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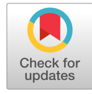

The COVID-19 pandemic as a catalyst for integrated global mental healthcare and tuberculosis care

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Mental disorders are common among persons with tuberculosis (TB), and the COVID-19 pandemic has only amplified the mental and physical health consequences of this deadly synergy. Here, we call to attention the immense vulnerability of people with TB to mental disorders during the pandemic and highlight the unique challenges and opportunities that the pandemic brings to the future integration of global TB and mental healthcare. We argue that the pandemic era is an ideal period to accelerate this integration and we provide research and policy recommendations to actualise this urgent need.

A global overview of tuberculosis and mental health during the COVID-19 era

Although COVID-19 recently surpassed tuberculosis (TB) as a leading global cause of mortality by an infectious disease, TB continues to kill millions of people annually.[1] The World Health Organization (WHO) estimates that 1.6 million people died from TB in 2021, representing a continued reversal in mortality trends since 2019.[1] The mortality increase has largely been attributed to the COVID-19 pandemic, which has severely disrupted routine TB diagnostic and treatment services as well as reallocated many healthcare resources, personnel and spending away from TB.[2] Furthermore, persons with TB make up an important population at risk for severe COVID-19 infection.[3] At the same time, the burden of mental disorders, previously leading causes of disability worldwide, has surged during the COVID-19 pandemic. Compared with pre-pandemic estimates, the WHO estimated a 25% increase in the prevalence of anxiety and depression during the early stages of the pandemic, translating into an absolute increase of approximately 53.2 million cases of depression (~49 million additional disability-adjusted life-years, DALYs) and 76.2 million cases of anxiety (~45 million additional DALYs).[4,5] Like TB services, the pandemic has also upended mental health services worldwide, with significant disruptions and fewer available services despite adaptive shifts to care delivery strategies such as telepsychiatry.[5] However, the collective distress caused by the pandemic has also led to increased awareness of the pervasiveness and deleterious impact of mental disorders, the social determinants that exacerbate them and the urgent need to address them.

Mental disorders among people with TB

Mental disorders, especially depression, are highly prevalent among persons with TB. It has been estimated that 45% of individuals with TB have depression, with estimates exceeding 50% in those with multidrug-resistant TB.[6] Furthermore, comorbid mental disorders such as depression are well documented to be associated with poor TB treatment outcomes; individuals exhibiting depressive symptoms at the time of TB diagnosis have more than four times the odds of poor TB treatment outcomes, including death and loss to follow-up.[7] Poor mental health is also the leading cause of disability post-TB and may be a contributing factor to a shortened lifespan among TB survivors.[8] With recent studies reporting high prevalence estimates of common mental disorders such as depression and anxiety among persons with TB, the COVID-19 pandemic has presented numerous challenges that may exacerbate poor mental health in this population. These range from increased psychosocial stressors from disruption of routine TB services to cycles of prolonged social isolation and/or lack of support.[2,9] Persons with TB are therefore often an overlooked and vulnerable population for developing and suffering from mental disorders and their consequences – even well before the pandemic.

Pandemic-related challenges to TB and mental health

We list in this section some of the key challenges to the global TB and mental health landscape during the COVID-19 pandemic.[2,9] System-level challenges include but are not limited to: (a) redirection of healthcare funding away from routine TB diagnostic and care services; (b) reallocation of healthcare personnel and resources to COVID-19 care responses; (c) reduced overall focus on TB and slowing in the momentum of advocacy for TB-related issues and policies; (d) lack of or insufficient emergency health and/or social support policies for vulnerable populations

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and communities. Care delivery challenges include: (a) limitations in accessing patient care imposed by lockdown policies; (b) rapidly adapting and applying new modes of care delivery (e.g. community-based health innovations and conducting appointments remotely). Finally, patient-related challenges include: (a) social and physical isolation and restricted movement; (b) financial and socioeconomic stressors (e.g. inability to work); (c) fear, stigma and mental vulnerability.

Integrating mental health services with TB care

Despite evidence of receptivity to integration of mental health treatment among directors of national TB programmes (NTPs), comorbid mental disorders and mental health issues among persons with TB are not routinely assessed and addressed.[10] However, the mental health spotlight brought by the pandemic has led to initial and promising signs of change. In late 2021, the United States Agency for International Development (USAID) released guidance on integrating mental health services into TB programmes by offering best practices to provide and support a complete mental health package for individuals with TB. These include adequate and appropriate training and supervision of staff knowledgeable in both mental health and TB, use of validated and standardised mental health screening tools, use and implementation of evidence-based mental health interventions such as those outlined by the WHO Mental Health Gap Action Programme (mhGAP), monitoring and evaluation, and supporting and implementing collaborative TB and mental health services and future research needs.[11] The WHO also incorporated the screening and management of comorbid mental health conditions and issues for the first time in its 2022 national strategic TB planning guidance.[12] Further WHO recommendations and guidelines for integrating mental health services into NTPs are underway. Recently, the Global Fund underwent its seventh replenishment in September 2022, and the Global Fund strategy for 2023–2028 includes integration of mental healthcare into TB and HIV care platforms as priorities for the first time. Given the new, dynamic challenges to delivery of mental healthcare and TB care brought on by the COVID-19 pandemic and the mental health vulnerability of persons with TB, there is no better time to capitalise on these recent changes and accelerate the integration of mental healthcare and TB care worldwide. In fact, the COVID-19 pandemic has been argued to be a prime opportunity to improve mental health service organisation and delivery worldwide, and nowhere is this more important and urgent than for persons with TB.[13]

Research and policy recommendations to accelerate integration

Part of accelerating the integration of TB care and mental healthcare necessitates a robust evidence base. Over the past two decades, multiple studies have evaluated various psychosocial and pharmacological mental health interventions in persons with TB in low- and middle-income countries (LMICs). In general, those who receive some form of mental health intervention tend to have better mental health and TB outcomes (e.g. adherence or TB cure rates) compared with those who do not receive the intervention or compared with the pre-intervention period.[14] Thus, such studies demonstrate that mental health interventions can be not only effective in improving both mental health and TB outcomes but also feasibly implemented in high TB burden settings. However, further research is needed to better understand the burden of mental disorders among persons with TB in the era of the COVID-19 pandemic, explore other modalities and models of delivering mental healthcare within NTPs and evaluate different mental health screening tools in persons with TB and populations at risk for TB across diverse settings. We have identified and highlighted key research gaps and recommendations in Table 1.

In addition to research recommendations, we highlight in Table 2 practical policy recommendations that may assist decision makers and stakeholders in facilitating the integration of mental healthcare and TB care in the near and distant future. Many of these policy recommendations, such as promoting task-sharing and mental healthcare delivery models, are consistent with WHO mental health recommendations and have informed recent efforts to integrate global mental healthcare and HIV care. For example, the WHO recently published detailed guidance on integrating interventions and services to address both mental illness and HIV.[15] These guidelines were drawn from existing mental health tools and service provision guidelines, including those that have been outlined in the WHO mhGAP for improving and scaling up mental healthcare capacity in LMICs. In fact, one of the listed purposes of the recent guidance is to provide transferable policy considerations and applications to the care of other HIV-related comorbidities, including TB. Thus, there is immense value now during the pandemic to utilise and build on the collective lessons learned and the successes and setbacks of other global health endeavours and initiatives such as those in HIV and COVID-19 to advance the necessary policies needed for integration of global mental healthcare and TB care. Given the mental health spotlight and support brought on by the pandemic, ongoing and forthcoming changes in mental healthcare and TB care and existing guidelines and tools, we are better positioned to accelerate their

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Table 1

Key knowledge gaps and recommendations for future research on integrating global mental healthcare and tuberculosis (TB) care

Research recommendation	Significance
Recommendation 1: Update estimates of the mental health burden among persons with TB during the COVID-19 pandemic using standardised tools.	Updated assessments of the mental health burden among persons with TB are critical to understanding how the pandemic has affected their mental health and better informing the service demand and need for integrated TB care and mental healthcare.
Recommendation 2: Study the burden of mental disorders beyond anxiety, depression and substance use disorders in persons with TB (e.g. adjustment and stress-related disorders, psychotic disorders and trauma-related conditions).	The pandemic is likely to have increased the mental health burden across a wide range of mental disorders, either through the exacerbation of pre-existing illness or through the onset of new mental disorders that may require differentiated responses. Doing so also includes mental disorders that have often been historically overlooked/understudied.
Recommendation 3: Evaluate and compare the validity of standardised mental health screening tools among persons with TB, populations at high risk for TB and across different settings.	As mental health is shaped by local context, it remains unclear which standardised screening tools are most appropriate and accurate for standardised mental health screening among persons with TB and high-risk populations in different settings.
Recommendation 4: Assess the impact and utility of expanding mental health screening beyond persons with TB to populations at risk for developing TB (e.g. household contacts of persons with TB and individuals with latent TB infection).	Although screening for comorbid mental disorders is key to improving both TB and mental health outcomes, the utility of incorporating and expanding mental health screening to other populations at high risk for TB remains largely unexplored.
Recommendation 5: Evaluate the cost-effectiveness and implementation of different mental health interventions on various person-centred outcomes (e.g. perceived stigma, mental health and quality of life).	Although previous studies of mental health interventions in persons with TB have generally shown a positive effect on TB treatment outcomes, efforts are needed to evaluate and report on patient-centred outcomes such as health-related quality of life, perceived stigma and mental health and well-being.
Recommendation 6: Explore possible adaptations and implementations of mental healthcare delivery models such as collaborative care and stepped care in persons with TB.	Various evidence-based care delivery models (e.g. collaborative care and stepped care) already exist for mental healthcare; however, few have been adapted, integrated and studied in the context of TB care delivery. Adapting and implementing such models recognises that the care of persons of TB is both complex and multidisciplinary in nature. Furthermore, the effectiveness of different mental health interventions may depend on initial and subsequent changes in the severity of their mental disorders.
Recommendation 7: Explore the cost–benefit of TB and mental health service integration within TB programmes.	Economic modelling studies suggests that investing in TB and mental health services may yield considerable cost savings and that these savings may be amplified with service integration. Cost–benefit evaluations of programmes are needed to provide real-world examples for replicable and scalable service integration.
Recommendation 8: Actively incorporate the perspectives and voices of people with lived experience of TB and mental disorders into key stages of research and programme implementation.	The personal experiences, thoughts and views of individuals with lived experience should be incorporated into the key stages of research and programme implementation (e.g. conception, study or programme design, strategic planning, interpretation of analytical results and decisions about how they should inform policy).

Table 2

Recommendations for future policies on integrating global mental healthcare and tuberculosis (TB) care

Policy recommendation	Significance
Recommendation 1: Build awareness about the importance of TB and mental health service integration among key stakeholders on both sides as a means of improving physical and mental health outcomes.	TB and mental health services are often siloed politically and financially. Engaging relevant local and government stakeholders on both sides (TB and mental health) may be a critical first step towards service integration.
Recommendation 2: Identify existing evidence-based mental health resources/ services and establish/strengthen partnerships to directly incorporate them into TB care services.	Taking advantage of existing evidence-based mental health resources/services can be an efficient and cost-effective way of setting up integrated services. These include leveraging existing guidelines and tools such as those for integrating global mental healthcare and HIV care.
Recommendation 3: Lobby support from donor organisations, governments, public figures and/or directors of national TB programmes to allocate more funds, create dedicated funding streams for investing in mental health service integration and commit politically to supporting the listed policy and research recommendations.	The heightened awareness of poor mental health during the COVID-19 pandemic may serve as an important impetus to acquire more political support and funding for integrated mental health initiatives and programmes.
Recommendation 4: Set up and implement supervised task-sharing programmes to expand the available workforce capable of carrying out mental health screening and delivering low-intensity interventions (e.g. psychotherapy and adherence to addiction therapy).	Lack of trained mental health personnel is a major barrier to mental healthcare integration in many countries. Task-sharing programmes with expert supervision have been shown to be effective in addressing mental health needs and is in line with the framework outlined by the WHO's mhGAP.
Recommendation 5: Utilise digital and smartphone-based methods of training mental health personnel and delivering low-intensity interventions (e.g. online self-help interventions, psychotherapies and provider-facing decision support tools).	The pandemic presents a unique opportunity to rethink different approaches and modalities for training mental health personnel and delivering low-cost, acceptable, effective and feasible forms of mental healthcare.
Recommendation 6: Incorporate regular monitoring and evaluation of mental health interventions and/or care delivery models within TB programmes.	

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integration than ever before. Importantly, building and strengthening healthcare systems should remain a key overarching policy goal to ensure effective integration of mental health and TB services.

Conclusions

Although the COVID-19 pandemic has adversely affected both TB and mental health worldwide, it has also presented unique opportunities to restructure TB care. We argue that the pandemic is an ideal time to accelerate the integration of mental health services for persons with TB. Given the unprecedented recognition that mental health has received during the pandemic, mental health promotion and care should be an important priority in not only making up the lost progress towards eliminating TB but also providing the long overdue support and care deserved by those suffering from TB.

Data availability

Data availability is not applicable to this article as no new data were created or analysed in this study.

Author contributions

A.L.C., A.C.S. and J.T.G. conceived of the primary ideas presented in this paper. A.L.C. drafted the primary draft of the manuscript, with input from all authors. All authors reviewed and revised subsequent drafts and approved the final version for submission.

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Declaration of interest

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