

EPIDEMIC TUBERCULOSIS PARTICULARITIES OBSERVED IN ARAD COUNTY DURING 2011-2017

Conf. Dr. Gheorghe Nini¹, Dr. Dana Matei², Dr. Lidia Manuela Plujar², Ladinia Ardeu¹

¹Faculty of Medicine, Pharmacy and Dentistry, Vasile Goldis Western University of Arad

²Pneumology Clinic, Emergency Clinical Country Hospital Arad, Romania

ABSTRACT. The epidemiological aspect of tuberculosis is an assessment of TB cases during a particular period of time in a given territory, both county level and globally for diagnostic evaluation, treatment success and adherence to treatment.

KEYWORDS: tuberculosis, treatment, epidemiology, Arad.

INTRODUCTION

Although tuberculosis is an ancient disease mentioned in ancient oriental documents, its transmissibility character was discovered experimentally by Villemin in 1865 and 18 years later Robert Koch discovered the pathogen, *Mycobacterium tuberculosis*. Since the 1900, progress was made in elaborating bacteriological, radiological and bronchology methods of disease diagnosis some which are in use even today.

In terms of treatment, it was treated initially only sanatorium sessions, tuberculosis specific therapy was inaugurated by the discovery of streptomycin by Waksman in 1945, followed by isoniazid in 1952 and most recently with rifampicin and ethambutol since 1970.

From a widespread disease with a reserved prognosis, thanks to refinements to the methods of diagnosis, treatment and prevention, tuberculosis has become a curable disease, whose prevalence and severity is falling. However tuberculosis infection remains the most common cause of illness and death among all infectious diseases in the world, creating real problems not just for pneumologists, but almost all physicians in the general health network. According to the World Health Organization in the world about 1.3 million people die due to infection, and about 3 million people who have or contracted tuberculosis do not receive appropriate medical care. In Romania in recent years, the main tuberculosis impact indicators registered dips, however, Romania remains the country with the highest incidence rate in the EU and WHO Euro fifth region, after Kazakhstan, Moldova, Georgia and Kyrgyzstan. The health system response in Romania, aimed on reducing endemic tuberculosis, is based on the National Tuberculosis

Control Strategy, aimed at providing services for prevention, detection, treatment and increase adherence to treatment for patients according to WHO recommendations.

The control of infection transmission and the reduction of the overall incidence can be achieved through early diagnosis and a prompt and effective treatment. Tuberculosis is a underdiagnosed disease worldwide, only two thirds of patients with active forms of the disease are diagnosed, and only 5% have bacteriological confirmation of the diagnosis.

MATERIALS AND METHODS

Addressing the epidemiology of tuberculosis is the subject of competent and constant concern in the assessment of cases and number of patients both in a given territory and at national or international level, to assess factors responsible for combating tuberculosis, improving diagnosis, monitoring patients in treatment and development of new methods and concepts.

The type of study used is epidemiological observational use in chronic diseases. The assessed patients were the ones with a positive diagnosis of tuberculosis during the years 2011-2017, using records of tuberculosis in both the electronic and printed form.

RESULTS AND DISCUSSIONS

The study was conducted in the county of Arad, during the years 2011-2017, where we observed a decrease in the incidence of tuberculosis with a slight increase in 2014, followed again by a decrease.

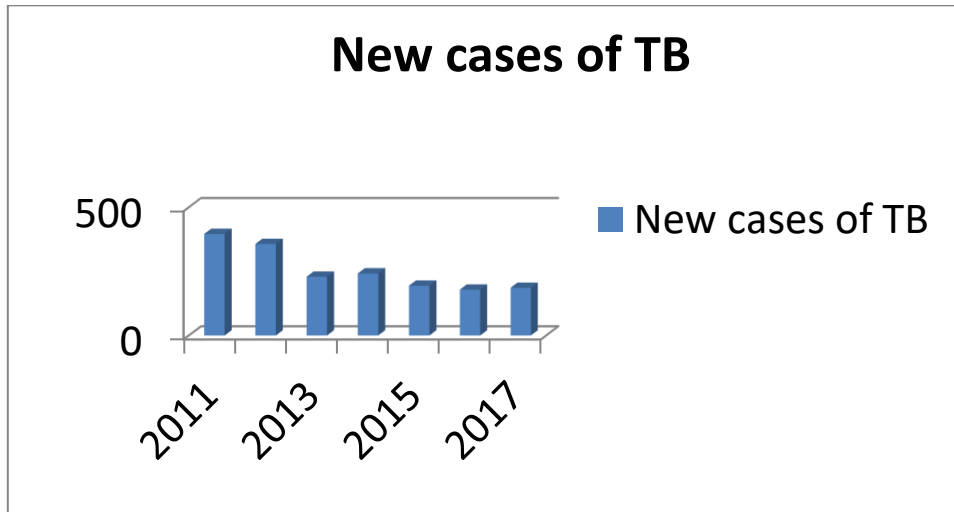


Fig. 1. The number of new cases reported in the county of Arad

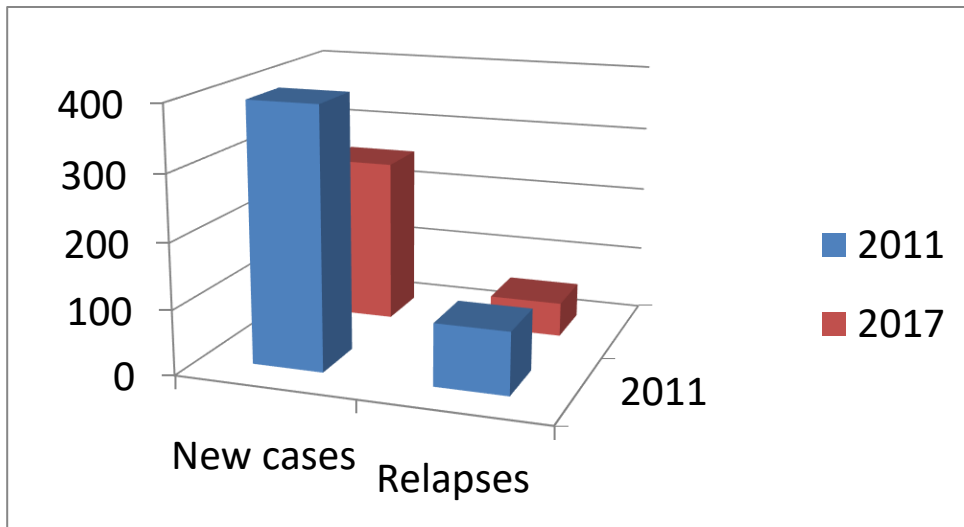


Fig. 2. The number of new cases and relapses reported in Arad county in 2011 compared to 2017.

Compared with 2011, a decrease of over 50% in new and readmitted cases of tuberculosis as shown in Fig. 2

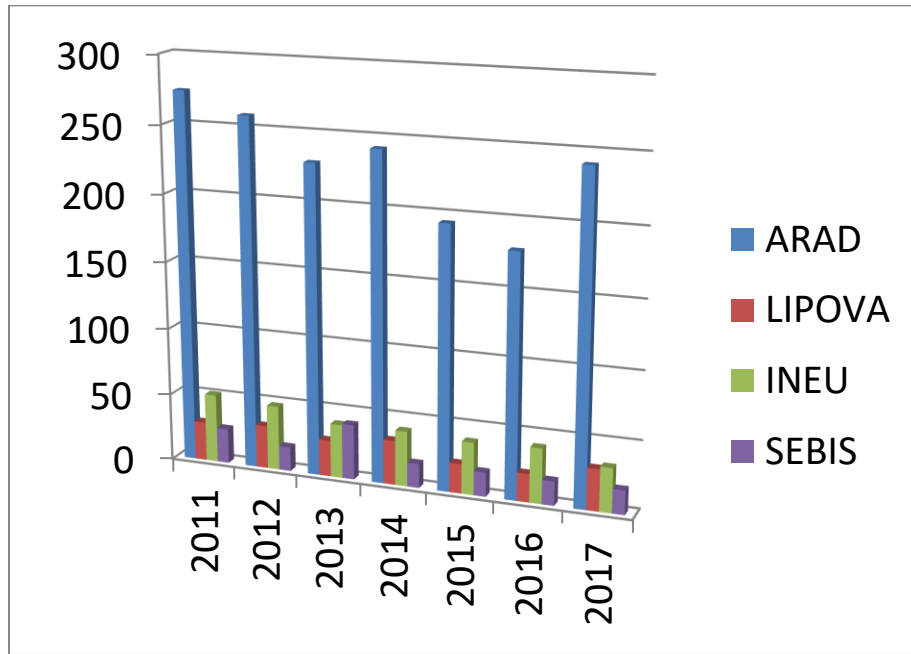


Fig. 3. Distribution of new cases during 2011-2017 base on territories.

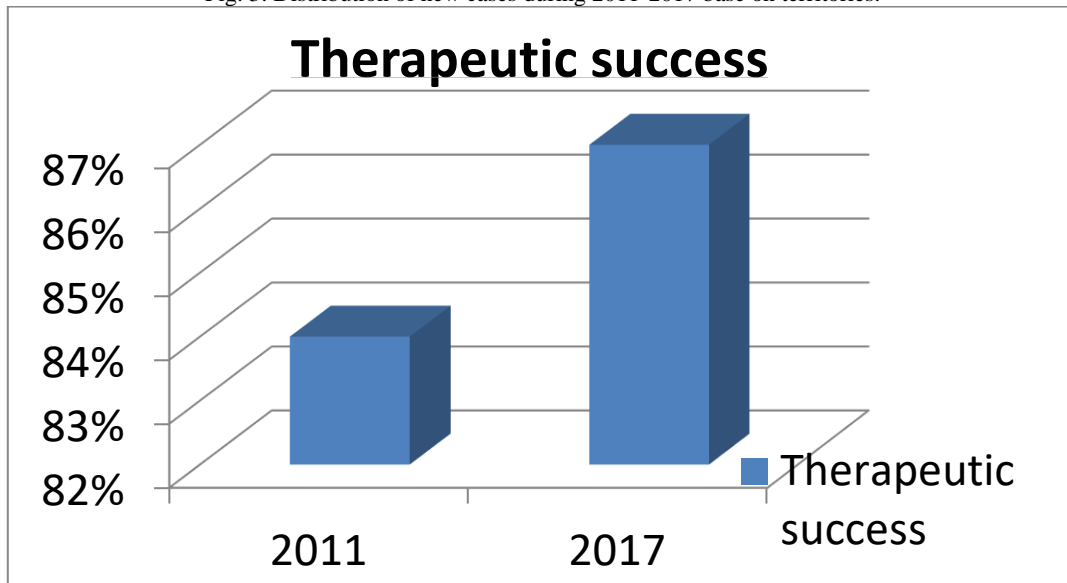


Fig. 4. Treatment success in new cases in 2017 compared with 2011

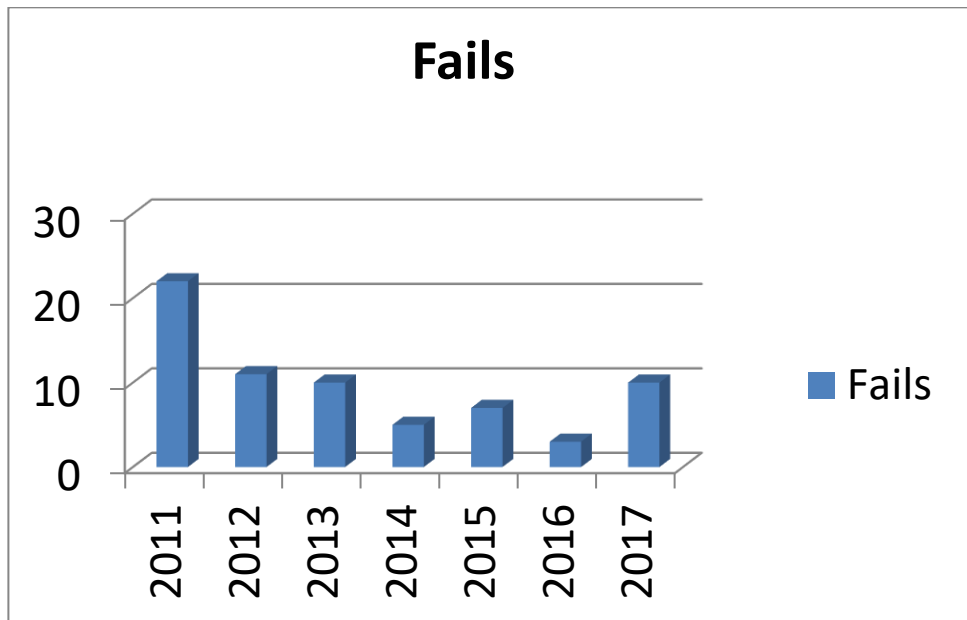


Figure 5. The number of cases reported as treatment failures during 2011-2017

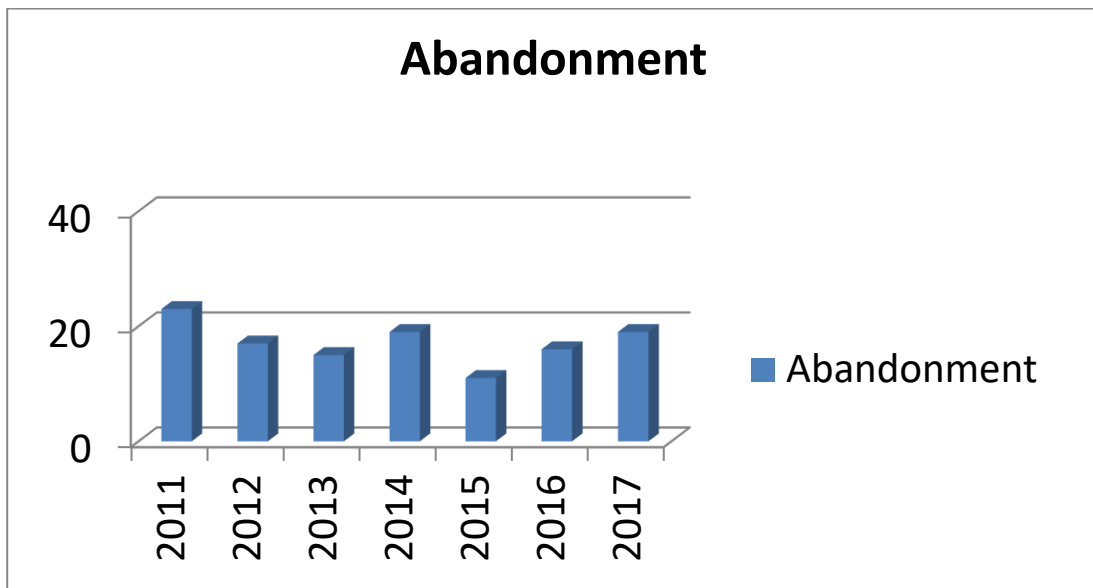


Fig. 6. The number of patients that abandoned treatment during 2011-2017

Although we can observe an increase in therapeutic success in FIG. 4, there is an increase in the number of treatment failures and dropouts in FIG. 5 and 6, which can lead to multidrug-resistant tuberculosis in the case of treatment abandonment or multidrug resistant tuberculosis misdiagnosed in treatment failure, posing a real threat to health security. The World Health Organization estimates that in 2016 there were about 600,000 people with resistance to rifampicin, which is the most effective first-line drugs in TB treatment. However in Romania, only 2/3 of all patients end up being diagnosed with multidrug-resistant tuberculosis, due to limitations of specific susceptibility testing.

The conditions that lead patients to abandon the treatment, which led to an increasing in the number of dropouts are: the long duration of treatment, difficult

tolerance associated with a lack of adequate medication for side effects, lack of social support and isolation of patients from their circle of friends or even family. Therefore it is absolutely necessary to improve methods of informing and educating patients, both in the initial stage and consolidation during outpatient treatment, sharing patient information about the disease, duration of treatment, evaluation of epidemiology factors, family and the community to which they belong. These methods can increase adherence to treatment and the correct treatment of tuberculosis.

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