

**Medical and social aspects of major
communicable and noncommunicable diseases**

The criteria for justification medical and social significance of the disease or group of diseases

- Priority in the structure of morbidity, wide prevalence and a high level of primary morbidity
- Priority in the structure of mortality and disability trends in the growth of these indicators
- The set of risk factors
- The difficulties of diagnosis, treatment and rehabilitation
- The high costs of treatment and prevention

The criteria for justification medical and social significance of the disease or group of diseases

- **Economic losses related to temporary disability (cost of production, which has not been made, allowance for sick leave and others).**
- **Economic losses associated with proof disability (disability pensions, social benefits, and others).**
- **Economic losses due to premature mortality in young and middle-aged people (irrecoverable loss)**

Diseases representing medical and social significance have expressed dependence on risk factors

- **Risk factors - genetic, physiological, behavioral and socio-economic characteristics of the person. They allow you to put a man in the group of the population, in which, in comparison with the rest of the population, the risk of a particular disease is higher.**
- Risk Factors violate psychophysical adaptation mechanisms of the organism. They create the conditions for the emergence of diseases, their development and adverse outcome

WHO (World Health Organization) identifies the leading risk factors for many major socially significant diseases

- **Primary or external** (smoking, alcohol abuse, poor diet, drug use, lack of exercise, psycho-emotional stress)
- **Secondary or internal** (diabetes, hypertension, high cholesterol, allergies, immunodeficiency)

Risk factors are divided into controlled (modified) and unmanaged (non-modifiable)

- **Controlled.** This risk factors, the severity of which can be reduced by medication and non-drug effects (that hypertension, hypercholesterolemia, smoking, etc.)
- **Unmanaged risk factors are not amenable to correction (gender, age)**

The most important disease representing the medical and social significance

- **Diseases of the circulatory system**
- **Malignancies**
- **Traumas**
- **Tuberculosis**
- **HIV infection and AIDS**
- **Mental and behavioral disorders**
- **Alcoholism**
- **Drug and substance abuse**

Diseases of the circulatory blood system

- **They are the leading cause of disability and mortality in most industrialized countries and in the Russian Federation**
- **The high level of mortality from circulatory system diseases is forming by ischemic heart disease and cerebrovascular**
- **These diseases cause significant economic damage to the state due to illness, disability and death**

Numerous medical and social research has identified risk factors that significantly influence the formation of these diseases

- **Unmanaged risk factors: gender, age, genetic predisposition**
- **Controllable risk factors for circulatory system diseases (WHO):**
 - lifestyle factors (smoking, unhealthy diet, overweight, physical inactivity, alcohol abuse and drug use),
 - biological factors (high blood pressure, elevated blood cholesterol, diabetes mellitus)
 - psychosocial factors (stress, fatigue at work, social insecurity, etc.)

- **In modern society, every 2 adults of the three have one or more risk factors for diseases of the circulatory system. What increases the risk of their occurrence.**
- **Individuals with high blood pressure by 3-4 times more likely to develop coronary heart disease and 7 times more likely to stroke.**
- **The results of medical examinations among the working population show high prevalence of hypertension, having hidden within**

Prevention of diseases of the circulatory system
(eliminating or reducing the influence of
controllable risk factors).

Prevention should be focused

- **on the entire population**
- **on persons with high risk for the formation of the circulatory system diseases (with risk factors such as smoking, unhealthy diet and BMI, physical inactivity, high blood pressure, diabetes, elevated blood lipids)**
- **Timely detection, treatment and prevention of the circulatory system diseases can prevent the development of complications, increase life expectancy and improve the quality of life of patients**

Malignant neoplasms

- **According to international statistics, annually in the world are registered around 7 million cases of malignant tumors, and more than 5 million deaths from these diseases**
- **They occupy 2nd place in the structure of causes of disability and become the third leading cause of death in Russian Federation population**
- **The level and structure of mortality from cancer are closely dependent on gender and age. Cancer mortality in men is two times higher than in women.**

In the Russian Federation

- **In the primary structure of men morbidity by malignant neoplasms the first place occupy malignant neoplasms of the trachea, bronchi, lungs; second place - prostate cancer, the third place - malignant tumors of the stomach**
- **In the structure of primary malignant tumors of women the first place belongs to malignant neoplasm of the breast, the second place - cervical cancer, uterine body, the third place - malignant tumors of the stomach**

The main risk factors for malignant neoplasms:

- **Smoking**
- **Overweight**
- **Unhealthy diet by eating insufficient amounts of fruit and vegetables**
- **Low physical activity**
- **Alcohol abuse**
- **HRV infection (human papilloma virus) and HBV (infection of the liver - hepatitis B)**
- **Air pollution in cities**

In the prevention of cancer incidence allocate 2 main directions:

- **1 - Detection and elimination of this disease risk factors**

According to WHO, more than 30% cases of deaths from cancer could be avoided by preventing or changing exposure to major risk factors

- **2 - Early diagnosis and radical treatment of precancerous diseases**

With early detection and treatment of malignant tumors we can reduce mortality

Tuberculosis

- **Currently, about a third of the world's population is infected with *Mycobacterium tuberculosis***
- **Almost 70% of TB patients belong to socially vulnerable groups**
- **Every patient with active TB per year can infect from 2-7 to 80 healthy people, especially children**

Features of modern epidemiological situation in relation to tuberculosis

- **Increased frequency of heavy, rapidly progressing forms of tuberculosis among new cases**
- **The sharp increase in the frequency of primary drug resistance**
- **Frequent combination of tuberculosis and HIV infections**
- **Among all forms of active tuberculosis prevalent the pulmonary tuberculosis (90%), and among the extrapulmonary forms - tuberculosis of genitourinary organs (1.5%)**

The risk factors that lead to the weakening of the immune system, promote the emergence of tuberculosis infection:

- **Diabetes mellitus, chronic diseases, alcoholism**
- **Adolescence or old age**
- **Contact with a person or an animal, that is ill with tuberculosis**

Tuberculosis Prevention:

- **The basis for the prevention of tuberculosis is BCG vaccine (bacillus Calmette–Guerin)**
- **Fluorography survey of risk populations for the early tuberculosis detection**

HIV infection and AIDS

- **WHO estimates that at the beginning of the XXI century the world's population of about 35 million HIV-infected people, including more than 1.2 million children**
- **Every day in the world recorded an average of 8,000 new cases of HIV infection, especially spread among young people**
- **About half of HIV-infected people develop AIDS within 10 years after infection**
- **Since the beginning of the disease, life expectancy is 2-4 years**

- **In recent years, the sexual transmission is the primary route. As a result, the epidemic goes beyond high-risk groups, and spread to the broadest sections of the population**

The main directions for HIV prevention:

- **Testing and counseling for HIV and sexually transmitted infections among children and adolescents**
- **Examination of donors, pregnant women, persons at risk group**
- **The use of antiretroviral drugs for HIV - negative partner**