Information about the discipline (elective course)
Topical issues of Pulmonology

Significant changes in the understanding of the etiology, pathogenesis, diagnosis and treatment of major respiratory diseases and increased incidence of COPD, asthma, lung cancer, fibrosing alveolitis, rare lung disease, high mortality from pneumonia and health care reform with the distribution of patients' routes in accordance with the levels of the scope of diagnosis and treatment and the predominance of syndrome diagnosis in the practice of family medicine creates the preconditions for the need to teach this course on the set of socio-economic significance of the problem for society.

The main tasks of studying the discipline are: to determine the etiological and pathogenetic factors of respiratory diseases, classify and analyze the typical clinical picture of respiratory diseases, identify different clinical variants and complications of respiratory diseases, identify the leading syndromes and symptoms in pulmonology, justify and formulate a preliminary diagnosis of respiratory diseases, make a plan for examination of the patient, interpret the results of laboratory and instrumental studies in respiratory diseases and their complications, carry out differential diagnosis, substantiate and formulate a clinical diagnosis of respiratory diseases, to determine the tactics of management (recommendations regarding the regime, diet, treatment, rehabilitation measures) of a patient with respiratory diseases, prescribe non-drug and drug treatment of respiratory diseases, carry out non-drug and drug primary and secondary prevention of respiratory diseases, to determine the prognosis and efficiency of patients with respiratory diseases, diagnose and provide medical care in emergencies, apply the basic algorithms of intensive care for emergencies in respiratory diseases, demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination.

THEMATIC STRUCTURE OF THE MODULE (CONTENT MODULES).

Module 1. Topical issues of Pulmonology

Content module 1. Instrumental methods for diagnostics of respiratory diseases.

Topic 1. Instrumental methods of the respiratory diseases diagnostics.

The main methods of instrumental investigation which are used in patients with pathology of the broncho-pulmonary system. Spirometric study: indications and contraindications to the conduct, interpretation of results. The concept of bodyplethysmography. X-ray examination of the respiratory system: radiography and radioscopy. Ultrasound examination of the chest. Multislice computed tomography, magnetic resonance imaging and positron emission tomography: indications. Fibrobronchoscopy: main types, indications, contraindications, complications. Methods of measuring the strength of the respiratory muscles.

Content module 2. Detection and diagnosis of tuberculosis.

Topic 2. Sarcoidosis of respiratory organs.

Definition. Basic theories of sarcoidosis. Classification, clinical picture and diagnostic criteria for sarcoidosis. Indications and contraindications to lung biopsy. Tactics of management of patients with sarcoidosis. First and second line drugs: indications and contraindications for use. Complications of sarcoidosis. The prognosis of the disease and efficiency.

Topic 3. Benign and malignant lung tumors.

Classification of lung tumors. Indications and contraindications to diagnostic fibrobronchoscopy, transthoracic biopsy, videothoracoscopy. Classification of bronchoalveolar cancer. The concept of morphological classification of malignant neoplasms of the lungs, immunohistochemical study. X-ray methods in the diagnosis of lung tumors. Indications and contraindications to surgical treatment of bronchoalveolar cancer. Polychemotherapy for lung cancer. Prognosis in different stages of bronchoalveolar cancer.

Topic 4. Fungal and viral (Covid-19) lesions of the pulmonary system. Rational antibiotic therapy for respiratory diseases.

Classification, etiological factors, clinical signs, diagnosis criteria, differential diagnosis and standards of treatment of fungal lesions of the lungs and bronchi. Treatment tactics depending on the cause and clinical variant. Primary and secondary prevention of fungal lung lesions.

Respiratory lesions in coronavirus disease 2019 (Covid-19) - etiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, current treatment protocol.

Classification and indications for the appointment of antibacterial drugs. Spectrum of action of the main classes of antibacterial drugs. The main side effects of antibacterial therapy and methods of treatment. Indications for discontinuation of antibacterial therapy. Procalcitonin and other biomarkers of inflammation. Mechanisms of antibiotic resistance development.

COMPETENCIES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE DISCIPLINE:

Integral competence:

• an ability to solve typical and complex specialized tasks and practical problems in professional activity in the field of the health care or in the process of training, which involves research and/or innovation and is characterized by the complexity and uncertainty of conditions and requirements;

General competencies:

• ability to abstract thinking, analysis and synthesis;
• ability to learn and master modern knowledge;
• ability to apply knowledge in practical situations;
• knowledge and understanding of the subject area and understanding of professional activity;
• ability to adapt and act in a new situation;
• ability to make reasonable decisions;
• ability to work in a team;
• interpersonal skills;
• ability to communicate in the state language both orally and in writing;
• ability to communicate in a foreign language;
• skills of using information and communication technologies;
• determination and perseverance in relation to the set tasks and responsibilities;
• ability to act socially responsibly and consciously;
• desire to preserve the environment;
• ability to plan and manage time;
• ability to act on the basis of ethical considerations (motives).

Professional (special) competencies:

• skills of interviewing and clinical examination of the patient;
• ability to determine the necessary list of laboratory and instrumental studies and evaluate their results;
• ability to conduct differential diagnosis;
• ability to diagnose the disease;
• ability to prescribe treatment;
• ability to diagnose emergencies;
• skills of providing emergency medical care;
• skills of performing medical manipulations;
• ability to keep medical records;
• ability to carry out sanitary and hygienic and preventive measures.

RESULTS OF STUDYING THE DISCIPLINE.

As a result of studying the discipline student WILL:

Know:

• etiology and pathogenesis of respiratory diseases, risk factors for their complicated course
• different clinical variants and complications of respiratory diseases
• mandatory minimum of additional (laboratory and instrumental) examination of patients with various, including complicated, course of respiratory diseases
• diagnostic value of clinical, instrumental and laboratory examination data in different variants of the course of respiratory diseases
• differential diagnosis, criteria for diagnosis of different variants of respiratory diseases
• prevention of complications, prognosis and efficiency of patients with respiratory diseases
• principles of non-drug and drug treatment of patients with respiratory diseases
• management (recommendations for lifestyle modification, medical and non-medical treatment, rehabilitation measures) of patients with various, including complicated, course of respiratory diseases
• criteria for diagnosis and standards of medical care in emergencies of respiratory diseases (acute pulmonary heart disease, spontaneous pneumothorax, pleural empyema)
• primary and secondary prevention in different, including complicated, course of respiratory diseases

Be able to:

• conduct surveys and physical examinations of patients with various, including complicated, course of respiratory diseases
• diagnose respiratory diseases preliminary and identify their complications
• develop a plan for examination of patients and justify the usage of non-invasive and invasive diagnostic methods used in pulmonology
• evaluate the results of basic instrumental and laboratory methods for diagnosing respiratory diseases
• carry out differential diagnosis of respiratory diseases
• justify and formulate the clinical diagnosis of respiratory diseases
• prescribe non-drug and drug treatment, conduct non-drug and drug primary and secondary prevention of respiratory diseases
• determine the prognosis of patients with respiratory diseases
• diagnose and provide assistance in emergencies of respiratory diseases (acute pulmonary heart disease, pneumothorax, pleural empyema)
• demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination

Demonstrate:

- interpretation of the chest X-ray;
- interpretation of results of the spirometry, pletismography;
- interpretation of results of chest ultrasound;
- detailed collection of the complaints and the anamnesis of respiratory diseases;
- physical examination of the patient;
- prescribing an adequate treatment to a patient with a respiratory disease.