No one with HIV should die from tuberculosis

Tuberculosis is the leading cause of mortality among individuals infected with HIV, killing more than 1000 people every day.1 Even if they receive treatment for tuberculosis, people with HIV are more likely to die from tuberculosis than people without HIV,2 especially if they are not receiving antiretroviral therapy or if they have multidrug-resistant tuberculosis.3,4 They do not die because we cannot treat HIV or cure tuberculosis. They die because of substantial gaps in the delivery of care and innovation, despite decades of knowledge about the synergy between tuberculosis and HIV, about how to stop the spread of tuberculosis, and how to optimise HIV treatment.5

In 2008, WHO endorsed the Three I’s strategy—intensified case-finding, isoniazid prophylaxis therapy, and infection control—to address the crisis of tuberculosis deaths among people with HIV. Intensified case-finding and isoniazid prophylaxis therapy save both lives and resources, given the number of tuberculosis cases prevented. A “fourth I”, representing integrated care at the facility level for individuals co-infected with HIV and tuberculosis, has also been shown to improve treatment outcomes for both tuberculosis and HIV.8,9 Despite endorsement of these almost decade-old strategies, people with HIV continue to die from tuberculosis at an alarming rate because not enough is being done to ensure optimum prevention, detection, and treatment.

How do we change this dynamic? The Stop TB Partnership’s Global TB Plan 2016–2020, now under development, calls for mass scale-up of tuberculosis screening, diagnosis, and treatment for people living with HIV—with coverage targets of at least 90%.10 But much more is needed than just ambitious targets.

First, and at a minimum, known strategies for stopping the spread of tuberculosis have to be prioritised, implemented, and scaled up in low-income and middle-income settings for both adults and children. As the papers in the Lancet Series on tuberculosis11–14 show, these strategies include active case-finding, rapid diagnosis, post-exposure treatment (both isoniazid prophylaxis therapy and treatment for drug-resistant strains), and early initiation of optimum treatment for all strains of tuberculosis. These strategies have driven rates of tuberculosis down substantially among vulnerable patients in settings such as New York City and Baltimore in the USA, and Rio de Janeiro in Brazil.15–17

Second, innovative approaches must be adopted to halt the deadly toll of tuberculosis in people with HIV. For example, initiation of antiretroviral therapy needs to become an urgent priority among all people living with HIV, including in areas of high tuberculosis and HIV co-infection, to prevent tuberculosis incidence, progression, and mortality.18–21 An overwhelming evidence base now clarifies the need for any patient with HIV, irrespective of CD4 count, to be started on antiretroviral therapy as soon as possible after diagnosis.22–25 Some in the medical and public health communities have added immediate initiation of antiretroviral therapy as the “fifth I” in the strategy to halt tuberculosis mortality. There is also a need for better ways to treat tuberculosis in patients with HIV, which will involve evaluating innovative treatment strategies and improving the science of tuberculosis clinical trials. Furthermore, there should be greater inclusion of people with HIV in tuberculosis drug trials, since this population is often excluded from such research. These exclusions mean there are limited indications for the use of new tuberculosis drugs in HIV-infected individuals—those with the highest rates of mortality—and there is little information about drug–drug interactions with antiretroviral therapy.

Third, better screening and diagnostic strategies are needed to detect tuberculosis in people with HIV.
co-infection. A simple symptom screen, if correctly implemented, could identify many people with tuberculosis for diagnostic referral; by contrast, sputum-based diagnostic methods miss most cases of tuberculosis among those with active disease and HIV. There are now point-of-care tests available for the measurement of HIV viral load, but no such test is available for tuberculosis.

Fourth, countries will continue to need technical and financial support to overcome the barriers to the implementation of comprehensive tuberculosis strategies. It is noteworthy, however, that in many settings, these barriers have been successfully addressed in the provision of HIV care in general, but not when it comes to tuberculosis care in the HIV-infected population. A better understanding of the reasons for these differences in the provision of care would help target resources more effectively and improve tuberculosis prevention and treatment. So too would broader application of proven HIV strategies to tuberculosis, including community-based care, treatment as prevention, adaptive adherence support strategies, engagement with survivors, and a human rights driven approach.

Deaths from tuberculosis will be halted only if the tuberculosis community can emulate the ambitious scientific and advocacy agenda set by those working in HIV—where, in the span of 40 years, HIV went from being an unrecognised deadly pathogen to an easily diagnosed chronic condition with many prevention and treatment options. During that same period, there has been far too little innovation in tuberculosis prevention, diagnosis, and treatment. There is some cause for optimism from the recent introduction of molecular diagnostics and the approval of the first two new tuberculosis drugs, bedaquiline and delamanid, in almost half a century, but transformative science for tuberculosis still has a long way to go. In the meantime, tuberculosis can be tackled by scaling up existing effective interventions.

The global expansion of comprehensive high-quality treatment for HIV has set a moral and human rights benchmark for other global health initiatives. Preventable deaths from tuberculosis among people living with HIV are an unconscionable stain on this accomplishment. Well proven epidemic-control strategies for tuberculosis and the use of antiretroviral therapy have stopped deaths from tuberculosis in people with HIV in many settings. It is well past time to make this a reality for all people living with HIV and to expand the high levels of human and financial capital invested in HIV to the disease responsible for killing so many infected individuals.

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Comment


