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Expanding human immunodeficiency virus testing and counseling to reach tuberculosis clients' partners and families

C. Courtenay-Quirk[*], **A. Date**[*], **P. Bachanas**[*], **R. Baggaley**[†], **H. Getahun**[†], **L. Nelson**[†], and **R. Granich**[‡]

[*]Division of Global HIV/AIDS, Centers for Disease Control and Prevention, Atlanta, Georgia, USA [†]World Health Organization, Geneva, Switzerland [‡]International Association of Providers of AIDS Care, Washington DC, USA

SUMMARY

Recent years have shown important increases in human immunodeficiency virus (HIV) testing and counseling (HTC), diagnosis, and coverage of antiretroviral therapy (ART) among HIV-infected tuberculosis (TB) patients. Expansion of HTC for partners and families are critical next steps to increase earlier HIV diagnoses and access to ART, and to achieve international goals for reduced TB and HIV-related morbidity, mortality, transmission and costs. TB and HIV programs should develop and evaluate feasible and effective strategies to increase access to HTC among the partners and families of TB patients, and ensure that newly diagnosed people living with HIV and HIV-infected TB patients who complete anti-tuberculosis treatment are successfully linked to ongoing HIV clinical care.

Keywords

highly active antiretroviral therapy; TB-HIV integration; TB; HIV serodiagnosis

In 2013, an estimated 35 million people were living with human immunodeficiency virus (HIV) infection, 2.1 million were newly infected, and 1.5 million died from acquired immune-deficiency syndrome-related illnesses.[1] Tuberculosis (TB) is the leading cause of preventable illness and death among people living with HIV (PLHIV). Because early antiretroviral therapy (ART) prevents HIV and TB illness, death, and transmission, and is cost-effective,[2–4] the World Health Organization (WHO) recommends integrating HIV and TB services, including HIV testing and counseling (HTC) and ART, for all HIV-infected TB (TB-HIV) patients.[5]

Although the adoption of WHO-recommended HIV and TB policies has been variable,[6] HTC coverage among notified TB cases in 2012 increased to 46% worldwide, and to 74% in Africa.[7] Integration of HTC within routine TB services has increased the identification of

Correspondence to: Cari Courtenay-Quirk, Center for Global Health, Division of Global HIV/AIDS, Centers for Disease Control and Prevention, 1600 Clifton Road, MS E-04, Atlanta, GA 30333, USA. Tel: (+1) 404 639 1924. Fax: (+1) 404 639 8105. ccourtenayquirk@cdc.gov.

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HIV co-infection among TB patients.[8] ART coverage for TB-HIV patients also increased from 49% in 2011 to 57% in 2012.[7]

While these results are encouraging, other opportunities remain. Globally, only 37% of PLHIV (12.9 million people) are on ART, the majority of whom live in high HIV-TB burden areas.[1] HTC for partners and families of TB patients is the critical next step in the delivery of effective integrated TB-HIV services,[9] and is an efficient strategy to improve early access to HIV services.

Serodiscordance among HIV-affected heterosexual couples ranges from 36% to 88% in sub-Saharan Africa:[10] couples affected by TB are at increased risk of HIV transmission.[11] Identifying HIV in the TB patient, the partner, or both allows for earlier entry to care and increased uptake of and adherence to services that reduce HIV transmission.[12] Partner HIV testing and counseling (PHTC) affords opportunities to 1) identify family contacts in need of HTC, screening for TB, and other interventions such as isoniazid preventive therapy (IPT); 2) offer or refer HIV-negative partners to other HIV prevention services (e.g., medical male circumcision); and 3) further destigmatize HIV testing. Despite existing recommendations, however, PHTC has not yet become routine practice in many TB settings.

OPPORTUNITIES AND CHALLENGES

TB programs are often decentralized to the community level, where TB patients are treated for 6–8 months. This provides multiple opportunities to deliver HIV and TB prevention messages and PHTC. Partners of TB patients who attend clinic visits as treatment supporters should be offered facility-based PHTC routinely. Other partners may wish to test separately, to test as a family, or to test in settings outside the facility. Existing TB contact tracing strategies could be expanded to increase HTC among TB patient partners and families, including home-based testing. Because TB programs primarily focus on individual patients, a shift to more explicitly address partners and other family contacts will be required to carry out these changes effectively. Organizational management of supply chain and logistics will also have to be adapted to ensure adequate supplies of commodities and good infection control in TB clinics.

Although adding PHTC to TB-HIV services could increase staff burden,[8] these interventions would reduce the burden over time as PLHIV are diagnosed earlier and patients are placed on treatment. These programmatic shifts will likely result in fewer patients becoming ill, dying or transmitting HIV and TB. Health care workers have reported that the increased workload from scaling up HTC is offset by reduced HIV-related admissions and increased work satisfaction in seeing healthier patients.[13]

The most significant challenge in scaling up PHTC in TB settings may be to ensure that newly diagnosed non-TB patients are linked to HIV clinical care. This is a challenge for TB patients as well, as some of those who receive integrated HIV-TB services default from HIV services after the completion of anti-tuberculosis treatment. Scaling up PHTC will require the development of protocols to ensure access to HIV services, including follow-up, to confirm ongoing HIV clinical care. TB programs in most countries have strong documentation systems, such as unit registers, patient cards, and referral forms. With

minimal enhancements, these tools could be modified to confirm linkage to HIV services, as continuity from HIV diagnosis to viral suppression is a critical aspect of both HIV and TB control.[14]

PROMISING PROGRAM MODELS

To date, few TB programs have expanded PHTC. However, a pilot program was introduced in Tanzania in 2014. In this model (Table), both the health care providers and the volunteer cadres receive training to increase TB clinic-based PHTC, strengthen linkage to HIV clinical care, provide ART and adherence counseling where applicable, and provide HIV group education to increase knowledge and demand for services. In Tanzania, ART is recommended for all HIV co-infected TB patients, irrespective of CD4 cell count.[15] Forthcoming results from the evaluation will examine whether the model increases 1) HTC among TB patients and partners; 2) ART for TB-HIV patients; 3) identification of serodiscordant couples; and 4) linkage to HIV care.

While this model offers promise, additional models for HTC are available and can be adapted to foster PHTC among TB patients. TB programs should also increase efforts to test the children of TB-HIV patients. Models that warrant evaluation include offering HTC to partners and families of TB patients during directly observed therapy (DOT), home-based PHTC, and distribution of HIV self-testing kits to patients' partners. Regardless of the model, patient confidentiality should be safeguarded. The relative cost, including cost-effectiveness,[16] of different approaches to PHTC should be assessed to identify best practices in different epidemiological contexts.

CONCLUSION

HTC is an essential component of TB-HIV integration, and there have been important increases in HTC and ART uptake among HIV-infected TB patients. TB programs should continue to ensure that all HIV-infected TB patients are diagnosed, initiated on ART as early as eligible and remain adherent. In the process of expanding PHTC, TB and HIV programs should ensure that newly diagnosed PLHIV access IPT and other prevention interventions successfully.

Expansion of HTC for partners and families is a critical next step to achieving international treatment targets, such as 90% of PLHIV diagnosed, 90% on ART, and 90% virally suppressed by 2020.[7,14] We urge HIV and TB programs to work together to develop and evaluate feasible and effective strategies to increase access to HTC for the partners and families of TB patients.

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References

1. The Gap Report. Geneva, Switzerland: UNAIDS; 2014.
2. Suthar AB, Lawn SD, del Amo J, et al. Antiretroviral therapy for prevention of tuberculosis in adults with HIV: a systematic review and meta-analysis. PLOS MED. 2012; 9:e1001270. [PubMed: 22911011]
3. Cohen MS, Chen YQ, McCauley M, et al. Prevention of HIV-1 infection with early antiretroviral therapy. N Engl J Med. 2011; 365:493–505. [PubMed: 21767103]
4. Walensky RP, Ross EL, Kumarasamy N, et al. Cost-effectiveness of HIV treatment as prevention in serodiscordant couples. N Engl J Med. 2013; 369:1715–1725. [PubMed: 24171517]
5. World Health Organization. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. Geneva, Switzerland: WHO; 2013.
6. Gupta S, Granich R, Hersh B, Lepere P, Samb B. Global policy review of recommendations on cotrimoxazole prophylaxis among people living with HIV. J Int Assoc Provid AIDS Care. 2014; 13:397–401. [PubMed: 24899258]
7. World Health Organization. Global tuberculosis report, 2013. Geneva, Switzerland: WHO; 2013. WHO/HTM/TB/2013.11
8. Uyei J, Coetzee D, Macinko J, Guttmacher S. Integrated delivery of HIV and tuberculosis services in sub-Saharan Africa: a systematic review. Lancet Infect Dis. 2011; 11:855–867. [PubMed: 22035614]
9. World Health Organization. WHO policy on collaborative TB/HIV activities: guidelines for national programmes and other stakeholders. Geneva, Switzerland: WHO; 2012. WHO/HTM/TB/2012.1 WHO/HIV/2012.1
10. Chemaitelly H, Cremin I, Shelton J, Hallett TB, Abu-Raddad LJ. Distinct HIV discordancy patterns by epidemic size in stable sexual partnerships in sub-Saharan Africa. Sex Transm Infect. 2012; 88:51–57. [PubMed: 22250180]
11. Gupta-Wright A, Wood R, Bekker LG, Lawn SD. Temporal association between incident tuberculosis and poor virological outcomes in a South African antiretroviral treatment service. J Acquir Immune Defic Syndr. 2013; 64:261–270. [PubMed: 23846570]
12. Medley A, Baggaley R, Bachanas P, Cohen M, Shaffer N, Lo YR. Maximizing the impact of HIV prevention efforts: interventions for couples. AIDS Care. 2013; 25:1569–1580. [PubMed: 23656251]
13. Sibanda EL, Hatzold K, Mugurungi O, et al. An assessment of the Zimbabwe ministry of health and child welfare provider initiated HIV testing and counselling programme. BMC Health Serv Res. 2012; 12:31. [PubMed: 22299830]
14. UNAIDS. Ambitious treatment targets: writing the final chapter of the AIDS epidemic. Geneva, Switzerland: UNAIDS; 2013.
15. Tanzania Ministry of Health and Social Welfare. National guidelines for the management of HIV and AIDS. Dar-es-Salaam, Tanzania: Ministry of Health and Social Welfare; 2012.
16. Smith JA, Sharma M, Levin C, et al. Cost-effectiveness of community-based strategies to strengthen the continuum of HIV care in rural South Africa: a health economic modelling analysis. Lancet HIV. 2015; 2:e159–e168. [PubMed: 25844394]

Table

Pilot intervention components to increase TB patients' partner testing and linkage to HIV care in Tanzania

Intervention components	TB health care providers	Ex-TB patient volunteers
Training elements		
	CHTC refresher training ART adherence refresher training Linkage to care training	HIV group education training Linkage to care support training
Activities		
	Deliver facility-based CHTC for partners of TB patients Refer to appropriate follow-up services Provide support for ART initiation and adherence Confirm and document linkage to HIV care of newly diagnosed PLHIV Re-link HIV-infected TB patients upon completing anti-tuberculosis treatment	Conduct group TB and HIV education in facility and community settings Support follow-up of patients who fail to link to HIV care, e.g., via home visits
Job aids		
	CHTC provider card Adherence counseling guide	HIV group education Flipchart

TB = tuberculosis; HIV = human immunodeficiency virus; CHTC = couples HIV testing and counseling; ART = antiretroviral therapy; PLHIV = people living with HIV.