

Disease Incidence of Occupational Tuberculosis in Ryazan Region Last 30 Years

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ABSTRACT

Aim: To study the disease incidence of occupational tuberculosis in Ryazan Region.

Methods: This was retrospective descriptive study included 136 patients with occupational tuberculosis in Ryazan Region in the period from 1978 till 2016.

Results: The epidemic situation was highly unfavorable with a high frequency of occupational tuberculosis in health care workers in Ryazan and Ryazan Region from 1995 to 2008, when the incidence reached 230.7 per 100000 medical workers (2001). Among medical doctors, who developed occupational tuberculosis, 50% were TB specialists and 26% were doctors of Forensic Medicine Bureau. The high level of the disease incidence belongs to antituberculosis organizations, it is 55,1% from general number of patients.

Conclusion: In this study we presented disease incidence of occupational tuberculosis in Ryazan Region, revealed periods of high incidence and group of high risk TB infection.

Keywords: tuberculosis, occupational disease incidence, epidemiology.

INTRODUCTION

In the structure of occupational diseases occupational bronchial asthma and pneumoconiosis dominate, but in health care workers the first place belongs to tuberculosis of respiratory organs, it takes more than a half of all registered occupational diseases (50,4–67,9%)^{1,2,4}.. Tuberculosis contamination of medical staff takes place both in antituberculosis organizations (dispensers, hospitals, resorts including special antituberculosis corrective labor institutions) and in organizations of general medical practice – departments of thoracic surgery, morbid anatomy and Forensic Medicine Bureaus, so in the places where the contact with TB infected people and material is possible³.

MATERIALS AND METHODS

We had retrospective descriptive study; it included 136 patients with occupational tuberculosis in Ryazan region in the period from 1978 till 2016. In all the cases it was proved that tuberculosis infection of the patients was caused by the profession, it was determined according to the principals of occupational diseases diagnostics. Statistical analysis was done with absolute indicators and their parts.

RESULTS

Only isolated cases of occupational tuberculosis were registered from 1978 till 1994. So, in the period from 1981 till 1985 and from 1987 till 1988 new cases of the disease were not registered at all. Starting from 1995 the level of

the disease incidence increased much achieving 156,2 and 230,7 cases for 100 thousand workers. It happened in 1995 (156,2) and 2001 (230,7). This tendency may be caused by the social-economic situation in the country these years. 2005 was last year of massive infection of occupational TB – the level of case disease was 142,8 cases for 100 thousands workers. Then the level of the disease incidence was decreasing all the time till isolated cases. In 2005 no one case was registered. The dynamics of occupational tuberculosis disease incidence in Ryazan region from 1978 till 2016 is shown in figure 1.

The nursing staff had the highest specific weight - 54 (39,7%) cases; the doctors were 50 (36,8%) cases; hospital attendance is 15(11%); staff of Ministry of Inner Affairs and Federal Penal Correction Service are 10(7,4%); other staff is 7(5,1%). The high level of disease incidence was among the staff of antituberculosis organizations, it is 75 (55,1%).

Estimation of the patients age shows that the most numerous was group from 31 till 50, it is 73(53,7%) patients. The second group in number was group of age from 17 till 30, it was 42(30,9%) patients. The least number of patients was in age from 51 and older, it is 21 (15,4%) patients.

Women are 99(72,8%) cases of occupational tuberculosis, this is much different from the population in the whole, where the ratio of men and women is 2:1. The given situation is possibly explained by the fact that in the system of health protection mostly women worked those years.

Unfortunately we could follow the comparative disease incidence among the doctors in Russia only from 2000. And we noticed improvement of epidemic indicators from 2007, when the level of disease incidence became equal, and later it became much lower than in the population in the whole (Fig.2).

The majority of cases (50) among doctors were TB specialists – 25(50%), and staff of Forensic Medicine Bureau– 13(26%). Isolated cases of occupational tuberculosis infection were registered in bacteriologists – 3 (6%), doctors – roentgenologists – 3 (6%), phthisiosurgeons – 2 (4%), surgeons – 2 (4%), psychiatrists – 1 (2%), doctors of emergency call service – 1 (2%).

Analyzing TB manifestations it is necessary to underline that focal pulmonary tuberculosis dominated among the forms. Extrapulmonary forms were registered in

isolated cases. Nosologic characteristics of occupational tuberculosis is shown in table 1.

Table 1: Nosologic characteristics of occupational TB

TB forms	n	%age
Focal	54	39,8
Infiltrative	35	25,8
Tuberculoma	21	15,5
Plevritis	12	8,8
Tuberculosis of intrathoracic lymph nodes	4	2,9
Bronchi TB	3	2,2
Caseous pneumonia	1	0,7
Cirrhotic	1	0,7
Fibrocavernosus	1	0,7
Extrapulmonary TB	4	2,9
Total	136	100

Fig. 1: Occupational tuberculosis disease incidence in Ryazan Region from 1978 till 2016. (the trend line and window width is 2 years). The data is 100 thousand workers.

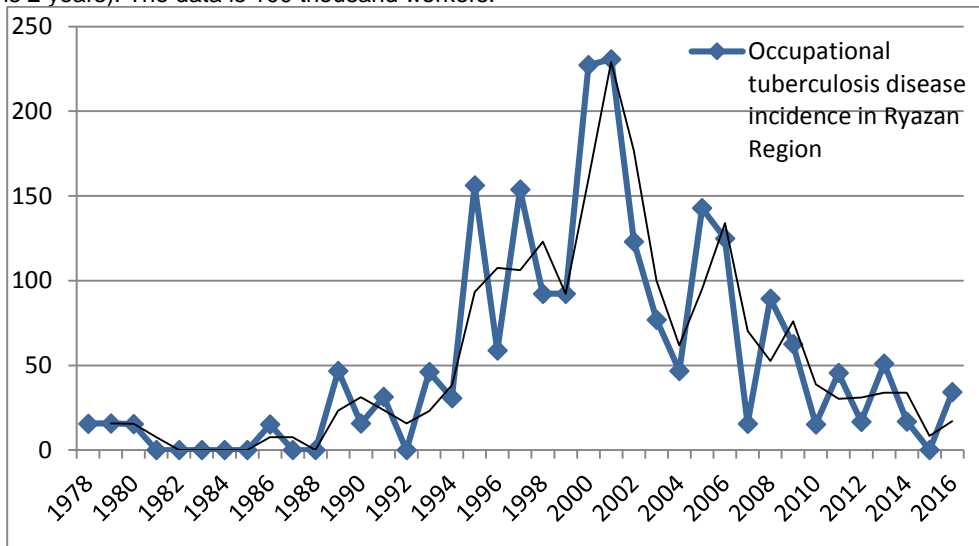
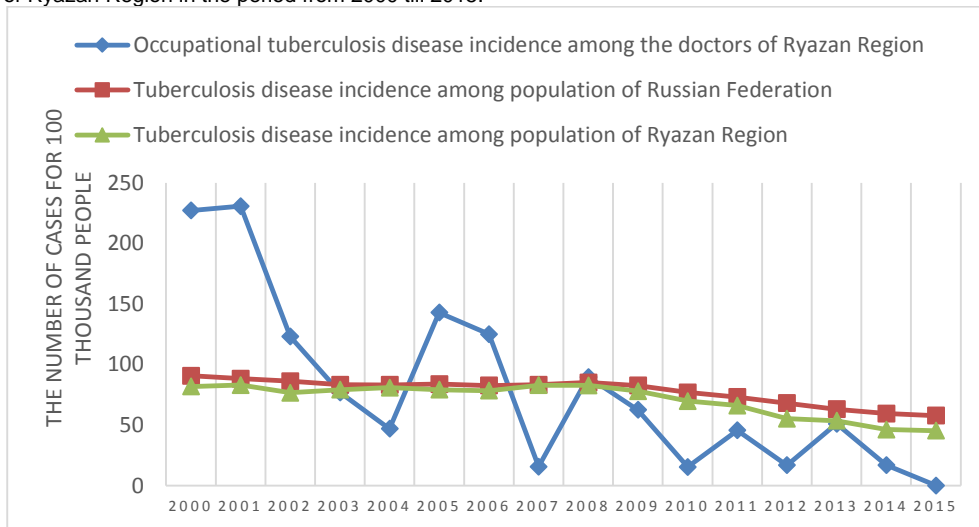


Fig. 2: Occupational tuberculosis disease incidence among the doctors of Ryazan Region, population of Russian Federation and population of Ryazan Region in the period from 2000 till 2015.



DISCUSSION

Maximal number of cases of occupational tuberculosis disease incidence was registered among the nursing staff of hospitals, it makes them the group of high risk TB infection. Special risk group is surely the staff of antituberculosis organizations of Ryazan Region. Age and sex of the patients are unusual, the most numerous was group of 31-50 years, mostly women. The positive moment is that TB was found in time, and focal pulmonary TB dominated and it had no complications.

CONCLUSION

In this study we presented disease incidence of occupational tuberculosis in Ryazan Region, revealed periods of high incidence and group of high risk TB infection.

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