Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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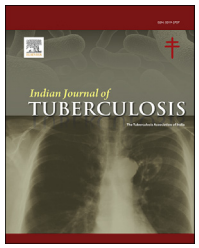

Editorial

Impact of second wave of Covid-19 on tuberculosis control

Second wave of COVID-19 is sweeping across India, resulting in a huge spike in the number of cases. Out of 21 million cases detected so far, 8.3 million have been recorded in the past 30 days. 412,262 new cases were detected on May 6, 2021. Health care providers and facilities are overworked and essential medical supplies like oxygen concentrators and ventilators are decreasing as the cases surge.[1] Two million tests are being conducted on daily basis and this figure has been highly variable across the country, with some regions showing significant declines. As per BBC NEWS, by April 2021, the case numbers had crossed more than 55%, but testing had fallen by 20%, suggesting a much higher underlying level of infections. The World Health Organization's 'End TB' strategy has been hit hard by COVID-19. WHO strongly recommends that TB services are maintained. It also highlights that people suffering from both TB and COVID-19 may have poorer treatment outcomes if TB treatment is interrupted. With lockdowns and the strain on the health services it is challenge to cater to multidrug-resistant (MDR) and extensively drug-resistant (XDR) TB patients. As per reports, COVID-19, TB services were disrupted in India, which accounts for the highest number of TB cases globally.[1] WHO quoted that almost a million people across the globe could not receive TB treatment in 2020 marking a huge setback for national TB control programmes.[2,3]

Both the diseases have the capacity to stress health systems, they are airborne transmissible and can be diagnosed rapidly. They cause social stigma and need public awareness and cooperation for prevention, diagnosis and treatment to be effective. Although surveillance is able to report on TB and viral diseases separately, in various countries, information on COVID-19 is still incomplete and information on TB do not contain many clinical and immunological parameters, which would be useful to better understand the interaction between the two diseases. Moreover COVID-19 pandemic has led to a fall in TB notifications.[4] Determinants of mortality for COVID-19 are age and co-morbidities, including HIV co-infection, poverty, diabetes and malnutrition, all of these also have an impact on TB mortality.[5] TB is curable, while evidence on anti-viral agents or other drugs for COVID-19 is still lacking.[5–7] Research on new vaccines is ongoing for both the diseases. Vaccination for COVID-19 has started whereas for TB various candidates are under evaluation to replace the old BCG.[8] The COVID-19 pandemic has resulted in a health shock as well as economic shock. The lockdown in response to the pandemic can have an adverse epidemiologic impact on TB incidence via its effect on poverty, and dietary intakes.[9] This has further affected GDP growth. During this wave, COVID-19 is occurring in the age group (15–45 years) in which TB is also common so there are more chances of co-infection and mortality. Some of the risk factors like Diabetes, autoimmune diseases, renal transplant cases, patients on steroids and immunosuppressive drugs are also similar to make one prone to both the diseases. Thus the efforts to control both the diseases will require close surveillance among this age group and such high risk individuals. Cross referral of cases between COVID screening centres and TB diagnostic centres and at higher level between TB and other national health programmes would prove beneficial for patients.[10]

TB control programme is under strain due to diversion of resources, constraints due to overutilization of laboratories meant for TB work, issues related to availability of TB care workers, movement restrictions etc. .DR-TB centres are being diverted for COVID related work because of change in the priorities of health care delivery[11,12] During this pandemic, diagnosis and treatment of TB, TB and COVID-19 co-infection may be compromised. Both diseases may cause stigma, discrimination, along with economic impact because of loss of productivity. The symptoms of COVID-19 and TB can be similar such as cough, fever, breathlessness which can create confusion among people. As there is already social stigma associated with TB and is also being observed with COVID-19, the people may be afraid of seeking health care when they have such symptoms which actually result from TB. Based on the decline in TB cases during lockdown period it can be predicted that there might be sudden increase in the cases after the lifting of restrictions for covid-19 leading to additional burden on the already over-burdened existing health care system of the country. As per an article a 25% decrease in global TB case detection over a period of three months of lockdown may lead to an additional 13% increase in deaths in 2020, assuming an absence of a rebound in case detection above values prior to the lockdown.[9]

According to an article, assuming a two month lockdown along with a two month recovery period, a recently released report by the WHO Stop TB Partnership has predicted four percent excess deaths globally and 5.7% excess deaths in India

during 2020–25[13] including excess incident cases to the tune of 3.1% globally and 3.6% in India. The article states that these models do not account for increase in TB incidence and death due to increasing impoverishment arising from economic disruption due to lockdown. In addition to the direct effect of impoverishment on TB severity and death, it could also have an indirect effect through delayed health care seeking.

Various agencies are involved in the relief work being carried out in the country. Global companies world over have increased production and delivery of emergency assistance to help India which is facing a devastating second wave of the coronavirus pandemic. Foreign aid began pouring into India, from countries including the UK and the US, from May 2021.

WHO quotes that the consequence of the COVID-19 pandemic would be a worsening of the TB epidemic globally, for reasons like as added pressures on health systems by COVID-19 resulting in weakening of the National TB programmes[2] and the potential biological effects of the interaction of the two infections like TB and HIV.[5]

A Tuberculosis patient can get infected with Covid-19 infection anytime with worst outcomes for TB. More evidence is needed to understand the potential of COVID-19 to favour reactivation of an existing TB infection. The aspecific signs and symptoms common to COVID-19 and TB may facilitate a rapid access to imaging services which may manifest signs of a pre-existing TB. Use of new technologies like digital tracing apps, monitoring and surveillance of diseases along with use of masks are some of the other key learnings from COVID-19 that can serve the objective of TB elimination. Under Nation Tuberculosis Elimination programme (NTEP) people are now being given a month's supply of TB drugs to decrease visits to health centres, and health workers are monitoring the drug intake on video calls.[3] These measures along with TB centres testing people for both COVID-19 and TB will go a long way in handling both the crises.

There is an urgent need to support investment in research and development in the public sector along with collaborations between various agencies. As per an article COVID-19 has exposed the fragile nature of the current health care systems in India and worldwide.[14] Apart from strengthening health care infrastructure, patient-centric services are needed for achieving better TB control. New manifestations of diseases along with an increasing rate of antimicrobial resistance call for urgent action based on learnings from the COVID-19 pandemic. Overburdened health care system by COVID-19 alongside the economic impact is going to pose a challenge for management of TB.

Conflicts of interest

The authors have none to declare.

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