

BELARUSIAN STATE UNIVERSITY

Establishment of Education
«International Sakharov Environmental Institute»



ACTUAL ENVIRONMENTAL PROBLEMS

Proceeding of the VII International
Scientific Conference of young scientists,
graduates, master and PhD students



November 23–24, 2017
Minsk, Republic of Belarus



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Minsk, 2017

The general editorship:

Doctor of Sciences in Physics and Mathematics,
Professor S. A. Maskevich
Doctor of Agricultural Sciences,
Professor S. S. Poznyak

Reviewers:

E. R. Gritzkevich, V. N. Kapitsa

The conference proceedings include the theses submitted at the VIIth International scientific conference of young scientists, PhD students, Master`s degree students, and students «Actual environmental problems» in English, which was held in November 23–24, 2017 at the International Sakharov Environmental Institute of Belarusian State University.

The proceedings are referred to a wide range of expert, lecturers of higher and secondary educational establishments, PhD students, Master`s degree students and students.

The conference proceedings are published with the financial and information support
of the Ministry of Education of the Republic of Belarus

DYNAMICS OF PREVALENCE OF TUBERCULOSIS RESISTANT TO DRUG THERAPY AMONG RESIDENTS OF MINSK CITY FOR 2011–2015

E. Khrustalyova, V. Lemiasheuski, I. Merkulova

*Belarusian State University, ISEI BSU,
Minsk, Republic of Belarus
elena.xrustalyova.92@mail.ru*

Tuberculosis is a latent infection, which remains one of the biggest threats in the world. According to the World Health Organization in 2015 of 10,4 million people suffered from TB and 1.4 million people died. In this regard, the World Health Organization developed a global strategy «to put an end to tuberculosis» for the period after 2015. The main goal is to end the tuberculosis epidemic. However, a major obstacle to the successful implementation of this plan is the proliferation of drug-resistant tuberculosis forms. In 2015 multidrug-resistant tuberculosis (MDR-TB) was affected by 480,000 people, there were 100,000 cases of tuberculosis with resistance to rifampicin. In 2014 MDR-TB killed 190,000 people.

The purpose of the work is to characterize the features of the dynamics and structure of the primary incidence of tuberculosis, resistant to drug therapy among Minsk residents in 2011–2015.

Keywords: tuberculosis, multidrug-resistant tuberculosis.

The problem was studied on the basis of the data of the health care institution «2nd City TB Dispensary» in Minsk. The data were obtained from the electronic Republican register «Tuberculosis». Extensive indicators, intensive indicators, indicators of visibility have been calculated. The analysis of long-term dynamics of morbidity by the function of a parabola of the first order has been conducted [1; 2].

In Minsk and the Republic of Belarus, there is a similar tendency to reduce the primary incidence of MDR-TB, but at different rates. In Minsk, for example, the level of this disease declined by 13,51 % per year, while in the Republic of Belarus the annual loss was 1,33 %.

In the city of Minsk, men and women have become less likely to have tuberculosis that is resistant to treatment. In 2015, the primary incidence of women was 3,29 cases per 100 thousand people, men – 12,95 cases per 100 thousand people.

In comparison with Minsk, in the Republic of Belarus there is a tendency to increase the level of primary incidence of women by an average of 0,05 % per year.

In the city of Minsk, the primary incidence of people from 0 to 14 and from 15 years and older decreases with an average annual rate of 75,3 % and 13,1 % respectively.

In the Republic of Belarus for five years the primary incidence of the population from 0 to 14 years compared with Minsk, on the contrary, increased, the rate of growth was 9,1 % annually. The incidence of persons aged 15 and older decreased, but at a lower rate than in the city Minsk, on average by 1 % per year.

There are no differences in the types of drug resistance of mycobacterium tuberculosis in Minsk and the Republic of Belarus. The prevalence of multidrug-resistance (36 % and 34 % respectively). The proportion of forms with a wide drug resistance was much lower 21 % and 31 % respectively, monoresistance to rifampicin was observed only in 4 % and 5 % of cases respectively.

Thus, despite the generally positive dynamics of reducing the incidence of MDR-TB in Minsk and Belarus, it is necessary to pay attention to the trend toward increasing incidence of women and children in the age group 0-14 in Belarus and a lower rate of decline in nationwide morbidity compared to Minsk. Further improve measures for prevention, timely diagnosis and successful treatment of every patient with bacterial discharge that will prevent the spread of MDR-TB in the society.

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SECTION 3

PROBLEMS OF MODERN ENVIRONMENTAL SAFETY

(BIO-MONITORING, BIO-INDICATION, BIO-REMEDICATION, RADIOECOLOGY AND RADIATION SAFETY, ENVIRONMENTAL MONITORING, MANAGEMENT AND AUDIT, INFORMATION SYSTEMS AND TECHNOLOGIES IN ECOLOGY)

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SECTION 4

CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT RENEWABLE ENERGY SOURCES AND ENERGY CONSERVATION

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Научное издание

АКТУАЛЬНЫЕ ЭКОЛОГИЧЕСКИЕ ПРОБЛЕМЫ

МАТЕРИАЛЫ VII МЕЖДУНАРОДНОЙ НАУЧНОЙ КОНФЕРЕНЦИИ
МОЛОДЫХ УЧЕНЫХ, АСПИРАНТОВ, МАГИСТРАНТОВ, СТУДЕНТОВ
23–24 ноября 2017 г.
г. Минск, Республика Беларусь

На английском языке

Публикуется в авторской редакции

Ответственный за выпуск *С. М. Осипович*
Компьютерная верстка *Д. В. Головач*

Подписано в печать 10.11.2017. Формат 60×90 ¹/₈.
Бумага офсетная. Печать цифровая.
Усл. печ. л. 27,5. Уч.-изд. л. 22,31.
Тираж 100 экз. Заказ №450.

Республиканское унитарное предприятие «Информационно-
вычислительный центр Министерства финансов Республики Беларусь».

Свидетельство о государственной регистрации
издателя, изготовителя, распространителя печатных изданий

№ 1/161 от 27.01.2014, № 2/41 от 29.01.2014.

Ул. Кальварийская, 17, 220004, г. Минск.