307	Have you done the follow-up test of your sputum?	Yes ..... 1 No ..... 2
308	If yes when did you do the follow-up test (approximately how many days before)	.....
309	Did you visit the diagnostic center or someone else visited for you to collect the sputum	.....
310	If you have not done the follow-up test of your sputum, what was the reason?	.....
<b>SECTION 4: ADVERSE EVENTS OF TB TREATMENT</b>		
401	Did you experience any adverse events while initiation or continuation of TB drugs?	Yes ..... 1 No ..... 2
402	If you experienced the adverse events, can you explain in brief	.....
403	If you experienced adverse events of TB drug, what did you do to manage it	.....
<b>SECTION 5: PERCEPTIONS TOWARDS TB SERVICE</b>		
501	Is the working at facility similar to what it was before COVID situation (if the person has visited the center prior to COVID situation)	Yes ..... 1 No ..... 2 Not sure ..... 3
502	How long did it take you to get diagnosed with TB	.....
503	How long did it take you to start treatment after being diagnosed	.....
504	Have you ever missed any dose of medicine because of difficulty of getting them from the facility?	Yes ..... 1 No ..... 2
505	How convenient is it for you to take medicine regularly	Very convenient ..... 1 Convenient ..... 2 Not convenient ..... 3
506	If not convenient, what are the reasons	..... ..... ..... .....
507	What do you suggest to improve tuberculosis service in this facility?	.....

SECTION 6: KNOWLEDGE, EXPERIENCE, AND PERCEPTIONS ABOUT COVID-19		
<b>6.1 Have you experienced the following symptoms in the last three months? If yes, what were the symptoms?</b>		
6.1.1	Fever	Yes .....1 No .....2
6.1.2	Cough	Yes .....1 No .....2
6.1.3	Difficulty in breathing	Yes ..... 1 No ..... 2
6.1.4	Loss of speech	Yes .....1 No .....2
6.2	If you experienced any of the above symptoms given above, what did you do to address the problem?	.....
6.3	Have you heard about COVID-19?	Yes .....1 No .....2
6.4	If yes, what do you know about COVID-19?	.....
6.5	How did you know about COVID-19?	.....
6.6	What are you doing to keep yourself safe from this disease?	.....
6.7	Have you been tested for COVID	No..... 1 Yes, tested and COVID not positive ..... 2 Yes, tested, COVID positive, but now cured.....3 Others .....4
<p>NAME OF INTERVIEWER: _____ POSITION: _____</p> <p>NAME OF FACILITY VISITED: _____ DATE: _____</p>		

**Ministry of Health and Population  
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National Tuberculosis Control Centre  
Thimi, Bhaktapur**

**FORM2: MONITORING OF ESSENTIAL TB SERVICES DURING COVID-19 PANDEMIC**

SECTION 1: FACILITY INFORMATION								
QN	Question	Responses						
101	Name of facility/ DOTS Center/ Microscopy Center	Province: District: Municipality:						
102	Address of facility							
103	Name of TB Focal Person / HF Incharge							
104	Contact No of TB Focal Person / HF Incharge							
105	Date of Visit							
106	Name and Position of Health Workers Met							
107	Name of Position of Laboratory Accessor							
SECTION 2: TREATMENT AND MANAGEMENT								
QN	Indicator	Poush-76	Magh-76	Fagun-76	Chaitra-76	Baishakh-77	Jestha-77	Remarks
201	Number of TB patients enrolled in treatment							
202	Number of TB patients managed by the facility							
203	Number of TB patients managed by CB DOTS							
204	Number of TB patients self-administered (taken away medicine for a month or more)							
205	No of the patient is given TB drugs							
206	Number of (patient) sputum collection							
207	Number of loss to follow up patient							
208	Infection control practice for the treatment of TB patient	Before the onset of COVID-19:						
		After the onset of COVID-19:						
209	Infection control practice for health worker while treating a TB patient	Before the onset of COVID-19:						
		After onset of COVID-19:						
210	Number of TB patients with HIV status known							
SECTION 3: DIAGNOSIS OF TUBERCULOSIS								
301	Is Sputum Microscopy service available in this facility? (Y/N), if yes, no of tests							

302	Is Gene Xpert service available in this facility? (Y/N), if yes, no of tests			
303	Is the laboratory staff available in this facility? (Y/N)			
304	Is Microscope or GX in working condition? (Y/N)			
305	Are reagents/consumables/cartridges available? (Y/N)			
306	Is TB Diagnosis being done? (Y/N) If not explain why			
307	Is a follow-up examination of TB patients being done? (Y/N) If yes, how many tests done? If not, explain why?			
308	Infection control practice for the treatment of TB patient	Before the onset of COVID-19:		
		After the onset of COVID-19:		
309	Infection control practice for health worker while treating TB patients	Before the onset of COVID-19:		
		After the onset of COVID-19:		
<b>SECTION 4: DRUG MANAGEMENT</b>				
401	How do you receive TB drugs for HF?			
402	How do you demand TB drugs from the upper level?			
403	Do you have adequate TB drugs? If yes for how long they last? (Please use annex format to calculate the drugs stock)			
404	How do you store TB drugs at HF?			
405	How do you distribute to TB patients (Daily/Weekly/Monthly/other specify)			
406	How many TB drugs have expired?			
407	Is R&R of drugs management is properly done			
<b>SECTION 5: INFORMATION MANAGEMENT</b>				
501	Do you have adequate R&R tools at HF? (Register/Treatment Card/ HMIS 9.3/ others)			
502	Are all treatment cards updated?			
502	Is there an updated treatment register? If not, why?			
503	Is there an updated lab register? If not, why?			
504	Is HF reporting monthly to HMIS?			
505	Is there any discrepancies between record and report (HMIS)			
506	Is there any online reporting system (DHIS2/GX/MDR/ eTB) in function? If yes, are they up to date			
<b>SECTION 6: PROGRAM MANAGEMENT</b>				
601	Is there any focal person for TB Identified, if not explain why			
602	Are there any suggestions/ feedback which needs to be addressed soon? If yes, explain what they are?			
603	Are there any regular activities halted/interrupted now because of COVID-19?			
604	Do you have any plan how and when to resume the TB services that are halted			
605	Do you have any other suggestions to improve Tuberculosis service in this facility?			

<b>606</b>	<b>Please observe the drug store of the treatment center and collect drug stock level of DS TB drug</b>								
SN	Name of drugs	Stock Balance on the day of the visit	Number of patients	Remaining days for treatment	Average tablets need	Actual drug need	Drug balance situation	Expire date	Over Stock or Under Stock
6061	HRZE								
6062	HRE								
6063	HR								
6064	HR Child								
6065	HRZ Child								
6066	E Child								
<b>607</b>	<b>Please observe the drug store of the treatment center and collect drug stock level of DR TB drug</b>								
SN	Name of drugs	Stock Balance on the day of the visit	Number of patients	Remaining days for treatment	Average tablets need	Actual drug need	Drug balance situation	Expire date	Over Stock or Under Stock
6071									
6072									
6073									
<b>608</b>	<b>Status of Microscopic Centers in local level government if visited LLG/District Health Office/ Province</b>								
Number of MC		Number of Non-Functional			Number of Non-Functional		Reason for Non-Functional		
<b>609</b>	<b>Status of Gene Xpert Center in local level government if visited LLG/District Health Office/ Province</b>								
No of Xpert Machine		Module		Test per day		No of Cartridge Balance		Expiry Date	

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**FORM3: MONITORING OF ESSENTIAL TB SERVICES DURING COVID-19 PANDEMIC**

TB services are being impacted at various levels as resources are diverted to COVID-19. Following are the key areas where COVID-19 has impacted TB services.

- Diversion of health workforce/resources
- Disruption of diagnostic services (Both Sputum microscopy and Gene Xpert)
- Drop-in TB notifications & quality of care
- Disruption of social benefits
- Disruption of TB data systems
- Disruption of the supply chain

So, NTP must be vigilant and monitor the situation of essential TB services from health facility level up to central level. To monitor essential TB services following are the list of indicators

Indicators		Status (Two Weekly) FY2076/77		Remarks (by Focal Person: PHD/District TB focal person and Provincial TB coordinator)
SN	Indicator on treatment	Month:		
		Week of:	Week of:	
1	Number of DOTs centers			
2	Number of DOTs center currently functional with dedicated HR			
3	Number of DOTs center with first-line TB medicines for at least 2 months			
4	Number of TB patients under treatment			
5	Number of TB patients continuing TB treatment			
6	Number of TB patient who discontinued/ did not pick their medicine			
7	Number of DR-TB patients under treatment			
8	Number of DR-TB patients continuing TB treatment			
9	Number of DR-TB patients who discontinued/ did not pick their medicine			
SN	Indicator on diagnosis			
1	Number of Microscopic centers			
2	Number of functional microscopic centers with dedicated HR			
3	Number of MC with adequate chemicals and reagents			
4	Number of Sputum microscopy done			
5	Number of Gene Xperts sites			
6	Number of GX site functional			
7	Number of GX test done			



SN	Province and district level indicators			
1	1 <sup>st</sup> line drugs available for 2 months			
2	Status of TB data entry in eHMIS			
3	# of TB case notified			
4	MC reagent available for 2 months			
5	Xpert cartridge for next one month			
6	No. of identified COVID patient who is currently on TB treatment			
SN	Indicators for NTCC			Remarks by NTCC logistics unit
1	1st and 2nd line drugs available for 6 months			
2	Number of GX cartridge			NTCC logistics unit
<b>Incident report with regards to TB patient, service provider, service sites, logistics, or others</b>				
	1.	Every 2 weeks		NTCC logistics unit
	2.	Every 2 weeks		NTCC logistics unit
	3.			

**Note: M and E unit of NTCC to calculate monthly trend of TB case notification at national level as well as province-level based on available data from HMIS-DHIS2/ eHMIS.**



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