

**Entrance exam program
in training of highly qualified personnel
(Ph.D. programme)**

3.2 “PREVENTIVE MEDICINE”

Entrance exam program for the postgraduate Ph.D. programme in training of highly qualified personnel 3.2 “PREVENTIVE MEDICINE” includes the following sections:

"Hygiene"

Medicine and hygiene. Attributes of medicine and hygiene, commonalities and differences. Physical properties of air. Healthy way of life and its importance for human health. History of the development of hygiene. Influence of atmospheric air pollution on public health and sanitary conditions of life in cities. The concept and tasks of personal hygiene. Methods of hygiene. Natural sources of light and natural illumination. Ultraviolet radiation, its hygienic value. The problem of bad habits, their consequences for human health. Universal principles of hygienic rationing. Significance of water for man. Organization of therapeutic and preventive care for workers of industrial enterprises. Methods to assess the effectiveness of hygienic measures. Hygienic requirements for drinking water quality. Working conditions, occupational diseases and their prevention. Conceptual scheme of the structure of medicine. Hygienic characteristics of domestic and drinking water supply systems. Occupational diseases. Stages in the development of hygiene. Significance of nutrients in the life support of the organism. Hygienic foundations of health and physical development of children and adolescents. Hygienic characteristics of environmental factors. Hygiene and human ecology. State of health with excessive nutritional status. Hygienic characteristics of the main production factors. Health indicators as fundamental criteria for assessing human well-being and the state of the environment. Features of the layout of settlements. Occupational traumatism and occupational safety. The methodology of studying the health of the population. The main tasks of hospital (hospital) hygiene. Recreational activities in industrial enterprises.

Reference List:

1. Hygiene [Text] : [textbook for higher professional education] : in 2 vol. T. P. Pivovarov, V.V. Korolik, L.S. Zinevich et al. - 3rd ed. - Moscow : Academy, 2015. -(Higher education / Medicine).

2. Hygiene with the basics of human ecology: textbook / Edited by Prof. P.I. Melnichenko. Moscow: GEOTAR-Media, 2013. 752 p.

"Epidemiology"

Etymology and modern use of the term "Epidemiology". The importance of epidemiology for medicine and public health and its achievements. Subject area, purpose and methods of epidemiology. Epidemiological approach to the study of human pathology. Morbidity - definition of the concept, objective and subjective factors determining the morbidity of the population, their nature. Quantitative measurement (expression) of morbidity. Comparison of morbidity indicators and interpretation of the obtained information. Epidemiological studies. Definition of the concept, synonyms, subject, purpose and methods of research. The main stages of the organization of the study. Types (distinctive features) of epidemiological research. Descriptive epidemiological research, subject, purpose and methods of research. Analytical epidemiological studies, definition of concepts, "case-control" and "cohort" studies, the scope of their application, advantages and disadvantages. Observational and experimental epidemiological studies, purpose, scope. Errors of analytical studies. Manifestations of morbidity, definition of the concept. Traditional terms. Features of the long-term dynamics of morbidity, methods of detection, interpretation. Features of intra-year dynamics and structure of monthly indicators of morbidity, methods of their identification, interpretation. Peculiarities of dynamics and structure of morbidity of population groups identified by individual characteristics, features of grouping, interpretation of identified manifestations. Manifestations of morbidity in different territories, features of grouping. Traditional epidemiological concepts, their interpretation. Sufficient, necessary and additional causes of the emergence and spread of diseases and their origin. Definition of the concept of "risk factor". Operative epidemiological analysis. Methodology of epidemiological survey of foci with single and multiple diseases. Role of biological, social and natural-climatic factors in forming manifestations of epidemic process. L.V. Gromashevsky's theory of the epidemic process. Sources of infection. Definition of the concept. Potential and real danger of the source of infection. Interventions aimed at the source of infection. Mechanism, ways and factors of transmission. E.N. Pavlov's theory of natural foci of infectious diseases. Pavlovsky, its development at the present stage. Epidemiological significance of wild and domestic animals. Epidemiological significance of arthropod vectors. Basic provisions of the theory of self-regulation of parasitic systems (V.D. Belyakov et al.). Classification of infectious diseases. Antiepidemic measures. Definition of the concept, principles of grouping. Epidemic

focus. Definition of the concept. Principle scheme of activities carried out in the epidemic focus. Quality and efficiency of anti-epidemic measures. Controllable and uncontrollable infections. Anti-epidemic system, its structure. Functional direction of specialists' activity. Epidemiological supervision is a form of anti-epidemic work, with different ideas about its content. Disinfection. Its importance in various groups of infectious diseases. Types and methods of disinfection. Chemical disinfectants: groups of chemicals used in the practice of disinfection, their comparative characteristics, the possibility of use in LPU. Deratization: methods, means, organization. Determination of the effectiveness of deratization. Disinsection: methods, means, peculiarities of organization. Rationale for the need for immunoprophylaxis and its effectiveness in various infectious diseases. Emergency prophylaxis. Prevention of tetanus and rabies. Vaccine reactions, postvaccination complications and their prevention. Vaccination Calendar. The principles of its preparation. Organization of vaccinations: performers, planning, accounting and control of vaccinations. General characteristics of anthroponosis with fecal-oral mechanism of transmission. Typhoid and paratyphoid fever: epidemiology and prevention. Differential diagnostic signs of different outbreaks of typhoid fever. Shigellosis: epidemiology and prevention. Viral hepatitis with fecal-oral mechanism of transmission: epidemiology and prevention. Viral hepatitis with parenteral transmission: epidemiology and prevention. General characteristics of aerosol anthroponoses. Diphtheria: epidemiology and prophylaxis. Streptococcal infection: definition of the concept. Epidemiology and prophylaxis. Measles: epidemiology and prophylaxis. Whooping cough: epidemiology and prevention. Rubella: epidemiology and prophylaxis. General characteristics of zoonotic infections. Rabies: epidemiology and prophylaxis. Leptospirosis. Epidemiology and prophylaxis. General characteristics of sapronoses. General characteristics of infectious diseases with vertical transmission. Hospital infection. Etiology, epidemiology and prophylaxis. Content and basic forms of activity of hospital epidemiologists. Malaria. Epidemiology and prophylaxis. Geohelminth infections. Ascariidosis. Epidemiology and prevention. Enterobiasis. Hymenolepidosis. Epidemiology and prevention. Biogelminthiasis. Teniatrinchosis and diphyllobotriosis. Epidemiology and prophylaxis.

Reference List:

1. Epidemiology and infectious diseases Pokrovsky V.I., Pak S.G., Brico N.I., Danilkin B.K.. MOSCOW: GEOTAR-MEDIA, 2013.

2. Guidelines for practical classes in epidemiology of infectious diseases. Edited by Academician of the Russian Academy of Medical Sciences, Prof. V.I. Pokrovsky, Prof. N.I. Briko, Moscow: GEOTAR-MEDIA, 2015.

General epidemiology with the basics of evidence-based medicine. Manual for practical exercises: textbook under the editorship of Pokrovsky V.I., Briko N.I. -M.: GEOTAR-Media, 2012. 400 p.

"Public Health and Health Organization, Sociology and History of Medicine"

Public health and health care as a science and subject of teaching; the concept of public health and the factors that determine it. The main methods of research used to assess public health and the activities of health care bodies and institutions. The concept of medical statistics. Significance and use of statistics for studying public health and evaluating the activities of health care institutions. The main stages of statistical research. Types of statistical tables and rules of their construction. The law of large numbers as a theoretical basis for sampling method. Requirements for sampling method. Statistical population and its structure. Solid and sampling methods of statistical research. The concept of representativeness. Relative values in statistics, their meaning and application. Possible errors in the incorrect application of relative quantities. Mean values, their meaning and application in the practical work of the doctor. Their meaning and application. Sigma and coefficient of variation (Cv). Statistical evaluation of the reliability of the results of the study. Application of the criterion "t". Confidence boundaries of average and relative values. The method of standardization, its significance and application. Correlation: the definition, application and evaluation of the correlation coefficient. Graphical representation of statistical indicators. The basic principles of health protection in accordance with the "Fundamentals of Legislation on the protection of health of citizens in the Russian Federation". Current trends and characteristics of health indicators in different countries of the world. Methods and types of studying the morbidity of the population of Russia. Advantages and disadvantages of each method. Accounting and reporting documentation for the registration of diseases in outpatient and polyclinic institutions and its importance for the analysis of the activities of doctors and the institution as a whole. The method of calculating the indicators of primary morbidity and prevalence. The importance of their parallel analysis. Accounting and reporting documentation for the registration of diseases in inpatient facilities. Hospitalized morbidity: methodology of registration and analysis. General, infectious and non-epidemic morbidity:

the methodology of disease registration and analysis. Diseases of the circulatory system as a medical and social problem. The main trends and age and sex characteristics of indicators of morbidity, disability, mortality. Risk factors and prevention of oncological diseases. Diseases of the respiratory system as a medical and social problem. Main trends and age and sex peculiarities of morbidity, disability and mortality rates. Neuropsychiatric diseases as a medico-social problem. Influence of socio-economic and biological factors on the prevalence of neuropsychiatric diseases. Drug and substance abuse as a medico-social problem. Rationale for the relevance and social significance of drug addiction and substance abuse. Alcoholism as a medico-social problem. Traumatism as a medical and social problem. Causes and types of traumatism. Organization of medical care. Organization of emergency medical care. Stages in the organization of therapeutic and preventive care in the system of maternal and child health care. General practitioner, his tasks and the content of activities. Development of specialized types of medical care at the present stage. Quality of medical care: definition and characteristics. Modern problems of the quality of medical care. Disability: definition. The concept of limitation of vital activities. Disability groups, the criteria that determine them. Periods of re-examination. Types of social protection for people with disabilities in the Russian Federation. Organization of medical and social expert assessment. Main and primary medical and social expert assessment bureau; functions and composition. Procedure for appealing the decision of the medical and social expert assessment bureau. Rehabilitation. Types and means of medical and social and occupational rehabilitation. Risk factors: definition, classification. Anti-risk factors: definition. Screening: definition. The purpose and types of screenings. Risk groups. Hygienic training and education of the population: goal, objectives, principles. Healthy lifestyle. The role of the doctor in the formation of a healthy lifestyle. Economics of health care: goal, objectives, main directions. The concepts of medical effectiveness, social and economic efficiency of health care and indicators that characterize them. The concept of economic damage due to morbidity and its structure. The program of compulsory medical insurance and the program of state guarantees of free medical care. Mandatory medical insurance: definition, principles. Participants of compulsory medical insurance system. Ethics and deontology in the activities of an attending physician.

Reference List:

1. Selected Lectures on Public Health and Health Care: Textbook. - Moscow: OJSC "Publishing house "Medicine", 2012. 464 p.

2. Providing a Master's Program in Public Health Training. Introduction to public health. Textbook / Ed. by Syrtsova L.E. - Moscow: Medicine for All, 2014.

3.L.E. Syrtsova, I.I. Kosagovskaya, M.V. Avksentieva. Fundamentals of epidemiology and statistical analysis in public health and health care management. Textbook for residents and postgraduate students. Moscow, 2013.