

THE LIVING CONDITIONS, A RISK FACTOR IN TB – COMPARATIVE ANALYSIS BETWEEN THE URBAN AND RURAL ENVIRONMENT

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Abstract: In this article, we aimed at comparing the tuberculosis (TB) prevalence in the urban and rural environment, taking into account the living conditions. Our study was based on an epidemiological survey made between 2000 and 2006, using two groups of subjects coming from the urban and rural environment. We discovered an inverse relation between the prevalence of TB and the living conditions. A higher difference was obtained for the families with average living conditions of the rural environment.

Keywords: prevalence, living conditions, comparison

Rezumat: Scop: constă în compararea prevalenței TBC-ului între mediul urban și rural, în funcție de condițiile de locuit. Material și metodă: am efectuat o anchetă epidemiologică pe parcursul a 6 ani (2000-2006) pe două loturi de pacienți proveniți din mediul urban și rural, pentru studiul prevalenței TBC. Concluzii: Pentru ambele medii, apare o relație invers proporțională între prevalența TBC-ului și calitatea locuinței. O diferență mai mare s-a obținut în mediul rural doar pentru locuințele medii.

Cuvinte cheie: prevalență, condiții locative, comparație

INTRODUCTION

At national level, although, it was considered a decrease of the tuberculosis incidence starting with the year 2003, (3) from 142%000 to 135%000, the values still remain among the highest of the Europe. (6) In the last century, in the fifth and sixth decades, the morbidity in the urban environment was higher than in the rural one, but starting with the seventh decade, the situation changed, being the same today. Among the numerous factors that favour tuberculosis, the living conditions play an important part. Thus, living in dirty, overcrowded households, that are not exposed to the Sun, with a deficient hygiene and improper toilets favour the exposure to TB infection.

OBJECTIVES

The purpose of this paper is to compare the tuberculosis prevalence in the rural and urban environments, taking into account the living conditions.

MATERIAL AND METHOD

2691 patients were included into our study, structured in two batches. 1826 patients were registered

on the list of a family doctor of the city of Sibiu, while 869 patients were registered on the list of a family doctor working in a medical unit in the village of Sirbi, approximately 40 km. away from the city of Oradea. In order to accomplish this objective, we accomplished an epidemiological survey in the urban and rural medical units, where we studied the medical records of the TB patients over a period of 6 years (2000-2006). At the level of the two batches, we studied the prevalence of the TB indicator that allows the appreciation of the morbid potential in a community, at a certain moment in time.

RESULTS

TB prevalence according to the living conditions of the urban environment. Table 1 presents the distribution of the cases, taking into account three options for the living conditions:

Tabel no. 1. Distribution of cases taking into account the living conditions – urban

Living conditions	No.	%
Poor	453	24,8
Average	1121	61,4
Good	252	13,8

The living conditions in the urban environment were predominantly average (61,4%). However, we noticed a high percentage of poor living conditions (24,8%), especially due to the agglomeration brought about by the households crisis and by the reduced possibilities of acquiring a house because of poverty.

TB prevalence in the urban environment was in direct relation with the living comfort. Thus, TB prevalence in the subjects with poor living conditions was of 3,09%, in those with an average comfort, it was of 1,61%, and in those with a good comfort, TB prevalence was of 1,19%. As a result, there is a connection between the low living comfort (agglomeration, lack of drinking water, common toilets, low natural lightening) and an increased prevalence of TB.

TB prevalence taking into account the living conditions of the rural environment: In the rural environment, the living conditions are mainly characterized by the absence of a high number of modern facilities, with the exception of the electrical power:

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heating, water network connection, outside toilets and drinking water facilities. (1)

Picture no. 1. Distribution of cases taking into account the living conditions – urban environment

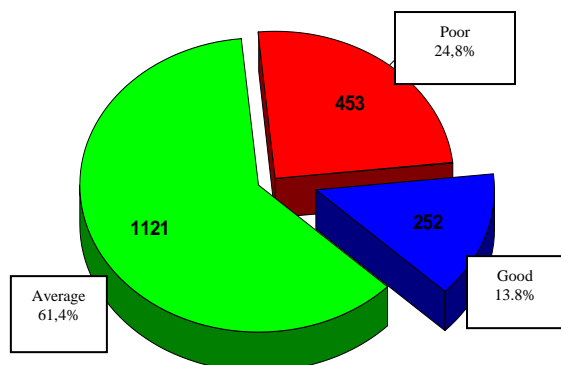


Table no. 2. TB prevalence according to the living conditions – urban

Living conditions	No.	%
Poor	14	3,09
Average	18	1,61
Good	3	1,19

Picture no. 2. TB prevalence according to the living conditions – urban

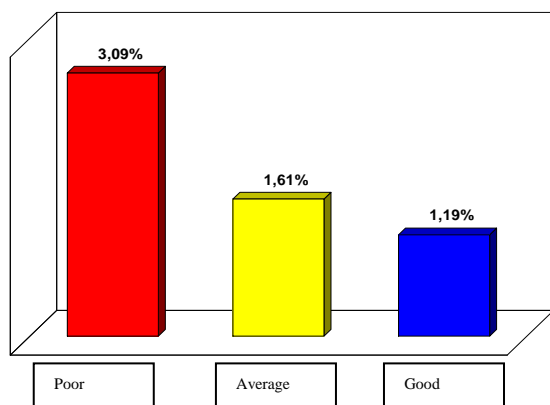


Table no. 3. Distribution of cases according to the living conditions – rural

Living conditions	No.	%
Poor	424	49,0
Average	339	39,2
Good	102	11,8

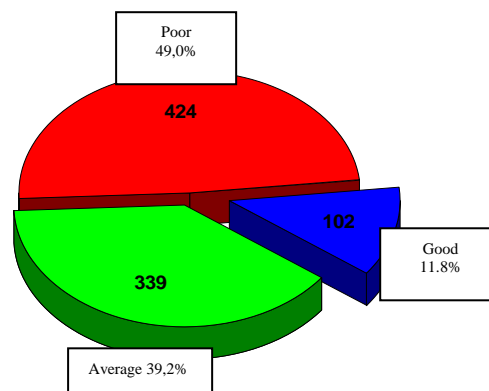
In the rural environment, the living comfort in almost 50% of the patients was poor (49,0%), because of lack of water facilities and of agglomeration.

The good living conditions in the rural environment (11,8%) are more reduced than those of the city of Oradea (13,8%), while regarding the average and poor conditions, the relation is inverse.

Table no. 4. TB prevalence according to the living conditions - rural

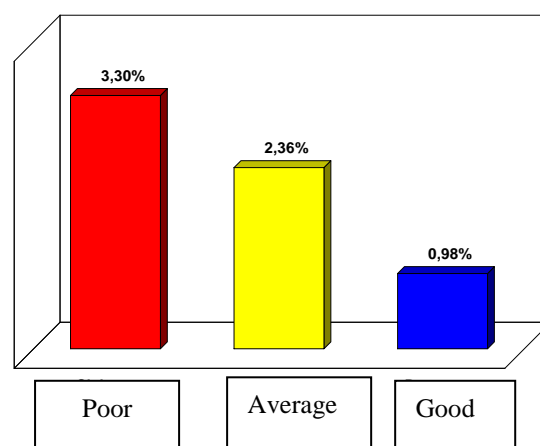
Living	No.	%
Poor	14	3,30
Average	8	2,36
Good	1	0,98

Picture no. 3. Distribution of cases according to the living conditions – rural



TB prevalence was higher in the patients with poor living conditions (3,30%), while the lowest was registered in those with a good living comfort (0,98%).

Picture no. 4. TB prevalence according to the living conditions – rural



The comparative analysis of prevalence between the rural and urban environment: Regarding the living comfort, there are differences between the urban and rural environment, the percentage of the subjects with poor living conditions being significantly higher in the rural environment (49,0% vs 24,8%). The red colour represents the poor living conditions, green – the average conditions and blue suggests the good living conditions.

The percentage of the urban average and good living conditions is significantly higher (75,2%) than in the rural environment (51%).

There are not significant differences between the urban and rural, from the point of view of the TB prevalence according to the living conditions, with the exception of the subjects with average living conditions,

PUBLIC HEALTH AND SANITARY MANAGEMENT

where the TB prevalence is significantly higher in the rural environment (2,36% vs 1,61%) ($p < 0,05$).

Picture no. 5. Distribution of cases taking into account the environment and the living conditions

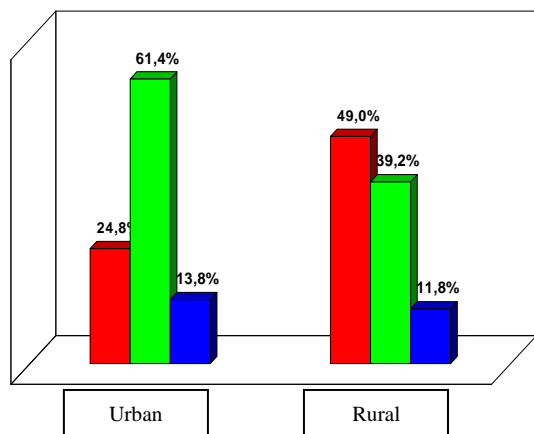
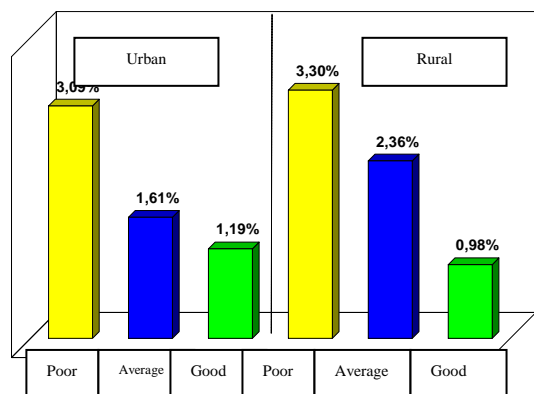


Table no. 6. TB prevalence according to the environment and the living comfort

Living conditions	Urban		Rural	
	No.	%	No.	%
Poor	14	3,09	14	3,30
Average	18	1,61	8	2,36
Good	3	1,19	1	0,98

Picture no. 6. TB prevalence according to the living conditions



The improper living conditions increase the chances of the TB infection, either by promiscuity or by the reduction of the organism's resistance to infections.

The living comfort expresses both the level of personal hygiene and of agglomeration (no. of persons / room). The average locative conditions represent an agglomeration of at least two persons / room, bathroom and drinking water. (2)

CONCLUSIONS

In Romania, the most probable cause of the tuberculosis infection was represented by the very poor socio-economic conditions and not by the populational

migration or HIV co-infection, as in the case of the other European countries. (7)

At the level of the living conditions, tuberculosis prevalence is inversely proportional with the level of the household quality. This is characteristic, both for the urban environment and for the rural environment. The difference occurs only at the level of the average households, where TB prevalence is higher with 1,7% in the rural environment. There are also differences between the proportion of the quality of the rural households, much lower that in the urban environment. According to a report of the National Institute of Statistics for the year 2005, (5) although 98% of the countryside households are private property, the low quality of these ones and the lack of the modern facilities with the exception of the electrical power, place them at a lower level in comparison with those of the urban environment. Thus, 4% of the rural environment are connected to the sewerage network, 8% benefit from gas facilities, 12% have internal toilets, 13% have hot water facilities, 18% have a bathroom/dush, 27% use the water from outside their households and 24% have telephone lines.

The analysis of the living conditions indicate an increased prevalence among those with poor living conditions (3,19%), as against those with average and good living conditions (1,78%), respectively (1,13%), taking into account that almost 1/3 of the subjects are living in poor conditions.

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