

INTERIM POLICY ON
COLLABORATIVE TB/HIV ACTIVITIES

Stop TB Department and Department of HIV/AIDS

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Abbreviations	iv
1. Introduction	1
1.1 Rationale	
1.2 Purpose	
1.3 Target audience	
2. Policy formulation process	1
3. Goal and objectives of collaborative TB/HIV activities	2
4. Recommended collaborative TB/HIV activities	2
A Establish the mechanisms for collaboration	
B Decrease the burden of tuberculosis in people living with HIV/AIDS	
C Decrease the burden of HIV in tuberculosis patients	
5. Thresholds for starting recommended collaborative TB/HIV activities	11
6. Targets for collaborative TB/HIV activities	12
7. References	13

Abbreviations

AIDS	Acquired immunodeficiency syndrome
DOT	Directly observed treatment
DOTS	the internationally recommended strategy for TB control
HIV	Human immunodeficiency virus
MDG	Millennium development goals
MTCT	Mother-to-child transmission
PLWHA	People living with HIV and AIDS
PMTCT	Prevention of mother-to-child transmission
STAG	Strategic and technical advisory group for tuberculosis
STI	Sexually transmitted infections
TB	Tuberculosis
TB/HIV	The intersecting epidemics of TB and HIV
UNAIDS	The Joint United Nations programme on HIV/AIDS

1. Introduction

1.1 Rationale

The human immunodeficiency virus (HIV) pandemic presents a massive challenge to the control of tuberculosis (TB) at all levels. Tuberculosis is also one of the most common causes of morbidity and one of the leading causes of mortality in people living with HIV/AIDS (PLWHA). This document will assist policy-makers to understand *what should be done* to decrease the joint burden of tuberculosis and HIV. It is designed to be used in conjunction with the *Strategic framework to decrease the burden of TB/HIV* (1) which addresses *what could be done* and the *Guidelines for implementing collaborative TB and HIV programme activities* (2) which address *how these things could be done*. It also complements the guidelines for monitoring and evaluating collaborative TB/HIV activities (3) and the guidelines for HIV surveillance among tuberculosis patients (4).

1.2 Purpose

This policy responds to a demand from countries for immediate guidance on which collaborative TB/HIV activities to implement and under what circumstances. It is complementary to and in synergy with the established core activities of tuberculosis and HIV/AIDS prevention and control programmes. Implementing the DOTS strategy is the core activity for tuberculosis control. Similarly, infection and disease prevention and health promotion activities and the provision of treatment and care form the basis for HIV/AIDS control. (A useful summary of the recommended collaborative activities is given in Table 1 and the thresholds for countries to start those activities are provided in Table 2.) This policy does not call for the institution of a new specialist or independent disease control programme. Rather, it promotes enhanced collaboration between tuberculosis and HIV/AIDS programmes in the provision of a continuum of quality care at service-delivery level for people with, or at risk of, tuberculosis and people living with HIV/AIDS.

While there is good evidence for the cost effectiveness of the DOTS strategy and several HIV prevention measures (5, 6), the evidence for collaborative TB/HIV activities is limited and is still being generated in different settings. Existing evidence from randomized controlled trials, non-randomized trials and other analytical and descriptive observational studies, operational research and expert opinion based on sound clinical and field experience was used for this interim policy document. It is a rolling policy, which will be continuously updated to reflect new evidence and best practices.

1.3 Target audience

This document is intended for decision-makers in the field of health, for tuberculosis and HIV/AIDS programme managers working at all levels in the health sector, as well as donors, development agencies and nongovernmental organizations supporting tuberculosis and HIV/AIDS programmes. The recommendations made in this document also have important implications for the strategic directions and activities of other ministries.

2. Policy formulation process

The Global TB/HIV Working Group contributed to the formulation of this policy, with a writing committee preparing its initial and subsequent versions. The Working Group coordinates the global response to the intersecting tuberculosis and HIV epidemics, forging collaboration between the HIV/AIDS and tuberculosis communities. Its membership includes programme managers, development agencies, nongovernmental

organizations, academic institutions, activists and patient-support groups working with WHO and UNAIDS on both tuberculosis and HIV programmes. The writing committee included technical experts from tuberculosis and HIV, policy-makers involved in health management, persons living with HIV and their advocates, international and national tuberculosis and HIV programme managers, and donor agencies. The draft policy has been discussed at international conferences by international and national stakeholders in HIV and tuberculosis programmes and it has been endorsed by the Global TB/HIV Working Group and the Strategic and Technical Advisory Group for tuberculosis (STAG), which provides WHO with external strategic and technical advice on tuberculosis control.

3. Goal and objectives of collaborative TB/HIV activities

The policy goal is to decrease the burden of tuberculosis and HIV in populations affected by both diseases.

The objectives of collaborative TB/HIV activities are: (1) to establish the mechanisms for collaboration between tuberculosis and HIV/AIDS programmes; (2) to decrease the burden of tuberculosis in people living with HIV/AIDS; and (3) to decrease the burden of HIV in tuberculosis patients.

4. Recommended collaborative TB/HIV activities

This document focuses on collaborative activities that address the interface of the tuberculosis and the HIV/AIDS epidemics and that should be carried out as part of the health sector response to the intersecting tuberculosis and HIV epidemics (Table 1).

Table 1 Recommended collaborative TB/HIV activities

A. Establish the mechanisms for collaboration
A.1 Set up a coordinating body for TB/HIV activities effective at all levels
A.2 Conduct surveillance of HIV prevalence among tuberculosis patients
A.3 Carry out joint TB/HIV planning
A.4 Conduct monitoring and evaluation
B. Decrease the burden of tuberculosis in people living with HIV/AIDS
B.1 Establish intensified tuberculosis case-finding
B.2 Introduce isoniazid preventive therapy
B.3 Ensure tuberculosis infection control in health care and congregate settings
C. Decrease the burden of HIV in tuberculosis patients
C.1 Provide HIV testing and counselling
C.2 Introduce HIV prevention methods
C.3 Introduce co-trimoxazole preventive therapy
C.4 Ensure HIV/AIDS care and support
C.5 Introduce antiretroviral therapy

These collaborative activities will be more successful where national HIV/AIDS and tuberculosis control strategies are based on international guidelines and are effectively implemented. The recommended activities can be implemented by tuberculosis and HIV/AIDS programmes, nongovernmental organizations, community-based organizations or the private sector generally under the coordination of the national tuberculosis and HIV/AIDS programmes.

A. Establish the mechanisms for collaboration

A.1 Set up a coordinating body for TB/HIV activities effective at all levels

Even in settings where HIV prevalence is high, tuberculosis and HIV/AIDS programmes have largely pursued separate courses. TB/HIV coordinating bodies are needed to ensure more effective collaboration between existing HIV/AIDS and tuberculosis programme efforts at all levels.

Important areas of responsibility for the joint coordinating bodies are:

- governance and mobilization of resources for TB/HIV activities
- capacity-building including training
- ensuring coherence of communications about TB/HIV
- ensuring the participation of the community in joint TB/HIV activities
- overseeing the preparation of the evidence base.

Evidence from operational research and expert opinion has shown that having TB/HIV coordinating bodies operating at all levels, so that all stakeholders from the HIV/AIDS and tuberculosis control programmes can participate, is feasible and ensures commitment and ownership. Such a coordinating body should also address governance issues in the implementation of joint TB/HIV plan (7–9).

Recommendation

HIV/AIDS and tuberculosis programmes should create a joint national tuberculosis and HIV coordinating body, working at regional, district and local levels (sensitive to country-specific factors), with equal or reasonable representation of the two programmes and including tuberculosis and HIV patient support groups.

A.2 Conduct surveillance of HIV prevalence among tuberculosis patients

Surveillance is essential to inform programme planning and implementation. There are three key methods for surveillance of HIV among tuberculosis patients: periodic (special) surveys (cross-sectional HIV seroprevalence surveys among a small representative group of tuberculosis patients within a country); sentinel surveys (using tuberculosis patients as a sentinel group within the general HIV sentinel surveillance system); and data from the routine HIV testing and counselling of tuberculosis patients. The surveillance method chosen depends on the underlying HIV epidemic state,^{1–3} the overall tuberculosis situation, and the availability of resources and experience.

Evidence from descriptive studies (10–12) and expert opinion (13) have shown HIV surveillance among tuberculosis patients to be a critical activity in understanding the trends of the epidemic and in the development of sound strategies to address the dual TB/HIV epidemic.

Recommendations

1. There should be HIV surveillance among tuberculosis patients in all countries irrespective of national adult HIV prevalence rates.
2. Countries with unknown HIV prevalence rates among tuberculosis patients should conduct a seroprevalence (periodic or sentinel) survey to assess the situation.

3. In countries with a generalized epidemic state,¹ HIV testing and counselling for all tuberculosis patients should form the basis of surveillance. If this is not yet in place, periodic surveys or sentinel surveys are suitable alternatives.
4. In countries with a concentrated epidemic state² where groups at high risk for HIV are localized in certain administrative areas, HIV testing and counselling to all tuberculosis patients in those administrative areas should form the basis of surveillance. If this is not yet in place, periodic surveys or sentinel surveys are suitable alternatives.
5. In countries with a low-level epidemic state,³ periodic surveys or sentinel surveys are recommended.

A.3 Carry out joint TB/HIV planning

The tuberculosis and HIV/AIDS programmes need joint strategic planning to collaborate successfully and systematically. They should either devise a joint TB/HIV plan or introduce TB/HIV components in both the national TB control plan and national HIV/AIDS control plan. The roles and responsibilities of each programme in implementing specific TB/HIV activities at national and district levels must be clearly defined.

Crucial elements for joint planning include the activities detailed in sections A–C of this document, as well as resource mobilization, capacity-building and training, TB/HIV communication (advocacy, programme communication and social mobilization), enhanced community involvement, and operational research.

A.3.1 Resource mobilization for TB/HIV

Collaborative TB/HIV activities, which build on well-resourced tuberculosis and HIV/AIDS strategies, may not require much additional financial input. If either or both programmes are under-resourced in funds or human capacity, additional resources should first be mobilized to strengthen each programme. Joint proposals to solicit resources for implementing collaborative TB/HIV activities should be prepared, within the framework of the joint coordinating body, building on the comparative strengths of both programmes and the specific needs of the country.

Recommendations

1. Joint planning should clearly define the roles and responsibilities of each programme in implementing specific TB/HIV activities outlined in Table 1 at national and district level (as described in the guidelines for implementing collaborative TB and HIV programme activities (2)).
2. Countries should ensure mobilization and adequate deployment of sufficient qualified human resources to implement collaborative TB/HIV activities in accordance with country-specific situations.
3. The TB/HIV coordinating bodies should be responsible for the governance and the mobilization of resources to implement collaborative TB/HIV activities, thus avoiding competition for the same resources.

¹ Generalized epidemic state: HIV prevalence is consistently >1% in pregnant women.

² Concentrated epidemic state: HIV prevalence is consistently >5% in at least one defined subpopulation and is <1% in pregnant women in urban areas.

³ Low-level epidemic state: HIV prevalence has not consistently exceeded 5% in any defined subpopulation.

A.3.2 TB/HIV capacity-building, including training

Joint capacity-building for TB/HIV activities should include training of health care workers in TB/HIV issues. Capacity should be enhanced in the health care system, for example, in the laboratory and referral systems, to enable them to cope better with the increasing demands of collaborative TB/HIV activities.

Recommendations

1. Tuberculosis and HIV/AIDS programmes should draw up a joint training plan to provide pre-service and in-service training, and continuing medical education on collaborative TB/HIV activities for all categories of health care workers.
2. Tuberculosis and HIV/AIDS programmes should ensure that there is sufficient capacity in health care delivery (e.g. laboratory, drug and referral capacity) for effective implementation of collaborative TB/HIV activities.

A.3.3 TB/HIV communication: advocacy, programme communication and social mobilization

Advocacy targeted at influencing policy, programme implementation and resource mobilization is very important to accelerate the implementation of collaborative TB/HIV activities. Two-way communication between the programmes and the general public, which informs and creates awareness about TB/HIV, is crucial for ensuring that patients actively seek out and avail themselves of services. Social mobilization that generates public will and secures broad consensus and social commitment among all stakeholders is critical for stigma mitigation and prevention of tuberculosis and HIV, as well as encouraging participation in collaborative TB/HIV activities.

Recommendations

1. Well designed TB/HIV advocacy activities, jointly planned to ensure coherence between their messages and targeted at key stakeholders and decision-makers, should be carried out at global, national, regional and local levels.
2. HIV/AIDS and tuberculosis programmes should develop joint TB/HIV programme communication and social mobilization strategies that address the needs of individual clients and patients and of communities affected by HIV/AIDS and tuberculosis.
3. The joint communication strategies should ensure the mainstreaming of HIV components in tuberculosis communication and tuberculosis components in HIV communication.

A.3.4 Enhancing community involvement in collaborative TB/HIV activities

Expanding collaborative TB/HIV activities beyond the health sector through involvement of communities is crucially important. Through support groups for people living with HIV/AIDS and community-based organizations, tuberculosis prevention and care can be integrated with HIV/AIDS prevention, care and support. Communities can be effectively mobilized to advocate for resources and opportunities to implement collaborative TB/HIV activities.

Community-based organizations, such as those providing HIV/AIDS home-based care, may also be involved in identifying people with signs and symptoms of tuberculosis, and ensuring directly observed treatment for tuberculosis. Isoniazid preventive therapy can be provided to close contacts of HIV-positive people with infectious tuberculosis. This can be done at little additional cost by existing organizations.

Recommendations

1. All stakeholders, including HIV/AIDS and tuberculosis programmes, should ensure the inclusion of tuberculosis prevention and care in community-based HIV/AIDS prevention, care and support services. Similarly, community tuberculosis prevention and care services should also include HIV/AIDS prevention, care and support activities in their services.
2. All stakeholders, including HIV/AIDS and tuberculosis programmes, should ensure the involvement of tuberculosis and HIV patient support groups and their communities in the planning, implementation and advocacy of collaborative TB/HIV activities.

A.3.5 Operational research to enhance collaborative TB/HIV activities

Operational research helps to determine the most efficient means of implementing collaborative TB/HIV activities. It informs global and national policy and strategy development, taking account of cultural, geographical and resource diversity.

Recommendation

All stakeholders of collaborative TB/HIV activities, including both tuberculosis and HIV/AIDS programmes, should support and encourage TB/HIV operational research on country-specific issues to develop the evidence base for efficient and effective implementation of collaborative TB/HIV activities.

Evidence from operational research (7–9), expert opinion (8, 9) and policy analysis (14) has shown that effective and efficient implementation of collaborative TB/HIV activities depends on joint planning and implementation by the tuberculosis and HIV/AIDS programmes and requires close collaboration between community care services and government health institutions. Involvement of home-based care workers and community health workers in both tuberculosis and HIV/AIDS activities has been successfully implemented in various countries. There is evidence of the cost-effectiveness of community-based tuberculosis (5, 15, 16) and HIV/AIDS care services (6).

A.4 Monitoring and evaluation of collaborative TB/HIV activities

Monitoring and evaluation provide the means to assess quality, effectiveness, coverage and delivery of collaborative TB/HIV activities. They promote a learning culture within the programmes and so ensure continuous improvement of programme performance. Monitoring and evaluation involve collaboration between the programmes and the general health system, and the development of referral linkages between different services and organizations. These linkages should be integrated with existing monitoring and evaluation systems and should ensure confidentiality.

Evidence from operational research (7, 8) in Africa and expert opinion (7) has shown the importance of standardized monitoring and evaluation of collaborative TB/HIV activities for determining the impact of the activities and ensuring implementation and effective programme management.

Recommendations

1. HIV/AIDS and tuberculosis programmes should agree on a core set of indicators and data collection tools, and should collect data for monitoring and evaluation of collaborative TB/HIV activities.
2. The WHO guidelines for monitoring and evaluation of collaborative TB/HIV activities should be used as a basis for standardizing country-specific monitoring and evaluation activities.

B. Decrease the burden of tuberculosis in people living with HIV/AIDS

B.1 Establish intensified tuberculosis case-finding

Intensified tuberculosis case-finding comprises screening for symptoms and signs of tuberculosis in settings where HIV-infected people are concentrated. Early identification

of signs and symptoms of tuberculosis, followed by diagnosis and prompt treatment in people living with HIV/AIDS, their household contacts, groups at high risk for HIV and those in congregate settings (e.g. prisons, workers' hostels, police and military barracks), increases the chances of survival, improves quality of life and reduces transmission of tuberculosis in the community.

Recommendations

1. Intensified tuberculosis case-finding should be established in all HIV testing and counselling settings using, at a minimum, a simple set of questions to identify suspected tuberculosis cases as soon as possible. The questions should be asked by trained counsellors.
2. A referral system should be established between HIV counselling and testing and tuberculosis diagnostic and treatment centres.
3. Tuberculosis case-finding in people living with HIV/AIDS in clinics and hospitals, household contacts, populations at high risk for HIV, and congregate settings should be intensified, by increasing the awareness and knowledge of interactions between tuberculosis and HIV among health care workers and the populations they serve, identifying tuberculosis suspects and referring them for diagnosis, on a regular basis.

Evidence has shown that intensified case-finding and treatment of tuberculosis among HIV infected persons interrupt disease transmission by infectious cases (17, 18) prevent mortality (19), decrease risk of nosocomial tuberculosis transmission and offer the opportunity to provide tuberculosis preventive therapy to HIV positive patients (20). It has also been established that intensified tuberculosis case-finding is feasible (8, 19–21), not time-consuming and can be done at little additional cost in existing health service (7, 8). A brief questionnaire on tuberculosis symptoms to screen for active tuberculosis can be administered by trained counsellors or other lay health workers (7, 8). In operational research in Africa (8) and elsewhere (20), previously undiagnosed tuberculosis was detected in up to 11% of people living with HIV/AIDS identified through HIV testing and counselling.

B.2 Introduce isoniazid preventive therapy

Isoniazid is given to individuals with latent infection with *Mycobacterium tuberculosis* in order to prevent progression to active disease. Exclusion of active tuberculosis is critically important before this therapy is started. Isoniazid is given daily as self-administered therapy for six to nine months. Since HIV-infected people could develop tuberculosis before antiretroviral therapy is indicated, and as there is no evidence contraindicating combined use, use of antiretroviral drugs does not preclude the use of isoniazid preventive therapy.

Recommendations

1. HIV/AIDS programmes should provide isoniazid preventive therapy as part of the package of care for people living with HIV/AIDS when active tuberculosis is safely excluded.
2. Information about isoniazid preventive therapy should be made available to all people living with HIV/AIDS.

Evidence showed isoniazid preventive therapy to be more effective (22) and safer (23) than rifampicin- and pyrazinamide-containing regimens for prevention of latent tuberculosis infection. Several randomized trials showed isoniazid preventive therapy to be effective in reducing incidence of tuberculosis and death from tuberculosis in HIV-infected patients with a positive tuberculin skin test (24). Isoniazid preventive therapy also resulted in cost savings in medical care and reduction of social costs in sub-Saharan Africa (25). However, this therapy requires several steps to be taken, including identification of HIV-positive subjects, screening to exclude active tuberculosis and treatment adherence (24). For these reasons, the feasibility of this therapy in developing countries is less clear (24). In some studies combined use of antiretroviral therapy and isoniazid preventive therapy was reported without conclusive evidence about its effectiveness (26, 27). The results of upcoming studies assessing the effectiveness of combined use of both therapies need to be closely followed in order to inform the interim policy.

B.3 Ensure tuberculosis infection control in health care and congregate settings

In health care and congregate settings (e.g. prisons, police and military barracks), where people with tuberculosis and HIV are frequently crowded together, infection with tuberculosis is increased. Measures to reduce tuberculosis transmission include administrative, environmental and personal protection measures, which are aimed at generally reducing exposure to *M. tuberculosis* of health care workers, prison staff, police and their clients, and any other persons living in the congregate settings.

Administrative measures should include early recognition, diagnosis and treatment of tuberculosis suspects, particularly those with pulmonary tuberculosis, and separation of pulmonary tuberculosis suspects from others, until a diagnosis is confirmed or excluded. Environmental protection should include maximizing natural ventilation and using ultraviolet irradiation (if applicable). Personal protection should include protection of the HIV-positive person from possible exposure to tuberculosis (for example, transfer of the HIV-infected worker from medical wards) and offering isoniazid preventive therapy.

Evidence has shown there to be an increased risk of tuberculosis among health workers, medical and nursing students with patient contact (17, 28), prisoners (29) and forces in military barracks (30), which is exacerbated by the HIV epidemic. HIV promotes progression to active tuberculosis in people with recently acquired infection or with latent Mycobacterium tuberculosis infection (1).

Recommendation

1. Each health care and congregate setting should have a tuberculosis infection control plan supported by all stakeholders, which includes administrative, environmental and personal protection measures to reduce transmission of tuberculosis in health care and congregate settings.

C. Decrease the burden of HIV in tuberculosis patients

C.1 Provide HIV testing and counselling

The vast majority of HIV-infected people do not know their HIV status and seek health care from general service providers. HIV testing and counselling for tuberculosis patients, using rapid tests, offer an entry point for a continuum of prevention, care, support and treatment for HIV/AIDS as well as for tuberculosis. Benefits accrue to the patient, the family and the community at large. The testing should be readily available and voluntary, informed consent should be obtained and confidentiality should be protected.

Evidence from expert opinion (7) and operational research (8, 9) has shown that HIV testing and counselling offer a direct entry point for care and support of tuberculosis patients with HIV. The uptake of HIV testing by tuberculosis patients was also high (8, 9, 31). The cost-effectiveness of voluntary HIV counselling and testing improves significantly when the testing is targeted at populations with high HIV prevalence (32).

Recommendations

1. HIV testing and counselling should be offered to all tuberculosis patients in settings where the HIV prevalence among tuberculosis patients exceeds 5%.
2. Tuberculosis control programmes should mainstream provision of HIV testing and counselling in their operations or establish a referral linkage with the HIV/AIDS programmes to do so.

C.2 Introduce HIV prevention methods

Reduction of sexual, parenteral and vertical transmission of HIV builds on broad-based programmes of education about HIV/AIDS. Measures to reduce sexual transmission of HIV include promoting safer and more responsible sexual behaviour and practices, delayed onset of sexual activity, reduced number of sexual partners, systematic use of

condoms (male and female) and diagnosis and treatment of other sexually transmitted infections. Measures to reduce parenteral HIV transmission include ensuring the safety of the blood supply and use of sterilized injection and surgical equipment in medical settings. Among intravenous drug users, harm-reduction strategies, such as wide access to sterile injecting equipment, drug-dependence treatments and outreach services to reduce the frequency of injecting drug use are useful. Vertical transmission of HIV can be reduced by providing antiretroviral drugs to pregnant women and their infants.

Review of the evidence has shown that HIV prevention methods are cost effective (6). The provision of HIV preventive methods by tuberculosis control programmes or effective referral of patients to AIDS programmes is feasible in settings with high prevalence of tuberculosis and HIV (7–9). Improved treatment of sexually transmitted infections has been shown to reduce HIV incidence in an environment characterized by an emerging HIV epidemic (33).

Recommendations

1. Tuberculosis control programmes should develop and implement comprehensive HIV prevention strategies for their patients, targeting sexual, parenteral or vertical transmission, or should establish a referral linkage with HIV/AIDS programmes to do so.
2. All clients attending tuberculosis clinics should be screened for sexually transmitted infections using a simple questionnaire or other recommended approaches. Those with symptoms of sexually transmitted infections should be treated or referred to the relevant treatment providers.
3. Tuberculosis control programmes should implement procedures for reduction of occupational and nosocomial exposure to HIV infection in their services.
4. Tuberculosis control programmes should provide harm-reduction measures for tuberculosis patients when injecting drug use is a problem or should establish a referral linkage with HIV/AIDS programmes to do so.
5. Tuberculosis control programmes should ensure that vertical transmission is prevented by referring pregnant HIV-infected clients to providers of services for prevention of mother-to-child transmission.

C.3 Introduce co-trimoxazole preventive therapy

Co-trimoxazole preventive therapy is promoted by WHO and UNAIDS for the prevention of several secondary bacterial and parasitic infections in eligible adults and children living with HIV/AIDS in Africa. Tuberculosis patients are eligible for this therapy. This interim policy builds on the provisional WHO/UNAIDS secretariat recommendations on the use of co-trimoxazole prophylaxis in adults and children living with HIV/AIDS in Africa.

Evidence from randomized controlled trials of co-trimoxazole preventive therapy has shown reduced mortality among HIV-positive smear-positive tuberculosis patients (34) and reduced hospitalization and morbidity among people living with HIV/AIDS (35). Other non-randomized and operational studies showed that co-trimoxazole preventive therapy is feasible (7, 36, 37), safe (36) and reduces mortality rates in tuberculosis patients (31, 36–38). However, one randomized control trial showed no beneficial effect of this therapy (39). This lack of effect was attributed to the inadequate power of the study (40). The resistance rates to co-trimoxazole among common pathogens may also be high in some settings and this may compromise the efficacy of co-trimoxazole preventive therapy (40).

Recommendation

Tuberculosis and HIV/AIDS programmes should establish a system to provide co-trimoxazole preventive therapy to eligible people living with HIV/AIDS who have active tuberculosis.

C.4 Ensure HIV/AIDS care and support

Access to health care for people living with HIV/AIDS is a basic human right and includes the provision of clinical care as part of a continuum of a comprehensive AIDS care strategy. The strategy includes clinical management (prophylaxis, early diagnosis, rational treatment and follow-up care for opportunistic infections), nursing care (including promoting hygiene and nutritional support), palliative care, home care (including education for care providers and patients' relatives, promoting universal precautions), counselling and social support. People living with HIV/AIDS who are receiving or who have completed their tuberculosis treatment should be provided with the continuum of care and support for HIV/AIDS supported by a client referral system.

Recommendations

1. All people living with HIV/AIDS who are diagnosed as having tuberculosis should also be provided with HIV/AIDS care and support services.
2. Tuberculosis control programmes should establish a referral linkage with HIV/AIDS programmes to provide the continuum of care and support for people living with HIV/AIDS who are receiving or who have completed their tuberculosis treatment.

Evidence has shown that linking prevention and care and support programmes generates synergies and strengthens HIV/AIDS programmes (41). Directly observed antiretroviral therapy for people living with HIV/AIDS modelled on successful tuberculosis control efforts was used to extend moral and social support to people living with HIV/AIDS (42). Operational research (31, 35) and expert opinion (7–9) have shown that collaboration between the tuberculosis and HIV programmes can efficiently scale up the delivery of care and support activities to HIV-infected tuberculosis patients.

C.5 Introduce antiretroviral therapy

Antiretroviral therapy improves the quality of life and greatly improves survival for people living with HIV/AIDS. The availability of antiretroviral therapy can serve as an incentive for people to be tested for HIV. It also transforms HIV infection into a chronic condition through its positive effect on life expectancy. It is a lifelong treatment requiring a high adherence rate to achieve long-term benefits and minimize the development of drug resistance.

There is evidence that potent antiretroviral therapy can reduce the incidence of tuberculosis in HIV-positive persons by more than 80% (26, 43). However, for antiretroviral therapy to prevent a significant fraction of tuberculosis cases, initiation of the therapy early in the course of HIV infection and a high rate of compliance are required (44). The initiation of antiretrovirals in HIV-infected tuberculosis patients can result in the transient worsening of tuberculosis symptoms and signs in up to 30% of the patients in the developed world (45, 46). Expert opinion (38, 45, 47) and observational studies (42, 48, 49) proposed that directly-observed treatment programmes of tuberculosis can be used as a model for antiretroviral therapy delivery in some situations. However, there have been conflicting opinions about this strategy because of the scarcity of evidence (50). The "3 by 5" initiative aimed at treating 3 million people with antiretroviral therapy by 2005 will enhance access to this therapy by eligible tuberculosis patients.

Recommendations

1. Antiretroviral therapy should be offered to all HIV-positive tuberculosis patients depending on the eligibility criteria for the therapy in tuberculosis patients in each country and the drug interactions (with rifampicin).
2. Tuberculosis and HIV/AIDS programmes should create a mechanism to provide antiretroviral therapy to eligible HIV-positive tuberculosis patients.

5. Thresholds for starting recommended collaborative TB/HIV activities

Unlike other HIV-related opportunistic infections, tuberculosis can occur at all levels of the immune status (measured by CD₄ lymphocytes count) of people living with HIV/AIDS and substantially contributes to the overall burden of disease among this group. Therefore, countries in any HIV-epidemic state and with intersecting epidemics of tuberculosis and HIV should implement collaborative TB/HIV activities as indicated in Table 2. HIV prevalence among tuberculosis patients is the most sensitive and reliable indicator for the intersecting epidemic of tuberculosis and HIV in a country. In the absence of data on this, the national adult HIV prevalence rate can be used as an indicator for starting collaborative TB/HIV activities. The adult HIV prevalence data often exist at national level and can be used to classify the epidemic state of a country.

Table 2 Thresholds for countries to start recommended collaborative TB/HIV activities

Category	Criteria	Recommended collaborative TB/HIV activities
I	<p>Countries in which the national adult HIV prevalence rate is $\geq 1\%$</p> <p style="text-align: center;">OR</p> <p>in which the national HIV prevalence among tuberculosis patients is $\geq 5\%$.</p>	<p>A. Establish the mechanisms for collaboration</p> <p>A.1 Set up a coordinating body for TB/HIV activities effective at all levels</p> <p>A.2 Conduct surveillance of HIV prevalence among tuberculosis patients</p> <p>A.3 Carry out joint TB/HIV planning</p> <p>A.4 Conduct monitoring and evaluation</p> <p>B. Decrease the burden of tuberculosis in people living with HIV/AIDS</p> <p>B.1 Establish intensified tuberculosis case-finding</p> <p>B.2 Introduce isoniazid preventive therapy</p> <p>B.3 Ensure tuberculosis infection control in health care and congregate settings</p> <p>C. Decrease the burden of HIV in tuberculosis patients</p> <p>C.1 Provide HIV testing and counselling</p> <p>C.2 Introduce HIV prevention methods</p> <p>C.3 Introduce co-trimoxazole preventive therapy</p> <p>C.4 Ensure HIV/AIDS care and support</p> <p>C.5 Introduce antiretroviral therapy</p>
II	<p>Countries in which the national adult HIV prevalence rate is below 1%</p> <p style="text-align: center;">AND</p> <p>in which there are administrative areas with an adult HIV prevalence rate of $\geq 1\%$</p>	<p>Administrative areas with $\geq 1\%$ adult HIV prevalence: implementation of all activities as in category I</p> <p>countries in the administrative areas identified</p> <p>Other parts of the country: implementation of activities as in category III countries</p>
III	<p>Countries in which the national adult HIV prevalence rate is below 1%</p> <p style="text-align: center;">AND</p> <p>in which there are no administrative areas with an adult HIV prevalence rate of $\geq 1\%$</p>	<p>A. Joint national TB/HIV planning to implement:</p> <p>A.2 Conduct surveillance of HIV prevalence among tuberculosis patients</p> <p>B. To decrease the burden of tuberculosis in people living with HIV/AIDS [with focus on groups at high risk for HIV and tuberculosis risk, e.g. injecting drug users, sex workers and those living in congregate settings]</p> <p>B.1 Establish intensified tuberculosis case-finding</p> <p>B.2 Introduce isoniazid preventive therapy</p> <p>B.3 Ensure tuberculosis infection control in health care and congregate settings</p>

However, this will result in underestimation of high HIV prevalence rates in groups at high risk for HIV and in certain administrative areas within a country, particularly in geographically large countries. Therefore, countries should consider the regional (within-country) variation in HIV prevalence rates in order to decide on the types of collaborative TB/HIV activities to implement. For efficient use of their resources, countries with low HIV prevalence should focus as a priority on groups at high risk for HIV and tuberculosis such as injecting drug users, sex workers and congregate settings (e.g. workers' hostels, prisons, police and military barracks).

6. Targets for collaborative TB/HIV activities

WHO's global tuberculosis target is to cure 85% of sputum smear-positive patients under treatment and to detect 70% of cases by 2005. The Millennium Development Goals embrace the WHO tuberculosis targets and also aim to decrease the prevalence and death rates of tuberculosis by 50% of the year 2000 estimates by 2015.

The United Nations General Assembly Special Session on AIDS has set – among others – the following global HIV/AIDS targets, which were later endorsed by the WHO Global Health Sector Strategy for HIV/AIDS:

- By 2005, to reduce HIV prevalence among young men and women aged 15 to 24 years in the most affected countries by 25% and similarly to reduce HIV prevalence by 25% globally by the year 2010.
- By 2005, to ensure that at least 90% of young men and women aged 15 to 24 years have access to youth-specific information, education and communication materials on HIV/AIDS and that by 2010 this proportion has risen to at least 95%.
- By 2005, to reduce the proportion of infants infected with HIV by 20%, and by 50% by the year 2010.

Effective implementation of collaborative TB/HIV activities contributes to achieving the HIV/AIDS and tuberculosis targets. However, there is scarce evidence to show the exact magnitude and the mechanism by which these collaborative TB/HIV activities contribute to attaining these established targets. Therefore, a high level of caution should be exercised in setting quantified targets for collaborative TB/HIV activities. Targets enable countries, organizations and institutions to concentrate on a problem and work towards a common goal. Targets on collaborative TB/HIV activities are needed to increase global coverage and to accelerate country level implementation of collaborative TB/HIV activities.

The following are global targets for collaborative TB/HIV activities:

Global targets for collaborative TB/HIV activities

1. By 2005, all countries in Category I and Category II establish at least a national TB/HIV coordinating body to create the mechanism for collaboration between tuberculosis and HIV programmes.
2. By 2007 all countries in Category I and Category II develop joint TB/HIV implementation plans.
3. By 2007, all countries in Category I and Category II establish a system for HIV surveillance among tuberculosis patients.

Recommendation

Countries implementing collaborative TB/HIV activities should set their own country-specific targets for their collaborative TB/HIV activities.

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