J Bras Pneumol. 2021;47(2):e20210123
https://dx.doi.org/10.36416/1806-3756/e20210123

Getting back on the road towards tuberculosis elimination: lessons learnt from the COVID-19 pandemic

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Since early 2020, the world's attention has shifted to the COVID-19 pandemic, and the medical and scientific community has joined forces to fight it. However, although necessary, this diversion of attention has had an impact in all areas of health. The effect of COVID-19 on tuberculosis services is estimated to be global and dramatic. All over the world, we witnessed the reallocation of health care workers to fight the COVID-19 pandemic; the closure of many tuberculosis outpatient clinics and laboratories; the shortage of laboratory reagents for the diagnosis of tuberculosis and even the shortage of anti-tuberculosis drugs.[1] These shortages in resources may be due to the economic impact of the pandemic and stretched national budgets, which are likely to affect routine public health programmes.[2] In China, all of these changes led to a significant reduction in tuberculosis reports in comparison with the previous three years.[1] In a study including 37 tuberculosis centres worldwide, the Global Tuberculosis Network compared the first quarters of 2019 with those of 2020 and concluded that there were reductions in newly diagnosed cases of active tuberculosis and of latent tuberculosis, as well as in the number of visits of outpatients with active or latent tuberculosis.[3] The exact significance of this decrease has yet to be determined. Has there been a real decrease in the number of tuberculosis cases? Or is it a result of the disruption of and lack of access to tuberculosis services?[1]

Questions have been raised regarding tuberculosis/COVID-19 co-infection[4-6]: 1) Can COVID-19 increase the risk of developing active tuberculosis in patients previously exposed to *Mycobacterium tuberculosis*?; 2) Does COVID-19 increase the risk of tuberculosis mortality?; 3) Do immunosuppressants used in order to treat COVID-19 increase the risk of reactivation of tuberculosis?; 4) Are patients with post-tuberculosis sequelae at a higher risk of acquiring COVID-19?; 5) Does pulmonary fibrosis secondary to COVID-19 infection hinders the treatment of tuberculosis? As COVID-19 is a recent disease, scientific evidence remains scarce, and we will probably have to wait years before these questions are answered.

Silva et al.[7] offer us an excellent review of this subject, addressing most of the unanswered questions regarding tuberculosis/COVID-19 combination. Moreover, and perhaps more importantly, the authors reflect on how we can adapt and integrate existing programs to reduce the impact of COVID-19 and get back on track in the fight against tuberculosis.[7] They suggest that some of the tools that have been used for years in the fight against tuberculosis, namely masks, physical distancing and molecular diagnosis, are now helpful in the battle against COVID-19. However, new strategies set up to fight COVID-19 can also be adapted and targeted to fighting tuberculosis: the repurposing of newly created geospatial tracking systems to locate tuberculosis contacts, the use of virtual systems to ensure treatment compliance and the redirection of financial support from COVID-19 patients to tuberculosis patients, prioritising those living in poverty.[7]

It is possible to try to change our usual practice to minimise the impact that the COVID-19 pandemic has on tuberculosis. Worldwide, there is a significant number of good examples on how to maintain the standard of care in the fight against tuberculosis.[2,8-11] First, it is important to keep education on tuberculosis, both for the population and health professionals. Virtual conferences, seminars, workshops and community awareness must be encouraged.[2,8] With regard to the availability of services, for example, South Africa has set a community-based, neighbourhood-focused screening model, ensuring not only tuberculosis education but also sputum collection and tuberculosis screening.[12] With regard to treatment and patient support, various simple changes can be made: reducing the number of visits to clinics,[8,9] switching from injectable-based to oral regimens for drug-resistant tuberculosis,[9] providing an adequate supply of tuberculosis medication to patients for safe storage at home[2] and using virtual care and digital health technologies for adherence support, early initiation of treatment, remote monitoring of tuberculosis patients, counselling and follow-up.[2,8] Finally, with regard to infection control, the use of surgical masks must be encouraged for patients, visitors and health care staff,[8,10,11] and hand hygiene[8,10,11] and environmental disinfection with germicidal ultraviolet systems[10] can be implemented.

There is no doubt that the COVID-19 pandemic brought us a massive challenge at all levels and has weighed heavily on global mortality. However, the impact of COVID-19 is not limited to the disease itself, and we should not forget that its disruptive impact could kill millions of other people.

Tuberculosis remains a highly prevalent disease worldwide and, until April of 2020, had accounted for

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the highest number of deaths per day worldwide. Therefore, it is now important to identify the harms, redefine strategies and get back on the road towards tuberculosis elimination.

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