

The impact of covid-19 on TB care in Pakistan during 2020



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Abstract

The objective is to determine the impact of lockdown in TB care services in Pakistan and to provide suggestion for future recommendations. Extensive literature review of published articles along with NTP reports was done. The TB case detection data for the year 2020 along with the impact of COVID-19 on TB infrastructure and resources were also reviewed. There was a drop in the TB notification rate during 2020 due to COVID-19 and its ramifications on the Health Sector. Health care workers being on the frontline are more prone towards acquiring COVID-19, particularly with a marked deficiency of personal protective equipment (PPEs) that has had a demoralizing effect among health professionals. Besides this the diagnostic and treatment facilities for Tuberculosis were also interrupted badly. The lockdown has adversely affected the health services, particularly routine immunization, and TB care services, including diagnosis and case notification which declined significantly. Moreover, upgradation of strategies for the provision of services will prove to be extremely beneficial for both COVID-19 and the people with Tuberculosis.

Keywords: Health care services, lockdown, TB notification, Immunization, Personal protective equipment, telemedicine

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Introduction

The impact of lockdown on TB care services in Pakistan has been discussed in this commentary. An extensive literature review of published articles and NTP reports, case detection data for the year 2020 along with the impact of COVID-19 on TB infrastructure and resources were also reviewed to give concrete recommendations and suggestions for the researchers and policy makers. The TB notification rate was decreased during 2020 due to COVID-19 and its ramifications on the Health Sector due to pandemic. Health care workers are the frontline staff exposed to COVID-19 due to unavailability of the personal protective equipment (PPEs). Moreover, the diagnostic and treatment facilities for Tuberculosis were also interrupted badly during this situation and adversely affected the health services, particularly routine immunization and TB care services, and case notification which. Moreover, up-gradation of strategies for the provision of services will prove to be extremely beneficial for both COVID-19 and the people with Tuberculosis. The World Health Organization (WHO) declared COVID-19 as an international public health emergency on 30th January 2020 and declared it as a pandemic on 11th March 2020 (1). Since then, the pandemic has taken a toll on the world across all sectors. The world is striving hard for coping up with the health and economic effects of the pandemic. It is postulated that the Covid-19 has significantly increased the global burden of tuberculosis due to disturbance in the provision of health services and

delay in diagnosis and treatment and decreased attendance at TB clinics, thereby declining (2) the global Tb case notification rate by 21%. Barely 4.9 million people affected with Tuberculosis have been registered in 2020 versus 6.3 million people registered in 2019. During the Pandemic, the number of deaths due to tuberculosis has increased up to half million (3). All the high burden countries developed new policies and guidelines for ensuring better outcomes by expanding the systematic TB screening, strategies for drug-resistant TB, and scaling up treatment and diagnostic services for TB through the provision of technical assistance for ensuring the implementation of quality services.

The first case of coronavirus was reported on 26th February 2020 in Pakistan and in response to the COVID-19 situation in the country, amid the restricted savvy lockdown between March-June 2020, resulted in the closing of outpatient departments in secondary and tertiary care health facilities for minimizing the spread of infections among citizens and health care experts. Further, for continuous provision of healthcare services, the Ministry of National Health Services, Regulation, and Coordination (MONHSRC) advised the primary health care facilities to only take care of patients other than COVID-19 (4).

Pakistan accounts for 61% of the TB burden of the Eastern Mediterranean Region, the pandemic has adversely affected the outcomes of TB patients, especially those suffering from malnutrition or living in poverty (5). The COVID-19 pandemic has thus exerted a huge strain and overwhelmed the

health care delivery system of the country, which is grappling with implementation gaps in infection prevention and control measures. National Tuberculosis Control Program (NTP) Pakistan responded proactively and advised their provincial programs to ensure that the critical aspects of TB case management, such as an uninterrupted provision of diagnostic and treatment services at healthcare facilities for both DS- and DR-TB patients, provision of social support to DR-TB patients for enhancing treatment adherence, followed by data management, communication, and coordination in place, as was the case before the pandemic (6).

Moreover, NTP facilitated the patients by providing medications for longer durations for minimizing the risk of exposure to COVID-19. In addition, NTP also set up collection points for medicines, home delivery services for medications (7), and telemedicine facilities for the patients (8). The NTP strategies for TB case finding are expected to limit the crevice between evaluated TB frequency and notifications. Procedures utilized by the NTP incorporate dynamic TB screening as well as screening for both COVID-19 and Tuberculosis in people with cough and fever, particularly in distinguished hot spot regions (6). An evaluation of healthcare professionals and primary healthcare facilities was carried out between May-June 2020 revealed destitute information concerning contamination and prevention control measures, lacking coordination to guarantee continuous supplies of drugs and consumables along with decreased adherence to IPC measures. To way better execute TB disease control measures at each health facility, the NTP prepared recommendations for healthcare professionals (HCP) on proper usage of personal protective equipment (PPE) and this was supplemented by comprehensive instructive modules on disease control which were arranged and conveyed through online training to field staff (4). Due to the similitude of side effects of TB and COVID-19 are considered as a symbol of disgrace for individuals with TB or respiratory infections. The NTP has been encouraging the TB control community to rapidly adjust and reinforce TB benefit arrangements to expand the wellbeing and security of defenseless people affected by TB and for TB healthcare professionals (HCP). In addition, NTP has taken steps for improving the level of knowledge regarding Tuberculosis interventions with the help of lady health workers (9) as they can memorize extra aptitudes as well as they are considered as trusted wellbeing facilitators in our country.

The covid-19 pandemic has distracted the focus from ongoing TB programs, which is increasing the prevalence of this infectious disease. This paper reviews the impact of Covid-19 during the lockdown situation that delayed the services of Tuberculosis care in Pakistan. This might effects on the magnitude of TB care services in the country and also restricts the potential measures for limiting the transmission of TB and COVID-19 in health care facilities (10).

The NTP data of 2019 and 2020 were analyzed, in addition, an extensive literature review of the global, as well as national situation of COVID-19 and its impact on TB, through published articles were reviewed. Moreover, desk review of DS-TB and DR-TB along with destructive effects of COVID-19 on TB patients, its impact on infrastructure, and on TB resources were also reviewed.

Recommendations

TB Case Notification For DS-TB And DR-TB:

The desk review comparing the TB case notification of DS-TB & DR-TB of January 2019 – December 2020 to compare the results of 2019 with the next year when the pandemic hit the country during early March. In 2019, Pakistan's National TB Control Program (NTP) notified a total of 327,969 TB patients with public and private sector contributions of 203,885 (62%) and 124,084 (38%) cases, respectively, while maintaining treatment success rates of around 93% (11).

The effects of the lockdown were most visible and severe form April-June 2020. Pakistan continues to face a lot of challenges for managing TB during COVID-19 and a drop in the number of TB suspects has undoubtedly occurred. The outpatient settings, challenges related to community, contact tracing issues, supply and availability of medicines for TB, COVID-19 testing, and diagnosis of disease, the safety of health care workers, inadequate supply of personal protective equipment (PPE), and the economic effects of Covid-19 pandemic were on top in the minds of policymakers. The percentage change in all forms of TB and Bac+ of all four quarters are shown in the figures below.

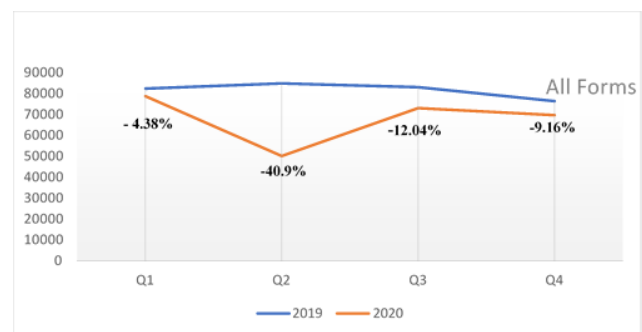


Figure 1: Graph showing percentage change in All Forms TB in 4 quarters during 2019 and 2020 (Source NTP) The graph shows the major dip of around -41% is in the Q2 and second major dip is in Q3 of -12% and a dip of -9.16% was observed in Q4

As is apparent, the most serious drop in case detection occurred during the second quarter of 2020. An overall acute attrition rate of 45% and 35% in case notification amongst DS- & DR-TB cases, respectively due to the impact of COVID-19 in only one month in Pakistan was alarming, raising fears that if the COVID situation worsens,

the TB situation could be further exacerbated. The lockdown affected the outpatient departments (OPDs) as they remain closed for almost two weeks during the complete lockdown and even after the resumption of these services, the number of reporting patients remained low.

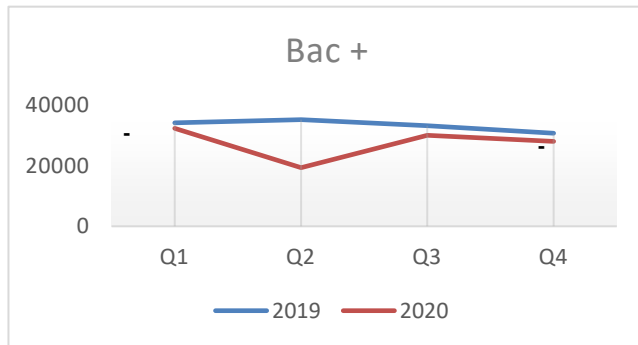


Figure 2: Graph showing percentage change in Bac+ TB during 2019 and 2020. The graph is showing the Bac+ TB with a major dip in Q2 of -45% and in Q3 there is a dip of -8.78%

Anticipated impact of COVID-19 on people affected by TB

The devastating effects of COVID-19 have already been highlighted by low middle income countries including Pakistan and the catastrophe is still going on. Pandemic has adversely impacted the resources for Tuberculosis and the country is busy in catering the victims of COVID. Both TB and COVID-19 have commonalities of symptoms and the lung damage caused by the virus makes people prone to TB and its negative outcomes (1,2). Moreover, TB patients having multiple comorbidities including malnutrition, smoking, HIV, silicosis, diabetes, homelessness, and overcrowding increase their vulnerability for COVID-19. During lock-downs and self-isolation, people with TB will defer seeking care, and avoid visiting health facilities, and delaying TB diagnostics. Treating TB patients has always been a big concern for Pakistan due to limited resources and the combined impact of COVID and TB doubled the burden of disease. This has resulted in the disruption of all the strategies of the National Tuberculosis Control Program (NTP) (6,7).

Impact on the health care, TB infrastructure and Resources:

The COVID-19 has diverted the human workforce and resources away from the TB services. A significant reduction has been noted in the number of healthcare workers due to illness and self-isolation. Healthcare staff is facing a lot of challenges due to an inadequate supply of personal protective equipment and resources (12).

Besides this majority of the Tuberculosis wards are being converted into covid-19 wards and the average hospital admissions declined by 50.7%, monthly OPD declined by 59.55% and the monthly patients reporting in Emergency Department decreased by 25.9% from 1st March

to 30th June 2020 along with delays in laboratory diagnostic facilities in accessing other complementary examinations, such as radiology exams or minimally invasive procedures. Diagnostic laboratories are prioritized for COVID-19 patients and there are substantial delays in diagnostics along with increase TB transmission. GeneXpert machines and Xpert MTB/RIF are being used for COVID-19 diagnosis at the cost of TB testing (13). There is a significant drop in TB case notifications, along with interruptions in treatment and inadequate follow-up. Follow-up visits were either cancelled or delayed in centers due to the pandemic. This has adversely affected the treatment completion rate and has driven the people into poverty with additional out-of-pocket spending as many individuals suffering from Tuberculosis and their families are facing very high direct and indirect costs due to illness and care-seeking, hampering access and putting people at risk of financial ruin.

TB is a silent pandemic and the diagnostic needs of TB patients must not be neglected at any cost. In 2019, around 1.4 million people died due to TB, and about 10 million more people affected emerged, while only 6.3 million people have been treated from 2018-2019. Similarly, the funding for TB care and prevention is US\$13 billion, and almost US\$6.5 billion were raised in 2020. The target was to keep the catastrophic costs of TB to a minimum yet one in two persons face economic challenges. Timely identification of people with TB with proper investigations and treatment of patients until they are cured must be continued with greater zeal and dedication than before. The use of biosafety cabinets would be preferred in addition to N94 respirators, goggles, waterproof aprons, regular decontamination of surfaces, frequent handwashing, and ventilated workplaces can save the individuals from getting COVID-19. The pandemic has affected the whole world, and countries with weak health systems have been subjected to the greatest strain. The pandemic posed a load on caregivers, laboratory facilities, and hospital emergency departments. The implementation of standard operating procedures (SOPs) plays a very important role in limiting the spread of the virus (5-7).

The pandemic has decreased the hospital visits therefore more TB patients start their treatment at home to minimize the risk of virus transmission thereby increasing the burden on the community health workers for providing care to the marginalized people of the community. Financial problems, food insecurity, and unemployment are the major problems faced by the people during the COVID-19 outbreak and their mitigation ranks high among the health and economic priorities of policymakers in Pakistan. The lockdown has also generally had a devastating effect on the economic and financial situation of the country, which was accordingly struggling due to the resources crunch, with a large number of health care professionals and workers affected by COVID-19. Healthcare workers being the first line fighters in the pandemic are prone to acquire the

disease and need to be provided with PPEs so that they can attend to their duties with less anxiety and more motivation (2,3). The pandemic has also adversely affected routine immunization coverage, which may give rise to an epidemic of infectious diseases among children. Regardless of how long service disruptions continue in Pakistan due to COVID-19, it is imperative to ensure that all essential health services, especially routine immunization, TB diagnosis, and treatment and maternal, neonatal, and child health (MNCH) are carried out efficiently.

Globally, reports suggest a 75-80% decline in case of notification in the last few months of along with an 80% decline in TB testing (8). The Stop TB Partnership has highlighted that TB activities are being disrupted in 20 high burden countries due to the engagement of NTP staff in managing COVID-19 patients. All the facilities including chest specialists need to be redirected to TB care, TB laboratories are overburdened with COVID testing, with disruption in the drug supply for Tuberculosis (9).

The pandemic has also affected the health workforce, transportation, and supply chains around the globe, and food crises have worsened the situation more than the appearance of health problems due to the virus in the community. The individuals suffering from hunger and poverty are at greater risk of starvation and people living in mountainous areas are at greater risk of food insecurity as compared to the population living on the plains (10). In short, Pakistan is facing tremendous challenges due to COVID and TB. Digital diagnostic interventions or telemedicine are bringing a revolution in the health sector globally and can be used in several ways for supporting TB treatment.

In Pakistan, all the provincial and regional TB Control Programs, therefore, need to develop effective contingency strategies to respond to this situation by Up-scaling TB care and control efforts on an emergent basis through a paradigm shift across the country in the backdrop of COVID-19. This is an absolute imperative as TB constitutes a silent pandemic and both pandemics require a concrete response in tandem, without one compromising the other.

Conclusion

The Covid-19 pandemic reduced TB case notifications around the globe and Pakistan is facing challenges due to delay in the provision of healthcare services, diagnosis, and treatment facilities as most of the healthcare units for TB were converted into Covid-19 wards. However, TB Management units in both public and private sectors help in restoring the activities by 2020. Despite a lot of efforts, there is a need for establishing a strategy for upgrading TB services without interruption. The policymakers and competent authorities ought to effective preventive strategies for the segregation of COVID-19 and TB patients, proper drug regimen, and public awareness campaigns to educate the nation.

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