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Contents lists available at ScienceDirect

International Journal of Infectious Diseases

journal homepage: www.elsevier.com/locate/ijid



The need for protecting and enhancing TB health policies and services for forcibly displaced and migrant populations during the ongoing COVID-19 pandemic

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ARTICLE INFO

Article history:

Received 2 February 2021

Received in revised form 12 March 2021

Accepted 16 March 2021

Keywords:

Tuberculosis

COVID-19

Migrant

Refugee

Health services

ABSTRACT

Disruption of health services due to the COVID-19 pandemic threatens to derail progress being made in tuberculosis control efforts. Forcibly displaced people and migrant populations face particular vulnerabilities as a result of the COVID-19 pandemic, which leaves them at further risk of developing TB. They inhabit environments where measures such as “physical distancing” are impossible to realize and where facilities like camps and informal temporary settlements can easily become sites of rapid disease transmission. In this viewpoint we utilize three case studies—from Peru, South Africa, and Syria—to illustrate the lived experience of forced migration and mobile populations, and the impact of COVID-19 on TB among these populations. We discuss the dual pandemics of TB and COVID-19 in the context of migration through a syndemic lens, to systematically address the upstream social, economic, structural and political factors that - in often deleterious dynamics - foster increased vulnerabilities and risk. Addressing TB, COVID-19 and migration from a syndemic perspective, not only draws systematic attention to comorbidity and the relevance of social and structural context, but also helps to find solutions: the true reality of syndemic interactions can only be fully understood by considering a particular population and bio-social context, and ensuring that they receive the comprehensive care that they need. It also provides avenues for strengthening and expanding the existing infrastructure for TB care to tackle both COVID-19 and TB in migrants and refugees in an integrated and synergistic manner.

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Introduction

The disruption of health services globally due to the COVID-19 pandemic threatens to derail the limited progress being made in achieving UN End TB targets. There are particular vulnerabilities that forcibly displaced people and mobile populations face as a result of the pandemic which leaves them at risk of TB as a hidden “collateral damage” (Neal, 2020). These vulnerabilities often result

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<https://doi.org/10.1016/j.ijid.2021.03.047>

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from being overlooked or actively excluded from health and social policies, but also from inhabiting environments where measures such as “physical distancing” are impossible to realize, such as in camps or informal settlements. For this reason, migrants and mobile populations are key communities for TB prevention and control (Dhavan et al., 2017) and, as reiterated in a recent statement from the International Union Against TB and Lung Diseases Tuberculosis and Migration working group, should not be neglected during the COVID-19 epidemic (The Union, 2020). In fact, rather than diversion of resources away from TB services, the current infrastructure for TB care can be strengthened and expanded to tackle both COVID-19 and TB in migrants and refugees in an integrated and synergistic manner. In this viewpoint, we discuss the dual pandemics of TB and COVID-19 in the context of migration through a syndemic lens (Willen et al., 2017; Zvonareva et al., 2019; Shrinivasan et al., 2020), to systematically address the upstream social, economic, structural and political factors that - in often harmful dynamics - foster increased vulnerabilities and risk.

TB, COVID-19, migration and the multiple layers of syndemic vulnerability

The COVID-19 pandemic has had multiple effects on all aspects of TB: increased rates of disease and risk for key populations; disruption of diagnosis, access to preventive treatment for those infected with the mycobacterium, and therapy for those with active disease; and unchecked medical, social and economic consequences of the disease for patients, families and communities. Confinement measures and economic lockdown disproportionately affect the poorer sectors of society with negative impact on multiple well-known determinants of TB-infection including housing and nutrition. Low pay workers and those making their living in the informal sectors are more likely to be exposed to both TB and COVID-19 as they are unable to “stay at home.” Since COVID-19 and TB are both airborne diseases with respiratory symptoms that spread in the places where people live and work, synergies can be assumed at multiple levels. While the biological and immunological interactions are still not sufficiently understood, the social dimension is clear. Adding mobility to the equation adds further layers of complexity.

The strain on health policies and services due to the pandemic interfere with all the three dimensions of the comprehensive approach to combat TB (Keshavjee et al., 2015; Reid et al., 2019): active case finding, treatment of all types of TB and preventive therapy. These approaches depend on well-organized and funded systems, with strong ties into the communities and including mechanisms for providing therapeutic support and social support that can help the sick complete their treatment. Even prior to the pandemic, migrant groups were more difficult to reach (Dhavan et al., 2017; Lönnroth et al., 2017). Lack of social inclusion in local communities and actual, expected, or intended mobility itself make community health approaches difficult to be realized. Some migrant communities may be hidden, invisible or for multiple reasons out of the reach of public health services, with lack of entitlements, trust, or economic reasons being further barriers. Each phase of the migration process entails different patterns of risk and barriers to care (cf. Wild et al., 2017; Dhavan et al., 2017), with discrimination and other human rights violations fostering syndemic vulnerabilities (Willen et al., 2017).

The already complicated situation of many of the approximately 1 billion people who are on the move worldwide was dramatically disrupted by the pandemic. Within this group are economic

migrants, those who have been forcibly displaced (including internally displaced who have not crossed an international border, as well as refugees or asylum seekers) and those who have been trafficked (cf. Dhavan et al., 2017). Confinement measures and border closures have left many stranded, with for example, low-wage labour migrants in the informal economy finding themselves without resources and often excluded from governmental plans for economic support. The level of health risks experienced by migrant and mobile populations depends on multiple, intersecting layers of social vulnerability (e.g. economic, political, social) interacting with biological and medical dimensions of both the virus and the host. The following case studies illustrate the different types and realities of forced migration and mobile populations in Peru, South Africa and Syria, and the synergy between COVID-19 and TB among these populations.

Case studies

Peru

Venezuela's deteriorating situation saw over 5 million Venezuelans flee to other Latin American and Caribbean countries, and beyond. This has become one of the largest displacement crises in the world. Peru is one of the countries that has hosted the most Venezuelans – over one million between 2014 and the end of 2020 – comprising mainly distressed families fleeing chronic impoverishment and life-threatening living conditions (RV4, 2020; United Nations High Commissioner for Refugees, 2020b). The majority of arrivals are families in vulnerable conditions who remain without documentation or permission to remain in Peru, directly affecting their access to fundamental rights such as healthcare. This situation exacerbates the perils that many Venezuelan's face, and leads to a state of extreme precariousness characterized by food insecurity (200,000 migrants) (United Nations High Commissioner for Refugees, 2020a), loss of employment (89%), risk of eviction (39%), homelessness, or being forced to return home (Defensoría del Pueblo, 2020). These factors markedly increase this community's risk of exposure to communicable and non-communicable diseases (NCDs).

Peru's TB incidence is reported to be 119 per 100,000 in the setting of low HIV prevalence, registering 31,764 new cases in 2019 (World Health Organization, 2020). National survey data indicate that 7.3% of patients with TB and no prior treatment were infected with multidrug-resistant strains of the mycobacterium (Quispe et al., 2020). After the declaration of a national emergency over COVID-19, the Peruvian Ministry of Health (MoH) focused efforts on responding to COVID-19 while limiting other health services. The result, the MoH estimated, would be that 9,000 individuals with TB would remain undiagnosed (Americas TB Coalition, 2020; World Health Organization, 2020). Since March 2020, the health system has suffered from staff and resource shortages resulting from this redistribution. As a result, even those individuals and families who are diagnosed with TB infection and disease are unable to access care, largely due to changes in the supervision of TB drug administration, TB center visits, absence of complementary laboratory tests and lack of a strategy to delivery comprehensive TB care (Corresponsales clave, 2020).

In the last five years, the MoH has noticed an increase in the number of TB cases amongst migrant populations, from 4 cases (2015), to 245 (2019) and 121 (1st quarter 2020) – mostly comprising refugees from Venezuela (82%) (Ríos Vidal, 2020). While these numbers are quite high, it is estimated that underdiagnosis among Venezuelan migrants is greater than amongst the Peruvian population, since most Venezuelans remain undocumented with no access to health or social protection. As the

burden of TB remains stable with severe limitations to detect, refer and treat susceptible individuals, migrant communities may suffer the consequence of not having a diagnosis or access to preventive, curative or long-term care. Since the second quarter of 2020, adaptive efforts to ensure continuity of care for TB have been implemented by the Peruvian MoH. Such initiatives include virtual monitoring, telemedicine and special hours for consultation; however, the degree of utilization remains unknown (Ministerio de Salud del Perú, 2020a). Though the treatment of TB is free in Peru, undocumented migrants first need to absorb testing costs; this, in turn, leads to delays in initiation of treatment, and ultimately results in increased transmission in their families and communities.

A number of ongoing actions have emerged; one example is the TB Elimination Initiative in Lima, Peru led by the MoH and the NGO Socios En Salud (SES), which is designed to actively find cases of TB in the community (Ministerio de Salud del Perú, 2020b). From August to December 2020, SES deployed x-ray vans fitted with artificial intelligence readers in high-risk communities, screening 4500 at-risk individuals and identifying 50 patients with active TB. Additionally, during 2020, this initiative identified and referred 20 Venezuelans to treatment and continuity of care. However, because of the lock-down measures, these activities have not continued apace, resulting in a missed opportunity to screen or detect TB among patients with possible COVID-19, both of whom present with cough and other respiratory symptoms. SES's forthcoming data reports an incidence of TB cases of 1,587 per 100,000 among possible COVID-19 patients who present with a cough. These findings suggest that screening patients who present with possible COVID-19 presents an opportunity to detect active cases of TB (Tovar et al., 2020).

South Africa

South Africa (SA) has made tremendous gains to combat TB over the last decade, despite having one of the world's worst HIV epidemics (Reniers et al., 2017; Keene et al., 2020). Yet these gains are threatened by the ongoing COVID pandemic (National Institute for Communicable Diseases, 2020), that, by the end of January 2021 accounts for close to around 1.5 Million cases detected and more than 40.800 deaths (National Institute for Communicable Diseases, 2021). Even though specific data is largely lacking, migrants, like those working in the mining industry (Harrisberg, 2020), as well as refugees, asylum seekers and undocumented (Mukumbang et al. 2020), are likely to be at the highest risk for suffering the increased vulnerability related to the co-occurrence of TB and COVID-19.

Because of the national COVID crisis, South Africans have faced a nationwide disruption of routine service provision (Keene et al., 2020). South Africa saw a significant drop in the number of TB tests performed during Level 4 and 5 lockdown (March 27-May 31), and the National Institute for Communicable Disease released a report on May 10, 2020, citing a 48% decrease in the number of genetic tests for TB nationally, from a weekly average of 47,520 prior to lockdown to a weekly average of 24,574 over the first seven weeks of lockdown (National Institute for Communicable Diseases, 2020). Concerning underreporting, the National Department of Health lead director of HIV, TB, and Drug resistant TB, Dr. Norbert Ndjeka stated: "During quarter one of 2019 we registered 2506 DR-TB patients on treatment; quarter one of 2020 reflects 1013 DR-TB patients" (Cleary, 2020). Considering the estimated number of 3 to 4 million international migrants living in South Africa (Garba, 2020; UN DESA, 2020), scaling down TB interventions in this setting will have a severe impact.

Moreover, national lockdown and containment measures have exposed many system-level challenges facing immigrant communities in accessing healthcare and social programs. The impact on the living and working conditions of migrants has been particularly hard for already vulnerable groups including refugees, undocumented, homeless and those living in informal settlements (Garba, 2020; Keene et al., 2020; Mukumbang et al., 2020). The central government's strategies to alleviate economic hardship, such as a temporary increase of social support and child grants and a COVID-19 Social Relief of Distress grant or tax subsidies for small businesses, are largely not available for migrants (Business Insider South Africa, 2020). Similar to other countries, the pandemic reveals pre-existing flaws and gaps in social and health policies for those with the highest risk of being left behind.

COVID-19 has resulted in monumental disruptions to diagnosis, treatment initiation, and support efforts for TB patients in South Africa. However, there are many examples where municipalities and local leaders responded urgently to the health and social needs of its most vulnerable during lockdown. Cities across South Africa set up temporary shelters to provide safe sleeping spaces for homeless individuals during the crisis. This was both to protect people living on the streets from COVID-19 and to reduce community-transmission. The coordinated efforts amongst local city officials, NGOs, law enforcement, military, the Department of Social Development and the private sector showcased incredible solidarity amidst a national epidemic to protect and care for the needs of vulnerable groupings, many of whom are migrants. However, the lack of supportive policies and programs, as well as stigma and discrimination directed toward undocumented migrants, are still undermining the success of such efforts. For a sustainable approach to stop TB and COVID-19, the vicious circle of mutually reinforcing social, economic and political drivers of vulnerability have to be addressed systematically, with particular attention to migration.

Syria

Of Syria's 22 million pre-conflict population, more than half have been forcibly displaced from their homes; 5.5 million live as refugees in neighbouring countries, and 6.1 million are internally displaced (OCHA, 2020b). As the country approaches almost a decade of conflict, it is increasingly divided with at least four different regions of geopolitical control arising with different forms of political power, health systems, governance and leadership (OCHA, 2020a). For those who have been forcibly displaced (either as Internally Displaced People/IDPs or refugees), their living conditions – aggravated by forced migration – has left them at increased risk of both TB and COVID-19 (OCHA, 2020b). Factors exacerbating vulnerabilities for particularly the most marginalised of these forcibly displaced populations include: overcrowding, inadequate shelter with poor ventilation, and poor access to healthcare, water, sanitation and hygiene (OCHA, 2020a).

Different geopolitical regions within Syria have differing capacities and strategies to respond to COVID-19 with varied financial and technical support from external organisations like the World Health Organization (WHO) and humanitarian organisations. Communication and collaboration between these areas are limited with important consequences for public health measures. The heterogeneous preparedness and response strategies in the politically divided country have contributed to the rapid spread of SARS-CoV-2 among Syrian populations. Under-testing and under-reporting of official figures, particularly in areas under government control, is widespread and exacerbates

the uncontrolled spread of the virus. This vastly underestimates the true burden of COVID-19 and its devastating effects on healthcare workers, the health system and the population (OCHA, 2021). In many ways, COVID-19 under-reporting mirrors TB under-reporting in Syria both before and during the pandemic, where official estimates declared by the government are thought not to be representative of the actual burden of TB. Official estimates for the incidence of TB as declared by the government are 19 per 100,000 in 2019 (The World Bank, 2019) of which 8.8% are multidrug or rifampicin-resistant. However, this figure has changed little since 2017, despite the conflict, during which ongoing attacks on healthcare have forced the displacement of TB and laboratory specialists and adversely affected diagnostic infrastructure and healthcare access for patients (Abbara et al., 2020). The figure is likely a vast underestimate, especially for areas outside of government control where the National TB Program is not active.

Similar to other healthcare services, TB services across Syria vary considerably. The National TB Programme (NTP) in Syria led the provision of TB services across the country before the onset of conflict; however, since the conflict, the NTP predominantly serves government-controlled areas (Abbara et al., 2020). To address existing gaps in service delivery in areas outside government control, around northwest Syria, the Gaziantep-based, WHO-led health cluster established a TB response unit to re-activate the TB service provision in the area. Since its inception in 2019, 785 cases of TB have been diagnosed between July and December 2020, including 15 people infected with multidrug-resistant strains of TB (Abbara et al., 2018). Despite the best efforts of this unit, COVID-19 has adversely affected case finding, contact tracing, and TB management across Syria in a number of ways: patients are reluctant to seek medical care for reasons including the risk of nosocomial transmission of SARS-CoV-2; high security risks exist, especially as targeted attacks on the healthcare system continue; and there are insufficient numbers of healthcare professionals or TB specialists, and, as in many parts of the world, remaining specialists have been requested to support COVID-19 services. This has contributed to a reduction in working hours in the TB centres and limitations on active case finding or contact tracing activities to minimise the spread of SARS-CoV-2. To mitigate the harm of service disruption, there have been various adaptations to the delivery of TB services. For example, in northwest Syria, there has been increased use of home visits to support patients to finish their treatment and monitor for side effects, and there has been increased collaboration between the COVID-19 taskforce in northwest Syria and EWARN (Early Warning and Response Network) to support testing and surveillance of SARS-CoV-2 among newly diagnosed TB patients.

Given the redirection of resources to respond to the COVID-19 pandemic, collaborative responses as has been utilised in northwest Syria are key to addressing both these pandemics. To address the particular vulnerabilities which increase the susceptibility of the most vulnerable forcibly displaced populations in Syria to both TB and COVID-19, a multi-pronged approach is urgently needed which not only addresses the social determinants of health, but also supports healthcare access, ends the ongoing attacks on healthcare, and ultimately aims to end the broader conflict which impacts on the civilian population within Syria, including those forcibly displaced.

Conclusions

The case studies from Peru, South Africa and Syria illustrate how local and regional contexts shape the patterns of risk and

vulnerability related to COVID-19 and TB, as well as the capabilities of health policies and systems to protect and care for the population. While the social, economic, structural and political determinants of health, that work synergistically with biological factors to define the course and impact of any pandemic, may vary according to place and time, the basic underlying pattern remains consistent: political conflict or neglect, weak public health services, and the inability or unwillingness to provide comprehensive diagnosis, treatment and prevention to those most at risk of disease. This translates into elevated disease burden and infection for TB, COVID-19 and many other conditions.

Even before the current pandemic, global efforts to end TB were off track (Reid et al., 2020). But the deleterious effect of the syndemic scenario of COVID-19 and TB is likely to be even greater in the case of mobile populations due to additional layers of risk related to migration contexts. Even in low-incidence countries, migrants are at elevated risk for the development of TB (Lönnroth et al., 2017) and COVID-19 (Lancet Migration: Global collaboration to advance migration health, 2020). Within the migrant populations, some groups are at even greater risk: undocumented migrants or those internally displaced are often excluded from regular health systems including TB programs, for legal, political, and other social-structural reasons. And while health and social policies tend to ignore migrant populations, restrictive migration policies aimed at deterring migration create environments where people are stranded or forced to live in precarious conditions for extended periods of time in camps and informal settlements (Martinez-Juarez et al., 2020). The notorious situation of refugees and migrants in Libya, on the Greek islands, or between the borders of Honduras, Guatemala, Mexico, and the United States, are telling examples (cf. Wild et al., 2017; Orcutt et al., 2020).

The diversion of resources towards COVID-19-control has weakened TB programmes in many countries (Reid et al., 2020), leading to disruption of health services. In many settings, this has included limiting access to diagnosis, treatment and prevention of TB among many other communicable and non-communicable diseases. Policy-makers in overwhelmed health systems have often not been focused on response beyond the emergency phase of the pandemic, and this focus only on the immediate situation has further marginalized migrant and mobile populations.

Addressing TB, COVID-19 and migration from a syndemic perspective offers an opportunity to address two airborne risks in conjunction. This perspective not only highlights the importance of social, political and structural context as markers of risk, but identifies communities whose bio-social circumstances are contributing to both pandemics. It allows local communities to mobilize around a comprehensive approach to stop both epidemics. The Zero TB Initiative—in which local communities (e.g. municipalities, districts) work within their context to create an island of TB elimination through building a comprehensive program to address tuberculosis amongst those who are most vulnerable—provides one example of how to achieve this. For migrant and mobile populations such an approach is critical: legal, social and political environments at local, regional and national level define the levels of inclusion or exclusion from health systems, which ultimately determine the risk of being infected and affected by a disease and its consequences.

In the end, every infection is an opportunity for a bacteria or virus to mutate. This is true for both COVID-19 and TB. Preventing transmission and caring for the sick is a critical component of stopping both pandemics, and the benefits of synergistic efforts are

manyfold (Reid et al., 2020; Keene et al., 2020). While we all can understand that we are only safe once we are all safe, this will only be achieved if we focus attention on those who need care the most, including the most marginalised migrants and forcibly displaced populations worldwide.

Overall recommendations

- 1 Lessons learned from effective TB treatment are essential to integrate into the COVID-19 response—including for migrants in precarious conditions and displaced populations.** There is a need for continued investment in health services for TB during the COVID-19 pandemic and beyond. Redirecting resources is a false economy which could reverse progress made on TB, with particularly severe consequences for already marginalized populations, including migrants. Using TB as the foundation for broader care-delivery in collaboration with communities and municipalities is an approach that has already been implemented in a number of places, including Durban (South Africa), Lima (Peru), Chennai (India), and Karachi (Pakistan). Adopting a sound epidemic-control strategy for TB based on search (searching actively for cases), treat (ensuring that the correct treatment is given as early as possible and with appropriate supports) and prevent (identifying at-risk contacts and ensuring they receive the treatment and care they need; and preventing transmission through infection control), creates a platform for community-based diagnosis and care delivery that is essential to stem COVID-19. Yet more attention needs to be given to precarious migrants and displaced populations, as they may not be perceived or identify themselves as members of communities, or residents. Possible issues of fear, social and legal insecurity have to be taken into account and addressed in respectful ways, granting trust for providing services and support without discrimination.
- 2 The effective inclusion of migrants and forcibly displaced populations in health policies and systems is urgently needed.** Health policies need to include strategies for combatting stigma and discrimination towards TB and COVID-19 patients, with specific attention to xenophobia, racism, and anti-migrant sentiments related to these conditions. Even in countries like Peru and South Africa, that officially embrace universal access to health care, structural barriers still exist and prevent the inclusion of migrants due to gender, social or legal status. The syndemic of TB and COVID-19 illustrates the benefit that can be expected from effectively including all migrants into services through earlier diagnosis, better treatment outcomes, and limiting transmission. However, in conflict-driven countries, such as Syria, the syndemic of TB and COVID-19 is only one significant aspect of the severe health and humanitarian crisis caused by the war. Collaborative efforts of all stakeholders are needed to prevent further avoidable harm and suffering among displaced populations inside and outside conflict-affected countries.
- 3 The upstream social and political factors that foster the increased vulnerability of migrants and forcibly displaced populations to the syndemic of COVID-19 and TB must be addressed.** Improving living conditions for migrants in situations of precarity and for forcibly displaced populations (especially those in crowded IDP/refugee camps, within detention/reception centres/prisons) is essential for preventing both COVID-19 and TB. Those who have been forcibly displaced across Syria have particular vulnerabilities which increase their susceptibility to both TB and COVID-19. A multi-pronged approach, that addresses their living conditions (particularly those in tented settlements), improves heating and ventilation, supports nutrition, health education (including smoking cessation) and supports healthcare access, is urgently needed. Screening for

both TB (latent and active case finding) and improved contact tracing should be implemented across geographical regions. Given the redirection of resources to respond to the COVID-19 pandemic, collaborative responses as has been utilised in northwest Syria are key to addressing both these pandemics. Precarious working conditions of labour migrants must be addressed independent of legal status, such as for those working in the mining industry, construction, agriculture, and abattoir facilities, where due to their living and working conditions they are a highly vulnerable group to TB and COVID-19. Undocumented or irregular migrants working in low-wage jobs are at particularly high risk of being exploited and overlooked. For example in Peru, it has been observed that health services focusing only on SARS-COV-2 miss the opportunity to diagnose TB in families with suspected COVID-19 who also live in vulnerable conditions (poverty, overcrowding, etc.). A TB active case-finding approach among migrant populations working or living in poor conditions has therefore been advocated.

- 4 Compliance of governments and all stakeholders with internationally agreed-upon human rights standards, and access to the underlying determinants of health without discrimination on any grounds, is the backbone of health systems and sustainable pandemic response.** Nobody is safe until all are safe. Upstream interventions are needed, at the level of political and legal action, in order to ensure state authorities and the private sector are held accountable to these standards. Successful initiatives of health ministries or municipalities collaborating with civil society and NGOs during COVID-19, such as in Peru and South Africa, represent positive progress, yet coherent and long-term policies have to be implemented also at the national level.

Conflict of interest

All authors declare no conflicts of interest.

Funding source

None.
Ethical approval
Not required.

Author declarations

All authors declare no conflict of interest.

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