

THE EVOLUTION OF THE TB ENDEMIC IN RAMNICU VALCEA

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Keywords: *tuberculous endemic, epidemiologic parameters, incidence, rural environment*

Abstract: *To evaluate the trend of the tuberculosis endemic in the Râmnicu Vâlcea region of Vâlcea county, we have conducted a 5 year retrospective study between 2003 and 2007, based on the analysis of the main epidemiologic parameters of the tuberculous endemic: the global incidence in adults, broken into new and readmitted cases and rural and urban environment, the tuberculosis mortality and bacteriological confirmation rate. The values of the chosen parameters have remained below the national averages throughout the 5 year period. We have noticed a higher incidence in the rural environment. The bacteriological confirmation rate has steadily increased over the studied period. The rural environment remains troublesome in the Râmnicu Vâlcea region. Ensuring proper healthcare access and providing sound health education will probably lead to a decrease in TB incidence to values close to those found in the urban environment.*

Cuvinte cheie: *endemia tuberculoasă, indicatori epidemiologici, incidență, mediu rural*

Rezumat: *Pentru evaluarea tendințelor de evoluție a endemiei tuberculoase în zonă Râmnicu Vâlcea, am efectuat un studiu retrospectiv pe o perioadă de 5 ani, între 2003 și 2007, bazat pe analiză principalilor indicatori epidemiologici ai endemiei tuberculoase în această regiune: incidența globală la adulți cu defalcarea pe cazuri noi și readmise și mediu de reședință urban și rural, mortalitatea prin tuberculoză și rata de confirmare bacteriologică. Valorile indicatorilor aleși s-au menținut sub media pe țara pe parcursul celor 5 ani. Totuși am observat o incidență mai mare a tuberculozei în mediul rural. Rata de confirmare bacteriologică a fost în creștere pe toată durata studiului. Mediul rural rămâne un punct nevralgic în combaterea endemiei tuberculoase în zona Râmnicu Vâlcea. Asigurarea accesului adecvat la sistemul sanitar în mediul rural, cuplată cu educația sanitară a populației, poate duce pe viitor la scăderea incidenței tuberculozei la valori apropiate de cele din mediul urban.*

INTRODUCTION

Although it is an old and well known disease, and in most cases curable, tuberculosis continues to pose a serious public health problem in Romania. The control of tuberculosis is implemented according to the National Tuberculosis Control Program (PNCT) and based on WHO recommendations. The major objective of the PNCT is the rapid stop of disease spread and progression through early diagnosis and adequate treatment.

Valcea is one of the counties with TB incidences traditionally lower than the national average. Based on this observation we analyzed the trends of the main epidemiological indicators of TB in the population served by the Pulmonology Outpatient Dispensary in Ramnicu Valcea.

THE AIM OF THE STUDY

The purpose of this analysis was the evaluation of the impact of health policies and PNCT on the TB endemics management.

MATERIAL AND METHOD

To analyze the evolution of the TB endemic in a 5 year period in the population served by The Ramnicu Valcea Pulmonology Dispensary we used mainly the classic epidemiologic indicators. Data was collected from official documents from the Centrul Național pentru Organizarea și Asigurarea Sistemului Informațional și Informatic în Domeniul Sănătății, București database, from the health statistics annuary,

the annual publications of Institutul de Pneumologie „Marius Nasta” București and periodicals from Romanian Society of Pneumology.

For this study we have established the main indicators that outline the endemic evolutionary trends. We chose the comparative graphics render method for the indicators of both Ramnicu Valcea and Romania.

The population served by the dispensary is comprised of about 250.000 inhabitants, 150.000 in the urban areas and 100.000 in the rural area. The dispensary serves 10 cities and 32 villages, including the county's capital city – Ramnicu Valcea

RESULTS AND DISCUSSIONS

The global incidence of TB in the region served by the Ramnicu Valcea Pulmonology Dispensary was constantly lower than the national average throughout the 5 year period we studied. Although, oscillant in character the incidence has dropped from 104.15‰ in 2003 to 90.17‰ in 2007. The evolution of this indicator was not linear, having a spike of 120.55‰ in 2005 (with a national average of 123.6‰) dropping to 69.03‰ in the following year. These variations are probably caused by changes in the reference populations after the 2002 census or the introduction of the new PNCT version in 2003.

Differences of TB incidence in the rural and urban environment were found. In the urban environment, TB incidence is significantly lower. In 2005 and 2007, rural

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incidence in the studied population is higher than the national average. Even so, the incidence decreased in both settings. This decrease was more significant in the urban environment.

The incidence of new TB cases has also dropped from la 92.48‰ in 2003 to 68.33‰ in 2007. These values are also situated below the national average values, showing a decrease in the risc of developing TB in the studied population. Most of the studied cases were new (88.8% in 2003 to 75.& in 2007). The incidence of relapses is variable, ranging from 10,4‰ to 22,9‰. In the 5 year period..

Figure no. 1. Comparison of TB incidence in Romania and Ramnicu Valcea dispensary

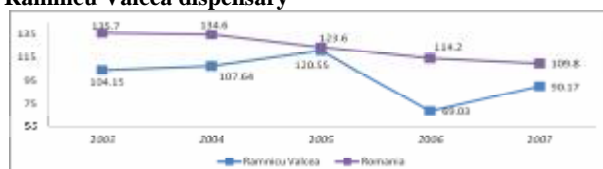


Figure no 2. Differences between urban and rural environment

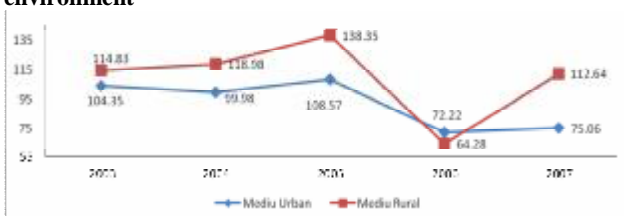
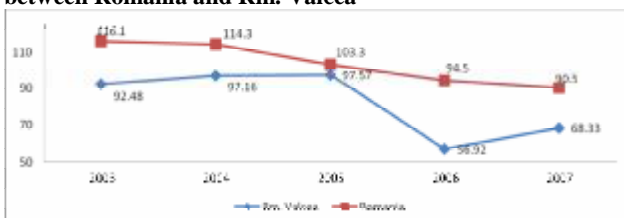
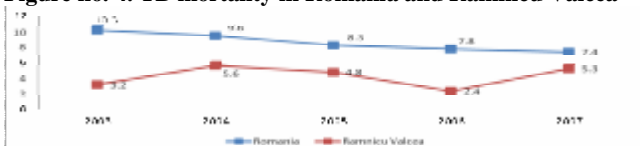


Figure no. 3. Comparison of the incidence of new cases of TB between Romania and Rm. Valcea



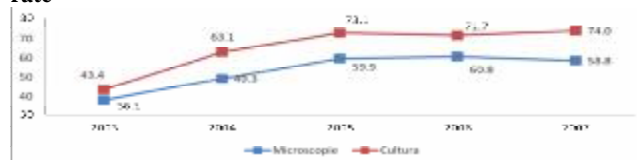
Differences of TB incidence in the rural and urban environment were found. In the urban environment, TB incidence is significantly lower. In 2005 and 2007, rural incidence in the studied population is higher than the national average. Even so, the incidence decreased in both settings. This decrease was more significant in the urban environment. The incidence of new TB cases has also dropped from la 92.48‰ in 2003 to 68.33‰ in 2007. These values are also situated below the national average values, showing a decrease in the risc of developing TB in the studied population. Most of the studied cases were new (88.8% in 2003 to 75.& in 2007). The incidence of relapses is variable, ranging from 10,4‰ to 22,9‰. In the TB mortality is one of the most sensible indicators for the characterisation of the TB endemic. The rate of mortality is also influenced, besides TB characteristics, by comorbidities, demographics, regional economic development and health education. In the studied population, TB mortality is variable but all values are below the national average.

Figure no. 4. TB mortality in Romania and Ramnicu Valcea



The final indicator we studied was the bacteriological confirmation rate of TB patients, both by smear and culture. This indicator correlates with the rigurocity of PNCT implementation. A constant increase of the rate of bacteriological confirmation, both through smear and culture, can be seen, confirming the rigorous implementation of PNC

Figure no. 5. Evolution of the bacteriological confirmation rate



CONCLUSIONS

In the studied population we have observed a slow but steady decline of TB incidence, with annual values constantly below national averages throughout the 5 year period we studied. The same trend can be seen in the incidence of new cases of TB showing the same slow and steady decrease in the risc of developing TB.

The rural environment is the hardest hit by the TB endemic, with incidence values significantly higher than urban values and, in 2005 and 2007 even higher than the national averages. In contrast, the urban environment is less affected by the tuberculous endemic, with lower values of the main epidemiological indicators.

The mortality of TB was variable but constantly below the national averages, correlated with the traditional position of the other epidemiological indicators.

The improvement of the bacteriological confirmation rates shows the rigurocity of the PNCT implementation and the improvement of medical services.

Ensuring acces to quality healthcare in the rural environment and proper health education can lead to a decrease in TB incidence in the rural areas, probably to values close to those in the urban environment. Also, continuing the implementation of PNCT while improving it is paramount for the sustained decrease of the TB endemic in the studied population.

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