

TB and HIV/AIDS

People Living with HIV (PLHIV) have a higher risk of MDR-TB, with an increased mortality up to 90% or more, and greatly reduced survival time. Early diagnosis and treatment of drug resistant TB is thus essential but complicated. Management of drug interactions with antiretroviral¹ therapy (ART) and anti-TB treatment is also a major challenge, due to frequent severe toxicities and adverse events experienced when combining second-line anti-TB drugs and ART.

Globally in 2007, at least one-third of the estimated 33 million PLHIV were infected with the TB bacteria. Of the 9.3 million new TB cases, 1.4 million were also living with HIV. TB is a major cause of death for PLHIV worldwide, particularly in sub-Saharan Africa where 80% of HIV-positive TB cases live. In the same year, nearly 1 million TB patients were tested for HIV. Of the 0.3 million TB patients found to be HIV-positive, only 200 000 were put on co-trimoxazole preventive therapy (CPT) and 90 000 on ART. Of the 33 million people estimated to be living with HIV only around 20% knew their HIV status - only 630,000 were screened for TB and only 29,000 were put on isoniazid preventive therapy (IPT).²

Of the 27 MDR-TB priority countries, 12 are also TB/HIV priority countries (including China, Russia, India and South Africa). These countries contain 3/4million HIV related TB cases, 54% of all HIV-related TB globally. HIV is probably accelerating the spread of MDR-TB, especially in countries where prevalence of infection with MDR-TB is high.³

TB infection occurs when a person carries the TB bacteria inside the body, but the bacteria are in small numbers and are dormant. These dormant bacteria are kept under control by the body's defences and do not cause disease. Many people have TB infection and are well, until the TB bacteria in the body have started to multiply and become numerous enough to overcome the body's defences resulting in TB disease.

Basic information on the relationship between HIV and TB bacteria

HIV infection weakens body's defence and increase the risk of TB infection to progress to TB disease. PLHIV are also more susceptible to extra-pulmonary TB, such as lymphadenopathy, pleural effusion, pericardial disease, miliary TB, and meningitis. TB disease can occur at any point in the course of progression of HIV infection.⁴ Unlike most other opportunistic infections⁵ common in PLHIV, TB can

¹ A substance that acts against retroviruses such as HIV.

² WHO, Global TB Report 2009 Global tuberculosis control: epidemiology, planning, financing. Geneva, 2009 (WHO/HTM/TB/2009.411).

³ WHO, A Ministerial Meeting of high M/XDR-TB Burden Countries, Beijing, China, April 2009, p. 24.

⁴ WHO, TB/HIV: A Clinical Manual, 2004, pp. 23-39.

⁵ Opportunistic infections that are infections that occur because they take the opportunity of the body's weakened immune defences to develop.

occur in people with normal CD4 cell⁶ counts and can be transmitted to other people, whether or not they are infected with HIV.⁷

PLHIV are 20-30 times more likely to develop TB than those without HIV. Likewise TB infection may allow HIV to multiply more quickly, resulting in more rapid progression to AIDS.⁸

Interaction of TB drugs and ART

TB is more difficult to diagnose and more complicated to treat among PLHIV, leading to delays in TB treatment and increased risk for rapid disease progression. When diagnosis is delayed or drug susceptibility status is unknown, PLHIV and drug-resistant TB may be treated with a suboptimal TB drug regimen, resulting in increased risk of death.

Adverse drug reactions are more common in HIV-positive than in HIV-negative TB patients. Risk of drug reaction increases with increased immunodeficiency. Most reactions occur in the first two months of treatment, skin rash being the most common reaction. The potential drug interactions may result in ineffectiveness of ARV drugs, ineffective treatment of TB or an increased risk of drug toxicity.⁹

In patients with HIV-related TB, the priority is to treat TB, especially smear-positive pulmonary TB (on account of the need to stop TB transmission). However, patients with HIV-related TB can have ART and anti-TB treatment at the same time, if managed carefully. Occasionally, patients with HIV-related TB may experience a temporary exacerbation of symptoms, signs or radiographic manifestations of TB after beginning anti-TB treatment.

This paradoxical reaction in HIV infected patients with TB is thought to be a result of immune reconstitution. This occurs as a result of the simultaneous administration of ART and anti-TB drugs.¹⁰

Importance of TB/HIV integrated services and advocacy work

Since HIV fuels the TB epidemic, HIV programmes and TB programmes share mutual concerns. Prevention of HIV should be a priority for TB control; TB care and prevention should be priority concerns of HIV/AIDS programmes.

TB/HIV patients often only find out that they are HIV-positive after developing TB, and is the reason why TB control programmes need to collaborate closely with other services providing support and care for HIV-positive individuals. The clinician treating TB/HIV patients is in a key position to refer patients to appropriate services.

Close collaboration between different health providers at the different levels of the health care system is necessary to strengthen referral systems among home and community care, primary health care facilities, hospitals, private-sector health

⁶ CD4 is a molecule on the surface of some cells onto which HIV can bind. The CD4 count reflects the state of the immune system.

⁷ NAM, HIV & TB leaflet, third edition 2008, pp. 2-3. <http://www.aidsmap.com/HIV-amp-TB/page/1060273/>

⁸ WHO, TB/HIV: A Clinical Manual, 2004, pp. 23-39.

⁹ Toxicity is the extent or ways in which a drug is poisonous to the body.

¹⁰ WHO, TB/HIV: A Clinical Manual, 2004, pp. 132-153.

providers (e.g. NGOs, traditional healers, etc.). Coordination of care in different settings promotes continuity of care for the TB/HIV patient.¹¹

In 2004, the WHO published the interim policy for TB/HIV collaborative activities, a comprehensive guide for the implementation of TB/HIV collaborative activities, which sets forth 12 key activities, drawing on DOTS TB programmes and HIV/AIDS programmes, to provide comprehensive TB and HIV prevention, care and supportive services, in order to reduce the impact of HIV-related TB.¹²

WHO policy for collaborative TB/HIV activities.

Establish the mechanisms for collaboration

1. Ensure a co-ordinating body exists for effective HIV/TB collaboration at all levels.
2. Conduct surveillance of HIV prevalence among TB patients.
3. Carry out joint HIV/TB planning.
4. Conduct monitoring and evaluation.

Decrease the burden of TB in PLHIV (the 3 I's)

5. Establish Intensified TB case- finding.
6. Introduce Isoniazid prevention therapy.
7. Ensure TB Infection control in health care and congregate settings.

Decrease the burden of HIV in TB patients

8. Provide HIV testing and counselling.
9. Introduce HIV prevention methods.
10. Introduce co-trimoxazole preventive therapy.
11. Ensure HIV care and support.
12. Introduce antiretroviral therapy.

A study carried out in South Africa and published by the New England Journal of Medicine concludes that initiation of antiretroviral therapy during TB therapy significantly improved survival and provides further impetus for the integration of TB and HIV services.¹³

TB/HIV advocacy is, therefore, paramount to address the lack of TB/HIV coordination, for instance:

- TB and HIV services often run as parallel programmes, coordination and referral mechanisms between programmers are limited or nonexistent. Even policies that call for coordination between TB and HIV programmes often do not translate into practice at the local level.
- Health care providers, media, policymakers, and affected communities lack sufficient knowledge of how TB and HIV interact, including how to prevent TB among PLHIV and how to effectively treat the two diseases in a coordinated

¹¹ WHO, *TB/HIV: A Clinical Manual*, 2004, pp. 185-187.

¹² WHO interim policy for TB/HIV collaborative activities.

¹³ Salim S. Abdool Karim and others, "Timing of Initiation of ART during TB therapy" in *The New England Journal of Medicine*, 362; 8 February 25, 2010. <http://www.nejm.org/doi/full/10.1056/NEJMoa0905848>

manner. There is an urgent need for clinical training in the area of TB/HIV co-infection for healthcare providers.

- Community-based organisations and advocates are often not included in the development of TB/HIV co-infection policies. CBO, affected community and TB patients can play a major role in the TB control planning and monitoring (governance) process and advocacy as opposed to mere engagement in service delivery.
- Stigma is a significant barrier to appropriate diagnosis and treatment for TB/HIV co-infection.
- There are often hidden costs of TB treatment and, including in some countries, user fees charged in public health care systems that create an additional burden for PLHIV and TB patients.
- Lack of government regulation of TB drug procurement and oversight of service providers leads to drug resistance in patients, and incomplete data on the epidemic.

Difference between HIV and TB advocacy

There is clearly a difference between advocacy work amongst the HIV and TB communities.

Historically, many communities that first responded to HIV/AIDS combined a personal commitment to a lifelong incurable condition with political power or political activism. In western countries like the USA and UK, white and relatively prosperous gay men were disproportionately affected in the early years of the pandemic. In many parts of Africa, women of high socioeconomic status (e.g. wives and partners of mobile men with money) were as likely to be infected with HIV in the first two decades of the pandemic as were low-income and illiterate women. In Brazil, the middle-class gay community self-financed many organisational responses, while its government avoided programmes that focused on marginalised populations. Since the late 1990's, emerging HIV/AIDS groups in a number of developing countries had been supported by the global HIV/AIDS activism, donor agencies and international NGOs. These communities had political clout and access to funding, and used both community self-help and political advocacy to generate successful responses.¹⁴ As a result, patient autonomy, treatment literacy and support, as well as great involvement of PLHIV (GIPA)¹⁵ are central components of the HIV/AIDS response.

Conversely, TB control has traditionally been based to a great extent on the work by epidemiologists, clinicians and scientists, without the involvement of affected communities and TB patients. The directly observed treatment (DOT) model has its roots in paternalistic public health official approaches that make the public health official the decision-maker on behalf of the patient and the community. People with

¹⁴ Merson, Michael; O'Malley J. and others, "The History and Challenge of HIV Prevention", [The Lancet](#), [Volume 372, Issue 9637](#), 9 August 2008, pp. 475 - 488.

¹⁵ GIPA is a principle formalized at the 1994 Paris AIDS Summit when 42 countries agreed to "support a greater involvement of people living with HIV at all...levels...and to...stimulate the creation of supportive political, legal and social environments". It is based on the idea that personal experiences should shape the HIV/AIDS response. http://data.unaids.org/pub/BriefingNote/2007/JC1299_Policy_Brief_GIPA.pdf

TB are treated as “public health cases”.¹⁶ TB and MDR-TB affect the poorest and most marginalized groups, those who have not necessarily benefited from the engagement and activism of the often well-educated and politically connected constituencies first affected by AIDS in developed countries or international activism in the case of low-income countries.

The type of sophisticated science-based treatment activism seen in the HIV field – which has changed national and global health policy – has been rare in TB or even HIV-related TB. Notably, the Global Plan to Stop TB 2006-2015 stressed the importance of linking TB advocacy with other global social movements especially the HIV/AIDS community. The lack of critical engagement in the development and implementation of TB policies by CSO and communities directly affected by the disease has resulted in the absence of governmental accountability to TB policies and quality services.

¹⁶ Achmat, Z. “Science and social justice: the lessons of HIV/AIDS activism in the struggle to eradicate TB”, Special Guest Lecture given during the 36th Union Conference on Global Lung Health, Palais des Congrès, Paris, France, 18-22 October 2005. International Journal of TB and Lung Diseases, 10 (12):1312-1317.