

Invited paper

Tuberculosis and HIV in the Eastern Mediterranean Region

L. Gillini¹ and A. Seita¹

السل وفيروس العوز المناعي البشري في إقليم شرق المتوسط

لورا جيليني، أكبهيرو سيتا

الخلاصة: يمثل السل مشكلة صحية عمومية هامة في إقليم شرق المتوسط لمنظمة الصحة العالمية. إذ يقتل كل سنة 136 000 شخص، ويصيب إضافة لما سبق 630 000 شخص. ويُعدُّ فيروس العوز المناعي البشري أهم عوامل الاختطار المؤدية لتفاقم العدوى اللاسريية (تحت الإكلينيكية) بالمتفطرة السلية وتحوُّها إلى سل نشيط. وعلى الرغم من أن التهديد الذي يسببه الإيدز والعدوى بفيروسه بالإقليم يبدو أنه مازال معتدلاً نسبياً ولذلك فإنه لا توجد بيانات حتى الآن على أثر فيروس العوز المناعي البشري في وبائيات السل بالإقليم، فإن هناك حاجة إلى التصدي المشترك للعدوى بفيروس العوز المناعي البشري والسل بفعالية أكثر. وتوجز هذه المقالة وضع السل بالإقليم والتدابير المتخذة لمكافحته. كما تناقش تأثير العدوى بفيروس العوز المناعي البشري على السل وآثارها المحتملة على وضع السل بالإقليم. كما تقترح الأعمال المطلوبة للتصدي لهذا العبء المزدوج.

ABSTRACT Tuberculosis (TB) is an important public health problem in the Eastern Mediterranean Region of the World Health Organization. Every year the disease kills 136 000 people and affects 630 000 more. HIV is the most significant risk factor for progression from subclinical infection with *Mycobacterium tuberculosis* to active TB. Although the HIV/AIDS threat in the Region appears to be relatively modest and so far there has been no evidence of an impact of HIV on TB epidemiology in the Region, there is a need to jointly address HIV infection and TB more effectively. In this paper the TB situation in the Region and the measures being taken to combat it are outlined. The impact of HIV infection on TB and the repercussions this could have on the TB situation in the Region are also discussed. Actions that are needed to tackle this double burden are suggested.

La tuberculose et le VIH dans la Région de la Méditerranée orientale

RESUME La tuberculose représente un important problème de santé publique dans la Région OMS de la Méditerranée orientale. Chaque année, la maladie cause 136 000 décès et affecte 630 000 autres personnes. Le VIH est le facteur de risque le plus important pour le passage de l'infection à *Mycobacterium tuberculosis* infraclinique à la tuberculose évolutive. Bien que la menace du VIH/SIDA dans la Région semble être relativement modeste et qu'il n'y ait jusqu'à présent pas d'indications d'un impact du VIH sur l'épidémiologie de la tuberculose dans la Région, il est nécessaire de lutter conjointement contre l'infection à VIH et la tuberculose de manière plus efficace. Cet article présente la situation relative à la tuberculose dans la Région et les mesures qui sont prises pour combattre la maladie. L'impact de l'infection à VIH sur la tuberculose et les répercussions que ceci pourrait avoir sur la situation de la tuberculose dans la Région sont également examinés. Les mesures qui sont nécessaires pour lutter contre la double charge de morbidité sont suggérées.

¹Stop TB Unit, Division of Communicable Diseases, World Health Organization Regional Office for the Eastern Mediterranean, Cairo, Egypt.

Introduction

The global HIV epidemic is an important challenge for tuberculosis (TB) control. In countries where HIV is epidemic, the incidence of TB has drastically increased [1,2]. Among people living with HIV/AIDS, TB is the leading cause of death [3]. The epidemic of HIV and TB is a double burden to global health [4-6].

In the Eastern Mediterranean Region of the World Health Organization (WHO), TB is an important public health problem as it kills an estimated 136 000 people every year [7]. The HIV/AIDS threat in the Region appears to be relatively modest as the HIV epidemic is still recent and infections are only beginning to emerge. However, the estimated number of adults living with HIV has been steadily increasing in the past few years in the Region. Djibouti, Somalia and Sudan are now in the generalized state of an HIV epidemic [8]. To date there is no significant evidence of the impact of HIV on the TB epidemiology in the Region. However there is an urgent need to take comprehensive action at this stage to jointly address HIV infection and TB more effectively.

In this article we discuss the present situation of TB and its control in the Region, the possible impact of HIV on TB epidemiology and we offer suggestions of the actions needed to combat these diseases.

TB in the Eastern Mediterranean Region

TB is among the top 10 causes of death in the world [9], killing around 2 million people in 2001 [10]. In the Region, TB is an important public health problem. Every year the disease kills 136 000 people and affects 630 000 people [7]. The majority

(80%) of TB cases occur among socially and economically productive age groups of the community (15 to 54 years) [7]. TB is therefore a threat not only to health but also to development, and is a disease of poverty. If the global targets of 85% treatment success rate and 70% case detection rate by 2005 are not achieved within the Region, the number of TB cases could increase and might reach 672 000 in 2005 [11].

In 1996 the Regional Office started promoting DOTS (directly observed treatment short-course) as a strategy for TB control [12]. DOTS consists of five key components, the most important one of which is the direct observation of the patients' drug intake. Implementation of DOTS has been the main thrust of TB control activities in the Region, and in this regard, good progress has been made. By the end of 2002, 19 countries had introduced DOTS throughout the health services of the ministries of health (i.e. DOTS ALL OVER) and two other countries are using DOTS on a wider scale. Only two countries (Afghanistan and Pakistan) are still at the lower coverage of DOTS. Through the expansion of DOTS activities, 475 454 TB patients were detected from 1997 to 2001. The regional treatment success rate is 81%, and thus the global target of 85% has almost been achieved. This means DOTS saved the lives of around 250 000 people from 1997 to 2001 [7]. DOTS is therefore one of the most successful public health interventions [13,14], saving a large number of lives in a comparatively short time.

The critical challenge for the coming years is to improve case detection. At present the regional case detection rate is only 27%, meaning that within the Region only one out of four TB cases in the community is detected, while the global target is to achieve 70% detection by 2005. Low case detection rates in Afghanistan (15%)

and Pakistan (6%) are a significant reason behind the low overall rate, as these countries jointly account for 55% of the regional TB burden. Relatively low case detection rates (40% on average) in the other 21 countries are also a problem [7]. Efforts are being made to address the low case detection rate. For example, intensified support to Afghanistan and Pakistan is a priority. In addition, strengthening of laboratory services and surveillance systems, widening of the comprehensiveness of DOTS activities and collaboration with other sectors (public and private) are important areas of work. The Regional Office has developed a comprehensive work-plan to pursue all these objectives [11].

Impact of HIV on TB

HIV is the most significant risk factor for progression from subclinical infection with *Mycobacterium tuberculosis* to active TB [15,16]. Without HIV infection, it is generally accepted that a lifetime risk of a child

newly infected by *M. tuberculosis* of developing active TB is 10% [17]. However, when a person is dually infected with HIV and *M. tuberculosis*, the risk of developing TB significantly increases from 10% in a life time to 5%–15% per year [18–21]. As a result, in countries with an HIV epidemic, TB incidence has increased exponentially as observed in many Sub-Saharan African countries (Figure 1). In many of these countries, HIV seroprevalence among TB patients ranges from 60% to 80% according to the results of studies undertaken [22–26].

In our Region it seems that, although the available information is still limited, HIV has not had this kind of impact on the epidemiology of TB. The incidence of TB has not increased in any countries of the Region. HIV seroprevalence among TB patients is generally low: 0% in Jordan, 0.6% in Egypt, 2.1% in Pakistan and 4.2% in the Islamic Republic of Iran (all data for year 2001) [8]. This is primarily due to the low

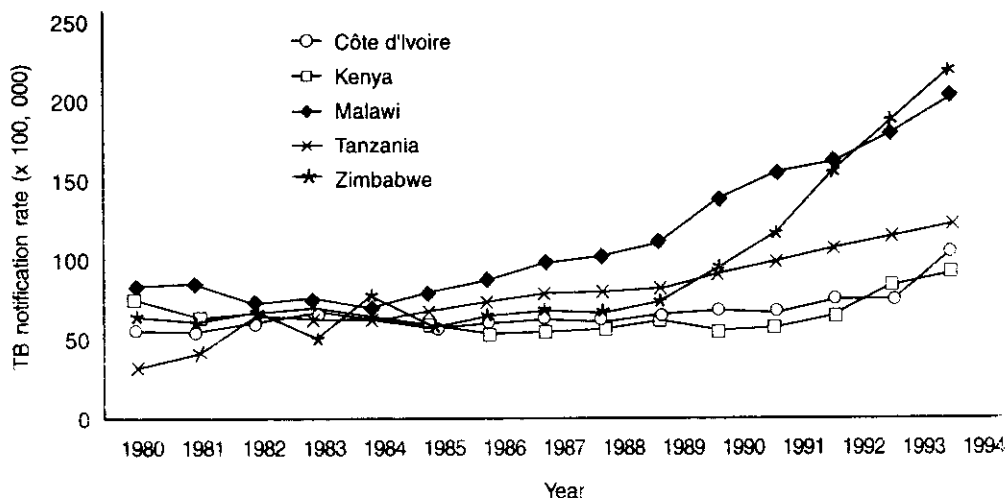


Figure 1 Trends in tuberculosis in selected African countries, 1980–2000

epidemic state of HIV in the majority of the countries of the Region.

The situation is different in Djibouti, Somalia and Sudan, where HIV is at the level of generalized epidemic. HIV seroprevalence among TB patients is high: 23% in Djibouti and 8% in Sudan in 2001. In one TB hospital in Boroma, Somalia the seroprevalence was found at 10% in 2002 (A. Tonelli, unpublished data, 2002). In Djibouti the HIV seroprevalence among TB patients continues to increase (Figure 2). In a small study conducted at the central TB hospital in Djibouti (Paul-Faure Hospital) in February 2002, 44% of TB inpatients were found to be HIV positive (A. Trebucq, unpublished data, 2002). Although none of the three countries has reported an increase of TB incidence to date, it is anticipated that, unless urgent action is taken to contain the HIV epidemic, TB incidence could dramatically increase in the near future.

Action for TB and HIV control in the Region

Despite the strong relationship between TB and HIV/AIDS, collaboration between na-

tional TB programmes and national AIDS programmes is only relatively recent at the global level. One of the first examples was the ProTEST initiative that was started in 1999 to promote HIV voluntary counselling and testing among TB patients and screening of persons infected with HIV for TB [27]. In 2000, a TB/HIV working group was established under the global partnership to stop TB. In 2002, WHO published the *Strategic framework to decrease the burden of TB/HIV* [28].

In the Region, collaboration between the two programmes is still at the beginning. Some countries have started to introduce HIV testing for TB patients and screening for TB infection and diseases among people with HIV/AIDS. Dialogue between the two programmes has been improved through regional and national meetings and most recently through the establishment of the Country Coordination Mechanisms for the Global Fund to Fight AIDS, Tuberculosis and Malaria. However, comprehensive systems to ensure a coherent health response to TB/HIV are not yet in place.

The Regional Office supports the countries addressing TB/HIV effectively by fa-

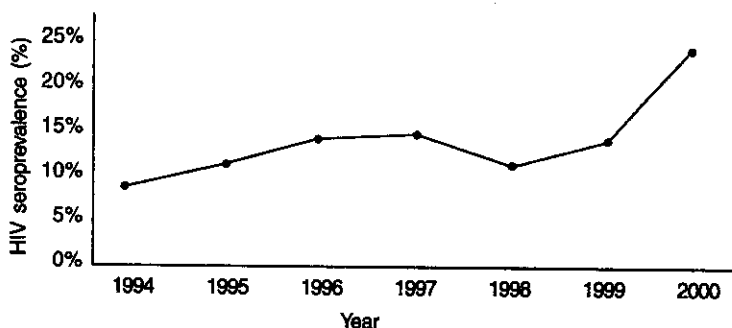


Figure 2 HIV seroprevalence among smear positive tuberculosis cases in Djibouti, 1994–2000

ilitating mutual interaction between the programmes at each level of care. In the community there is a wide range of possible interventions especially for HIV prevention, education on TB and DOTS delivery to people with HIV/AIDS. At the primary care level, the priority is to promote, whenever possible, the use of preventive therapy for people with HIV/AIDS against TB with isoniazid and against other opportunistic diseases with co-trimoxazole. Also important are promoting voluntary counselling and testing (VCT) for HIV and encouraging screening for TB infection in people attending VCT centres. Active TB case finding in congregate settings such as prisons is also important. A good TB surveillance system, as part of general disease control and surveillance, is a starting point for the surveil-

lance of HIV-related diseases. At the secondary and tertiary care level, it is important to provide good quality clinical care for opportunistic diseases with special attention to severe forms of TB. Strengthening operational research is pivotal, especially in countries like Djibouti, Somalia and Sudan, in order to identify and implement cost-effective activities that can address both diseases.

The Regional Office assists countries in adapting the global strategic framework according to the local HIV prevalence, health infrastructures and sociodemographic characteristics of the populations. The Regional Office is committed to tackling this double burden of HIV and TB and will continue to work to ensure political commitment and increasing partnerships.

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EMRO website for AIDS and Sexually Transmitted Diseases

We would like to draw our readers attention to the WHO EMRO website for AIDS and Sexually Transmitted Diseases. The website provides comprehensive information on the WHO AIDS and Sexually Transmitted Diseases Programme with a focus on regional and country situations, concerns, strategies and activities. The site includes the EMRO AIDS Information Exchange Centre, which aims to disseminate up-to-date, accurate and culturally adapted information on HIV, AIDS and sexually transmitted infections. The website can be accessed at: <http://www.emro.who.int/ASD/index.htm>