

Incidence and case-notification rate of tuberculosis in Kosovo for the period 2000-2010

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Abstract

Aim: At a global level, there has been a significant progress towards reduction of tuberculosis morbidity and mortality in the past decades. Our objective was to describe the incidence and case notification rate of tuberculosis in Kosovo for the period 2000-2010.

Methods: Data about all new cases of tuberculosis, incidence rate and case notification rate for the period 2000-2010 were obtained from the National Tuberculosis Control Program in Kosovo. Furthermore, selected indicators of tuberculosis in Kosovo were retrieved from the World Health Organization Global Tuberculosis Report 2012.

Results: In the past decade, there has been a significant decrease in the incidence rate of tuberculosis in Kosovo. More specifically, the incidence of tuberculosis declined twice in the period 2000-2010: it was 89.9 per 100,000 population in 2000 vs. 43.7 per 100,000 population in 2010 (linear trend: $P < 0.01$). Similarly, case notification rate declined from 78.2 per 100,000 population in 2001 to 43.7 per 100,000 population in 2010 (linear trend: $P < 0.01$).

Conclusion: Official statistics for Kosovo indicate a downward trend in tuberculosis incidence and case notification rate in the past decade. Nevertheless, the most significant decrease concerns the period from the year 2000 to the year 2003. Afterwards, there has been a fluctuation in the incidence rate and the case notification rate.

Keywords: case-notification rate, Kosovo, extra-pulmonary tuberculosis, pulmonary tuberculosis.

Introduction

As stated in the World Health Organization (WHO) Global Tuberculosis Report 2012 (1), at a global level, there has been a major progress in reduction of tuberculosis incidence and mortality rate in the past decades. Thus, incidence rates and death rates from tuberculosis have decreased in all six regions of WHO (1). However, notwithstanding the laudable progress achieved so far, WHO recognizes that the global burden of tuberculosis poses a significant problem and constitutes an enormous challenge for many countries (1).

The situation poses serious challenges in cases without treatment where mortality rates are high. Thus, in studies of the natural history of the disease among sputum smear-positive and HIV-negative cases of pulmonary tuberculosis, about 70% of cases died within 10 years, whereas among culture-positive (but smear-negative) cases, 20% died within 10 years (2). Therefore, despite the availability of treatment, tuberculosis remains a major global health problem ranking as the second leading cause of death from an infectious disease worldwide, after the human immunodeficiency virus (1,3).

The prevalence of tuberculosis can be assessed in nationwide population-based studies, and WHO has recently published a comprehensive theoretical and practical handbook on design, implementation, analysis and report of such surveys (4). However, population-based data on the incidence and prevalence of tuberculosis in the countries of the Western Balkans including Kosovo is scant. A fairly recent study reported poor health-seeking behaviors among Kosovo patients with tuberculosis (5). Yet, the magnitude and trends of the incidence and prevalence of tuberculosis in Kosovo have not been systematically documented. In this context, the aim

of this article is to describe the incidence and case notification rate of tuberculosis in Kosovo for the period 2000-2010.

Methods

Data about all new cases of tuberculosis, incidence rate and case notification rate for the period 2000-2010 were obtained from the National Tuberculosis Control Program in Kosovo. Furthermore, selected indicators of tuberculosis in Kosovo were retrieved from the WHO Global Tuberculosis Report 2012 (1). Incidence is defined as the number of new and recurrent/relapse episodes of all forms of tuberculosis occurring in a given year. Recurrent episodes are defined as a new episode of tuberculosis in people who have had tuberculosis in the past and for whom there was bacteriological confirmation of cure and/or documentation that treatment was completed (1).

The case notification rate refers to new and recurrent episodes of tuberculosis notified to WHO for a given year, expressed per 100,000 population (1). As described in the methods annex of the WHO Global Tuberculosis Report 2012 (see at: http://www.who.int/tb/publications/global_report/gtbr12_annex1.pdf [6]), the case notification rate for new and recurrent tuberculosis is important in the estimation of tuberculosis incidence. However, in cases when information on treatment history is not available, recurrent cases cannot be distinguished from cases whose treatment was changed, since both are registered and reported in the category "retreatment" (1). Data for patients reported in the "unknown" category (Table 1) were assessed by WHO in collaboration with the National Tuberculosis Control Program in Kosovo to determine the proportion of such patients included in the category of recurrent cases (1).

Table 1. Tuberculosis case notifications in Kosovo for selected years (source: WHO, *Global Tuberculosis Report, 2012*)

Year	New and relapse	New		
		Smear-positive	Smear-negative/unknown	Extra-pulmonary
2005	1062	232	596	234
2009	254	254	-	-
2010	884	287	269	299
2011	875	251	349	246

Results

In the past decade, there has been a decline in the overall number of new cases of tuberculosis in Kosovo (Figure 1). Thus, the number of new cases of tuberculosis declined from 461 in 2001 to 287 in 2010 (linear trend: $P < 0.01$). However, the most significant decrease concerns the period from 2001 to 2003 (the number of new cases in 2003 was 292). Subsequently, there was evidence of an oscillation in the number of new cases with a rise and fall until 2010.

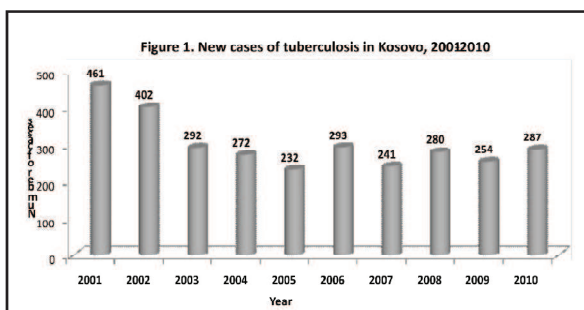
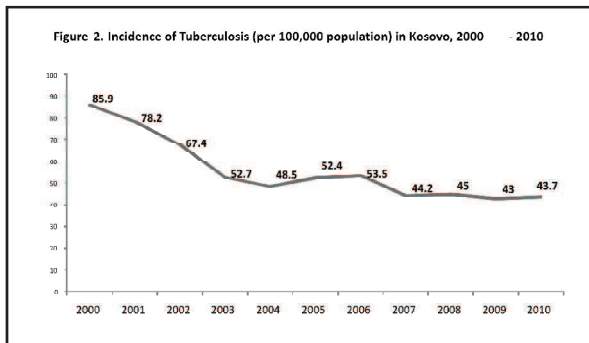


Figure 2 presents the incidence rate of tuberculosis (per 100,000 population) in Kosovo for the period 2000-2010. Overall, the incidence rate of tuberculosis in Kosovo declined twice in the period 2000-2010. In 2000, the incidence rate (per 100,000 population) was 89.9 compared with 43.7 for the year 2010 (linear trend: $P < 0.01$).



Similarly, the case notification rate (per 100,000 population) declined from 78.2 in 2001 to 43.7 in 2010 (linear trend: $P < 0.01$) [Figure 3]. Nonetheless, for both the incidence and the case notification rate, a sharp decrease was evident only for the period from the year 2000 to the year 2003. Afterwards, there has been a fluctuation in the incidence rate and case notification rate with a rise and fall until 2010 (Figures 2-3).

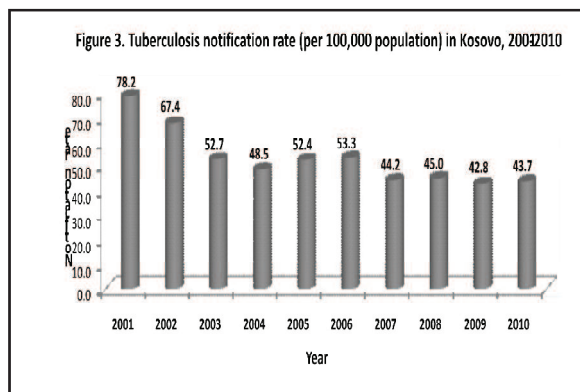


Table 1 presents tuberculosis case notifications in Kosovo for selected years (source: WHO, Global Tuberculosis Report 2012 [1]). In 2005, there were 1062 new and relapse cases of tuberculosis in Kosovo. This number declined almost four times in 2009 ($n=254$). One year later (in 2010), however, the number of new and relapse cases of tuberculosis increased up to 884, and in 2011 the number remained almost unchanged ($n=875$). Conversely, the number of smear-positive cases increased from 232 in 2005 to 254 in 2009. It further increased in 2010 ($n=287$), but decreased back to 251 cases in 2011. The apparent huge number of new and relapse cases of tuberculosis in 2005 reflects mainly the smear negative and/or “unknown” cases ($n=596$). On the other hand, overall, the number of extrapulmonary cases was similar in 2005 ($n=234$) and in 2011 ($n=246$) [Table 1].

Discussion

This report highlights the decreasing trends of incidence and case notification rate of tuberculosis in Kosovo in the past decade. This is compatible with worldwide trends published recently in the WHO Global Tuberculosis Report, which clearly indicated that both incidence rates and death rates from tuberculosis have decreased in all six WHO regions (1).

In line with many countries in different regions of the world, data from Kosovo indicate a downward trend in tuberculosis incidence and case notification rate for the period 2000-2010. Nevertheless, the most significant decrease concerns the period from the year 2000 to the year 2003. Afterwards, as stated earlier, there has been a fluctuation in the incidence rate and case notification rate in Kosovo. Mechanisms and determinants of such fluctuations

in the incidence and case notification rates need further investigation and elaboration. A detailed analysis should be conducted in line with WHO recommended methodology for proper definition and identification of new and recurrent (relapse) episodes of all forms of tuberculosis (6).

In Kosovo, a DOTS-based National Tuberculosis Program was established and operationalized in 1999 through a collaboration of several international partners as part of the reorganization of health services (7). Nevertheless, despite the continuous efforts, the available information on the tuberculosis notification rate in Kosovo indicate that the level remains high compared to neighboring countries such as Albania, Macedonia, Serbia and Montenegro and especially compared to Slovenia, but lower than Bosnia Herzegovina, Romania and former Russian Federation Countries (8).

A fairly recent study provided evidence on health-seeking behaviors, diagnosis and management of tuberculosis among patients in Kosovo (5). Findings from this report pointed to poor health-seeking behaviors among Kosovo patients with tuberculosis. In particular, female gender, Albanian ethnicity, urban residence and a lower income level were all associated with a longer duration of seeking medical care, notwithstanding the lack of statistical significance (5).

The Ministry of Health in Kosovo, through the Tuberculosis Global Fund Project, has established a sustainable mechanism of tuberculosis reporting to the annual WHO Global Report on Tuberculosis (8). In line with this commitment, the tuberculosis case notification and incidence rates have gradually decreased in recent years (8), as illustrated in the current report.

In conclusion, this article described the incidence rate and the case notification rate of tuberculosis in Kosovo indicating a decreasing trend in the past decade, which is in line with the declining trends of tuberculosis in all regions of the world.

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