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The Frontline Interventions of National Tuberculosis Elimination Programme in Karnataka during Covid-19 Pandemic: Challenges and the Way Ahead

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Introduction

The Covid-19 pandemic has put significant stress on the already overburdened healthcare workforce both in the public and private sectors in India (Kumar and Reddy, 2020). For instance, as reported by the mainstream news media, private hospitals in several states could not recruit additional health workers to meet the requirements of Covid care due to problems with availability of staff, low pay, short-term contract and poor safety facilities available. There is also evidence that lockdowns and reassignment of health infrastructure as part of Covid-19 responses adversely affected other high priority national health programmes like the National Tuberculosis Elimination Programme (NTEP) (Glaziou 2020, Behera 2021). Available studies showed that reporting of TB cases dropped significantly in India in the pandemic period (Glaziou 2020). Behera (2021) noted that redeployment of healthcare workers, diversion of TB diagnostic facilities for Covid-19 work, conversion of hospitals exclusively for Covid-19 care and diversion of budgets adversely affected the NTEP programme in India. Given this, here is an attempt to understand how TB frontline activities, which include active case detection, Directly Observed Treatment, Short-Course (DOTS) regimen and disease prevention were affected by the pandemic in the state of Karnataka.

Methods

The findings are based on sixteen in-depth interviews with Tuberculosis Health Volunteers (TBHV) from Bengaluru city, which were conducted in two phases as part of a research study titled "Tuberculosis and the Social Construction of Women's Employability". The first phase, which was conducted from January to August 2019, collected data from eight TBHVs from eighteen DOTS centres across four regions of Bengaluru city. Follow-up telephonic interviews were conducted with the same TBHVs who participated in the first phase, in the months of April 2020 (during the period of the nationwide lockdown) and August 2020 (during the phasing out stage of the lockdown).

Non-adherence to Treatment Regimen during Lockdowns

Several changes have been made in the administration of the DOTS programme subsequent to the imposition of the lockdown and related restrictions on travel and work. Most importantly, the frequency of DOTS centre visits of the patients was reduced. Medicines were given for a period of one month for migrant patients as well as for those patients who could not make regular visits. Physical follow-up visits were replaced by a virtual follow-up through mobile phones. However, there were situations wherein the staff could not distribute drugs to patients due to lockdown even with the introduction of these flexibilities. For instance, travel restrictions imposed as part of the lockdown affected the DOTS visits of the patients. TBHVs noted that diluting of DOTS regimen by allowing unsupervised DOTS administration and virtual follow-up led the vulnerable patient groups to defaulting or improper intake of medicines. This group comprised primarily migrant workers, substance users/alcoholics, patients who had side effects and patients who did not have family support. The lockdown led to massive reverse migration of workers from Bengaluru as it was witnessed in other Indian

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cities and the follow-up of the migrant patients who were under treatment was a major problem. It was reported by the TBHVs that although the migrant patients could continue the treatment in their native places since all information of the patients was available through their unique Nikshay identification number, the coordination with patients and local DOTS centres was difficult due to the following reasons. First the patients who returned to remote areas could not access DOTS centres since the service was not available near their locality. Second, as reported by the TBHVs, the patients hesitated to go to local DOTS centres for the fear that they would be quarantined since they returned from cities where the pandemic spread was high. Third, while follow-up through mobile phones was found useful among those patients who continued to stay in the city, the same for migrant patients was not successful due to issues such as deactivation of phone numbers, switching off mobile phones by the patients and technical problems associated with mobile phone networks.

Disruption in TB Frontline Activities

Further, it was found that deployment of NTEP staff, including TBHVs, to Covid-19 care and management hampered their routine work, especially the active case finding (ACF) and follow-up of patients. For instance, the TBHVs were given additional work as part of Covid-19 response interventions such as Covid-19 survey, Covid-19 awareness generation and contact tracing, to list a major few. Other issues that hampered the ongoing NTEP interventions were the shortage of laboratory facilities and unavailability of outpatient facilities for TB patients. The TBHVs noted that closing down of outpatient departments (OPDs) in public hospitals and the unavailability of laboratory facilities for TB diagnosis due to the pandemic delayed TB diagnosis. Similarly, all the DOTS centres in the city are not adequately equipped with laboratory facilities and the follow-up examinations are usually undertaken in other public laboratories. The number of sputum and other follow-up investigations came down during the pandemic period due to the limited services of public laboratories, which can have implications for the early detection and confirmation of TB cure rates. There were also instances that TB patients could not avail treatment for co-morbidity since most of the public hospitals were either partially functioning or reserved exclusively for Covid-19 care.

Job Insecurity and Apprehensions of Frontline TB Workers

The pandemic has exposed the precarious conditions of work associated with the frontline health interventions in India which are performed by health workers/visitors/volunteers. The national tuberculosis elimination programme depends heavily on the TBHVs for delivering the crucial frontline activities that include initial home visits, active case detection, defaulter visits, health education, documentation and reporting. Our discussions with TBHVs showed that other than these responsibilities, they also distribute medicines, follow-up with the patients, conduct chemical prophylaxis, undertake patient counselling, ensure the reach of patient support services (such as nutritional allowance) and facilitate follow-up investigations. However, TBHVs who lead the frontline interventions are temporary workers on fixed-term job contracts without social security entitlements. They are

Table 1: Non-adherence to treatment: Qualitative illustrations

Theme	Illustrative quotations
Lack of preparedness	Since the lockdown was declared without much warning, it became difficult for patients to come to the DOTS centre. Due to lockdown, even if they were close to the DOT Centre, they often had to take an exceedingly long route to reach us.
Restriction of movements of patients and defaulting	The police would stop them each time they tried to come to us. Then we spoke to the policeman every time to endorse that the TB medicine was important and they should be allowed to come to us.
Inability to distribute medicines due to restrictions	We have a two-month stock of medicines ready with us. But we could not distribute it due tothe lockdown. All these patients are now defaulters for sure.
Difficulties to follow-up migrant patients	Many patients from the families of migrant workers have already left the city and gone to their villages. We are concerned about them since they are not reachable. We don't know whether they will be able to buy medicines locally so that they can continue treatment. Mobile phone networks in many interior places are still bad and it is difficult to continue conversation. Some patients were under the V-DOTS scheme where they can send us an immediate message upon consuming the medication. Not all patients are under the V-DOTS scheme which is initiated by a private entity.

Source: Interviews with TBHVs

Table 2:Disruptions in frontline interventions: Qualitative illustrations

Theme	Illustrative quotations
Redeployment of NTEP staff for Covid-19 work lowered ACF	We are asked to do Covid-19 work also. We are going to the houses of second line contactS of Covid-19 patients and inform them about quarantine. There is absolutely no ACF [Active Case Finding] going on at all. I was asked to go for a house-to-house Covid-19 survey and awareness mostly. Some were also sent for tracing the contacts of Covid-19 patients. Our Active case finding is at least 50 % less right now. The [TB] cases could spike after the lifting of the lockdown.
Reduced access to diagnostic services	We can't do the sputum exam as PHCs won't do the sputum test. The patients cannot go to hospitals since they don't entertain these TB patients since they are committed right now to Covid-19 care. No inpatient services are available now in government hospitals. It is a matter of great concern that some patients who may be in the initial stages of TB will not get properly diagnosed until lockdown is lifted. At the moment, we have 50% fewer cases due to the lockdown.
Reduced access to public hospitals due to reallocation of resources for Covid care	I can narrate to you the big challenge I am facing with a patient who has both TB and HIV. He must collect TB medicines from me and the HIV medicines from the ART centre located elsewhere. He came to me saying [that] he had severe blurring of vision. I was concerned but could not help him at our OPD since there was nobody to check him up. Since it was an eye issue, I referred him to Minto hospital [public hospital in Bengaluru]. He went there. However, due to Covid-19, that hospital was not functional. Then I referred him to Victoria hospital [public hospital in Bengaluru]. He was told there that all beds were kept for Covid-19 patients.

Source: Interviews with TBHVs

Table 3:Informality in TB frontline work: Qualitative illustrations

Theme	Illustrative quotations
Informal conditions of work of TBHVs	We are all working on a contractual basis. Our job is not secure. We have no PF [provident fund], insurance, sick leave and other allowances. We also do not have a risk allowance. Daily, we see a minimum of 50 cases, out of which there will be a minimum 10-20 pulmonary cases.
Health risks faced by TBHVs	While we are interacting with such patients, they might cough and we might get an infection. The staff has no special facilities in the eventuality that they get infected. In our department itself, many are infected with MDR TB and have died. Some of our colleagues have died due to accidents while doing [TB] fieldwork. If we develop any health concern due to Covid-19, there is no provision for any medical facility to take care of us.
Sense of apathy and de-motivation	I have worked non-stop since the Covid-19 lockdown was declared, even on all weekends and holidays. We are doing so much work in Covid-19 times. But there is no credit [recognition] given for that work at all. Now I am sure I will get a notice concerning why I have no new diagnosed cases. No one has asked us what our problems on the ground are. They just want statistics and that is all.

Source: Interviews with TBHVs

also at high risk of disease infection. A general feeling of apathy and de-motivation was found among TBHVs who were deployed for Covid-19 response — primarily due to the informalities associated with their work, overwork, non-recognition of their contribution, poor payment and risk of infection. TBHVs who were assigned the pandemic related work also had to undertake their routine TB work and achieve the stipulated targets of DOTS. This had increased their work burden and disturbed the TB programme at the ground level.

The Covid-19 pandemic brought about several operational barriers to NTEP in realising its goal of elimination of tuberculosis in India by 2025. Although the TB elimination programme in the country is strong, several challenges related to the early detection, completion of treatment regimen, managing of multi drug resistant (MDR) and extremely drug resistant (XDR) TB, supporting of vulnerable population and management of co-morbidity continue to exist. Our study shows that pandemics such as the present one have the potential to escalate these

problems further and delay the target of the elimination of TB, which is part of the Sustainable Development Goal of 'Good Health and Wellbeing'.

Policy Suggestions

- The Covid-19 pandemic has exposed the weaknesses of the Indian health delivery system that has fallen short in terms of health personnel and physical infrastructure, especially doctors, nursing staff, hospital beds, medical supplies and equipment. Hence, there is an urgent need for a major restructuring of the health service system with equitable distribution of the public health infrastructure and a dedicated public health cadre to respond effectively to a crisis such as the present one without hampering other equally prioritised public health interventions.

- It was found that most of the frontline interventions of NTEP either got delayed or suspended during the pandemic due to the deployment of the NTEP staff to Covid-19 response and reallocation of resources exclusively for the pandemic response. It is important to reinstate the routine NTEP frontline interventions on an urgent basis without further assigning them for Covid management jobs.

- The TB patients could not access the services of laboratories and public hospitals due to the exclusive allocation of the same for Covid care. Hence, it is important to equip all DOTS centres with laboratory facilities.

- The short-term remedial measures such as minimising DOTS visits and issuance of drugs for a longer duration tended to lead to a backlash, especially among new patients and vulnerable sections. Virtual follow-up of the patients through mobile phones was also not successful, especially among migrant patients. It is hence important to revitalise the existing patientsupport mechanisms in situations where supervised DOTS may not be feasible. It is important to seek the help of community leaders, schools, and if possible religious institutions to ensure the treatment adherence of moving patients.

- The TBHVs and the Accredited Social Health Activists (ASHA), who are at the war front of the programme, are temporary staff without any social security entitlements. Additional tasks assigned to them as part of the Covid-19 management interventions are reported to have increased their work significantly, worsened their conditions of work and most importantly hampered the regular DOTS programme. It is important to streamline their conditions of work and regularise their jobs for the strengthening of the delivery of frontline interventions.

- Finally, the pandemic situation led to loss of jobs and earnings for several TB patients who worked in the informal arrangements. Although the patients are given a nutritional allowance of Rs.500 per month under the NTEP programme, such remedial measures were found to be inadequate in the event of pandemics such as Covid-19, which led to a loss of employment and earnings for workers engaged in informal arrangements. It is important to prevent the falling back of vulnerable groups of patients into poverty during such eventualities by appropriate social assistance programmes.

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