

MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Department of Infectious Diseases

«APPROVED»
Vice-rector
for scientific and pedagogical work,
Edward BURIAČUKIVSKYI
«29» *september* 2023
* 0201038023



WORK PROGRAM OF
«Infectious diseases»

Level of higher education: the second (Master's)
Field of knowledge: 22 "Health care"
Specialty: 222 "Medicine"
Educational and professional program: Medicine

Odesa 2023

The Work Program (WP) is based on the educational-professional program (EPP) "Medicine" for the second degree (Master's) level of professional training in the specialty 222 Medicine, the field of knowledge 22 Health Care, approved by the Academic Council of ONMedU (Minutes No 8, dated June 29, 2023).

Developer:

Head of the Department, MD, professor Chaban T.V.

The work program was approved at the meeting of the Department of Infectious Diseases
Minutes No. 1 dated "29" "08" 2023.

Head of the department Tetiana CHABAN

Agreed with the EPP Guarantor Valeriia MARICHEREDA

Approved by the subject cycle methodical commission on therapeutic disciplines of ONMedU
Minutes No. 1 dated "31" "08" 2023.

Chairman of the subject cycle methodical commission for therapeutic disciplines of ONMedU

Olena VOLOSHYNA

Reviewed and approved at the meeting of the department _____
Minutes No. ___ dated "___" "___" 20__

Head of Department _____
(signature) (Name SURNAME)

Reviewed and approved at the meeting of the department _____
Minutes No. ___ dated "___" "___" 20__

Head of Department _____
(signature) (Name SURNAME)

1. The Course Description:

| Indicators | Field of knowledge, Specialty, Level of higher education | Features of the academic discipline |
|--------------------|--|--------------------------------------|
| Total amount: | 22 Health care | <i>Full-time studies</i> |
| ECTS Credits: 2 | | <i>Compulsory discipline</i> |
| Hours: 60 | 222 Medicine | <i>Year of training: 6</i> |
| Content modules: 7 | The second (Master's) | <i>Semesters XI - XII</i> |
| | | <i>Lectures (0 h.)</i> |
| | | <i>Seminars (0 h.)</i> |
| | | <i>Practical sessions (40 h.)</i> |
| | | <i>Labs (0 h.)</i> |
| | | <i>Self-study (20 h.)</i> |
| | | <i>Individual tasks (0 h.)</i> |
| | | <i>Form of final control is exam</i> |

2. Purpose and objectives of the course, competencies, program learning outcomes.

Purpose: The mastery of this discipline by a higher education acquirer lays the foundations for the study of family medicine, which involves the integration of its teaching and the development of skills to apply knowledge of infectious diseases in the process of further education and professional activities.

Objectives:

Development of skills and abilities:

- identify the main clinical symptoms that form a characteristic syndrome in relation to the most common infectious diseases;
- establish a preliminary diagnosis of the most common infectious diseases (syndromes and aetiology).

Abilities improvement:

- establish clinical and laboratory differential diagnosis of various infectious diseases and differentiate them from non-infectious ones;
- interpret the results of specific examination techniques in a combined pathology - infectious and non-infectious;
- planning of preventive and quarantine measures for the most common and highly dangerous diseases;

Skills mastering:

- determine the tactics of managing patients with the most common infectious diseases, their hospitalization and isolation;
- diagnose emergency conditions and provide the first aid at the pre-hospital stage;
- demonstrate awareness of infectious diseases as weapons of mass destruction;
- predict the consequences of infectious diseases for human health;
- demonstrate the ability to manage infectious hospital medical documentation.

The process of the discipline study is aimed at forming components of the following competencies:

General (GC):

GC1 – Ability to abstract thinking, analysis and synthesis.

GC3 – Ability to apply knowledge in practical situations.

GC4 – Knowledge and understanding of the subject area and understanding of professional activity.

GC5 – Ability to adapt and act in a new situation.

GC6 – Ability to take reasonable decisions.

GC7 – Ability to work in a team.

GC8 – Ability to interpersonal interaction.

GC10. Ability to use information and communication technologies.

GC11 – Ability to search, process and analyse information from various sources.

GC12 – Determination and persistence in relation to assigned tasks and assumed responsibilities.

GC14. Ability to realize one's rights and responsibilities as a member of society, to be aware of the values of public (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.

GC15. Ability to preserve and increase moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle.

GC16. Ability to evaluate and ensure the quality of the work performed.

GC17. Desire to preserve the environment.

Special (SC):

SC1 – Ability to collect the patient's medical information and analyse clinical data.

SC2 – Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.

SC3 – Ability to establish a preliminary and clinical diagnosis of a disease.

SC4 – Ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.

SC5 – Ability to determine the nature of nutrition in the treatment and prevention of diseases.

SC6 – Ability to determine the principles and nature of treatment and prevention of diseases.

SC7 – Ability to diagnose emergency conditions.

SC8 – Ability to determine tactics and provide emergency medical care.

SC10 – Ability to perform medical manipulations.

SC11 – Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, considering aspects of social and ethical responsibility.

SC13 – Ability to carry out sanitary, hygienic and preventive measures.

SC14 – Ability to plan and carry out preventive and anti-epidemic measures for infectious diseases.

SC15 – Ability to conduct an examination of working capacity.

SC16 – Ability to fill medical documentation, including electronic forms.

SC17 – Ability to assess the impact of the environment, socio-economic and biological determinants on the state of health of an individual, family, population.

SC20 – Ability to conduct epidemiological and medical statistical studies of the health of the population; processing of social, economic and medical information.

SC23 – Ability to develop and implement scientific and applied projects in the field of health care.

SC24 – Adherence to ethical principles when working with patients and laboratory animals.

SC25 – Adherence to professional and academic integrity, being responsible for the reliability of the obtained scientific results.

SC26 – Ability to determine the management tactics of persons subject to dispensary supervision.

Program learning outcomes (PLO):

PLO1 – Having a thorough knowledge of the structure of professional activity. Being able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.

PLO2 - Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.

PLO3 - Specialized conceptual knowledge that includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.

PLO4 - Identifying leading clinical symptoms and syndromes (according to the list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to the list 2).

PLO5 - Collecting complaints, history of life and diseases, assessing the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluation of the information regarding the diagnosis (according to the list 4), considering the age of a patient.

PLO6 - Establishing the final clinical diagnosis by making a reasoned decision and analysing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis, observing the relevant ethical and legal norms, under the control of the managing physician in the conditions of the health care institution (according to the list 2).

PLO7 - Assigning and analysing additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to the list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to the list 2).

PLO8 - Determination of the main clinical syndrome or symptom that determines the severity of the victim's/victim's condition (according to the list 3) by making a reasoned decision about the person's condition under any circumstances (in the conditions of a health care facility, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.

PLO9 - Determination of the nature and principles of treatment (conservative, operative) of patients with diseases (according to the list 2), taking into account the patient's age, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the head physician in the conditions of a medical institution.

PLO10 - Determination of the necessary mode of work, rest and nutrition based on the final clinical diagnosis, observing the relevant ethical and legal norms, by taking a reasoned decision according to existing algorithms and standard schemes.

PLO14 - Determination of tactics and providing emergency medical care in emergencies (according to the list 3) in limited time conditions according to existing clinical protocols and standards of treatment.

PLO16. Formation of rational medical routes for patients; organization of interaction with colleagues in their own and other institutions, organizations and institutions; applying tools for promoting medical services in the market, based on the analysis of the population needs, in the conditions of the functioning of the health care institution, its division, in a competitive environment.

PLO17. Performing medical manipulations (according to the list 5) in the conditions of a medical institution, at home or work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.

PLO18. Determination of the state of functioning and limitations of a person's vital activities and the duration of incapacity for work with the preparation of relevant documents, in the conditions of a health care institution, based on data about the disease and its course, peculiarities of a person's professional activity, etc. Management of medical documentation regarding the patient and the contingent of the population based on regulatory documents.

PLO19. Planning and implementing a system of anti-epidemic and preventive measures regarding the occurrence and spread of diseases among the population.

PLO20. Analysing the epidemiological situation and carrying out measures for mass and individual, general and local prevention of infectious diseases.

PLO21. Searching for the necessary information in the professional literature and databases of other sources, analysing, evaluating and applying the obtained information.

PLO24. Organization of the necessary level of individual safety (own and the persons taken care of) in case of typical dangerous situations in the individual field of activity.

PLO29. Planning, organising and carrying out measures for the specific prevention of infectious diseases, including by the National calendar of preventive vaccinations, both mandatory and recommended. Managing vaccine residues, and organization of additional vaccination campaigns, including immune-prophylaxis measures.

PLO30. Determination of the management tactics of persons subject to dispensary supervision (children, pregnant women, workers whose professions require mandatory dispensary examination).

PLO31. Determination of the management tactics of persons suffering from chronic infectious diseases subject to dispensary supervision.

As a result of studying the academic discipline, a acquirer of higher education must:

Know: aetiology, epidemiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention of common infectious diseases.

Be able to:

- communicate with a patient, collect complaints, life and disease history, epidemiological history, conduct an inquiry by organs and systems;
- conducting the patient's physical examination and determining the main symptoms of a disease;
- analyse the results of laboratory, functional and instrumental tests;
- carry out a differential diagnosis and substantiate the clinical one;
- determine tactics and provide an urgent medical aid in emergency situations;
- determine the nature and principles of treatment on the basis of a preliminary clinical diagnosis;
- determine primary and secondary prevention measures;
- report on the results of a patient's examination, substantiation of a diagnosis established and a differentiated one, scope of the prescribed examination, treatment tactics, assessment of the prognosis and work capacity.

3. CONTENTS OF THE COURSE

Content module 1.

General characteristics of zoonotic infections.

Topic 1. General characteristics of zoonotic infections.

General characteristics of zoonotic infections. Zoonoses: etiology, epidemiology, classification.

Topic 2. Plague. Anthrax.

Etiology, epidemiology, classification, pathogenesis, clinical course, diagnosis, differential diagnosis, complications, prognosis. Principles of treatment. Procedure for hospitalization, rules for

discharge of patients from the hospital. Preventive measures.

Topic 3. Brucellosis. Tularemia.

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Topic 4. Rabies.

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Topic 5. Especially dangerous diseases. The concept of biosafety. Hemorrhagic fevers: Ebola, Lassa, Marburg

Marburg, Ebola, Lassa fevers: etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis. Principles of treatment and prevention. Treatment tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital.

Topic 6. Natural and monkey pox.

Natural and monkey pox. Historical data. Topicality. Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis. Principles of treatment and prevention. Victory over smallpox as an example of effective and successfully organized immunoprophylaxis.

Content module 2.

Differential diagnosis of diseases with syndrome of diarrhea.

Topic 7. Differential diagnosis of diseases with diarrhea syndrome.

Acute infectious diseases with syndrome of diarrhea: salmonellosis, shigellosis, food borne infections, botulism. Examination of the patient at the pre-hospital stage. Indications for sending the patient to the hospital. Primary anti-epidemic measures in the center of infection.

Topic 8. Differential diagnosis of diseases with syndrome of diarrhea: escherichiosis, campylobacteriosis, cholera, yersiniosis, viral diarrhea, parasitic invasions of the intestines.

Topic 9. General characteristics of helminthiases. Intestinal protozoal invasions: giardiasis, balantidiasis..

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Topic 10. Intestinal yersiniosis. Pseudotuberculosis

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Content module 3.

Differential diagnosis of diseases with syndrome of jaundice

Topic 11. Differential diagnosis of diseases with syndrome of jaundice.

Clinical and pathophysiological characteristics of jaundice: hemolytic, hepatic, mechanical. Clinical and laboratory syndromes: cytotoxicity, cholestasis, mesenchymal-inflammatory.

Topic 12. Differential diagnosis of diseases with syndrome of jaundice.

Laboratory diagnosis of jaundice. Methods of express diagnostics. Biochemical investigations.

Markers of viral hepatitis. Indications for sending the patient to the hospital. Primary anti-epidemic measures. Acute hepatic encephalopathy. Causes, clinic, diagnosis, emergency care

Content module 4.

Differential diagnosis of infectious diseases with an air-drop mechanism of transmission

Topic 13. Differential diagnosis of infectious diseases with respiratory syndrome

Epidemiological and clinical features of influenza and SARS. Methods of express diagnostics, treatment and prevention. Acute respiratory failure. Causes, clinical signs, emergency care

Topic 14. Differential diagnosis of angina

Infectious diseases with damage of the oropharynx (diphtheria, bacterial tonsillitis, infectious mononucleosis, scarlet fever, herpetic angina, tularemia). Semiotics of lesions of the oropharynx (hyperemia, cyanosis, edema, films and their localization, pain when swallowing, regional lymphadenopathies). Severity of the syndrome of intoxication and respiratory failure.

Topic 15. Infectious mononucleosis.

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Topic 16. Differential diagnosis of infectious diseases with meningeal syndrome

Meningeal syndrome in infectious (meningococcal meningitis, viral serous meningitis, etc.) and non-infectious diseases (subarachnoid hemorrhage, traumatic brain injury). Medical assistance. Emergency aid.

Topic 17. Differential diagnosis of infectious diseases with meningeal syndrome

Primary and secondary meningitis. Serous and purulent meningitis. Features of clinical manifestations. Methods of laboratory diagnostics. Complication. Treatment and prevention.

Edema-swelling syndrome of the brain. Causes, clinical signs, emergency care.

Topic 18. Tick-borne and Japanese encephalitis.

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Content module 5.

Differential diagnosis of exanthema

Topic 19. Differential diagnosis of exanthems

Characteristics of exanthema (spot, roseola, erythema, hemorrhage, papule, tubercle, nodule, blister, bubble, vesicle, pustule), morphology, term of manifestation and dynamics. Acute infectious diseases with manifestations of exanthema: typhoid and typhoid, paratyphoid, meningococcemia, hemorrhagic fevers, dysentery. Clinical-epidemiological and laboratory diagnostics. Differential diagnosis of infectious and non-infectious exanthems (skin diseases, medicinal disease, skin manifestations in collagenoses, hemorrhagic diatheses).

"Children's" air-drop infections in adults. Vaccination schedule. Clinical course of measles, rubella, chicken pox, epidemic parotitis in adults. Rubella in pregnant women. Peculiarities of complications of "children's" droplet infections. Organization of treatment of adults at home (pathogenetic and symptomatic therapy, need to prescribe antibiotics).

Topic 20. Lyme borreliosis. Erysipelas.

Etiology, epidemiology, classification, pathogenesis, clinical course, laboratory diagnosis, differential diagnosis, complications, prognosis, treatment, medical tactics in case of emergency conditions. Procedure for hospitalization, rules for discharge of patients from the hospital. Preventive measures.

Content module 6.

Differential diagnosis of lymphadenopathies

Topic 21. Differential diagnosis of lymphadenopathy.

AIDS, plague, tularemia, brucellosis, toxoplasmosis, rubella, infectious mononucleosis and others.

Topic 22. HIV infection/AIDS

Historical data. Etiology. Epidemiology. Classification. Normative documents of the Ministry of Health of Ukraine, which regulate the procedure for voluntary testing, hospitalization, treatment of patients, preventive measures, as well as legal aspects regarding HIV infection.

AIDS-associated infections. Clinical and epidemiological data for suspected HIV infection Diagnosis at different stages of HIV infection: clinical, epidemiological, laboratory data. Treatment. Principles of prescribing HAART. Prevention

Content module 7.

Differential diagnosis of diseases with syndrome of prolonged fever

Topic 23. Differential diagnosis of diseases with syndrome of prolonged fever

Main clinical manifestations of infectious diseases with persistent fever (typhoid, paratyphoid, typhus and other rickettsioses, brucellosis, hemorrhagic fevers, leptospirosis, yersiniosis, sepsis and others). Principles of differential diagnosis, laboratory diagnostics. Differential diagnosis in tuberculosis and non-infectious diseases with persistent fever.

Topic 24. Malaria

Causative agents of malaria in human. Life cycle of parasites. Features of immunity. Pathogenesis of disease onset, anemia, malarial coma, hemoglobinuria. Pathogenesis of early relapses and late outcome. Features of the clinical course in different forms of malaria. Malaria complications: cerebral malaria, acute hemolysis, hemoglobinuria (blackwater fever), acute kidney injury.

Treatment and prevention of malaria. The main antimalarial medications, their mechanism of action. Treatment of malarial coma and other complications. Therapy of malaria caused by chemo-resistant forms of pathogens.

4. Structure of the course

| Назви тем | Hours | | | | |
|---|-------|-----------|----------|-------------------|------------|
| | Total | including | | | |
| | | Lectures | Seminars | Practical Classes | Self-study |
| Content module 1. | | | | | |
| The general characteristics of zoonotic infections | | | | | |
| Topic 1. The general characteristics of zoonotic infections. | 2 | 0 | 0 | 2 | 0 |
| Topic 2. Plague. Anthrax. | 2 | 0 | 0 | 2 | 0 |
| Topic 3. Brucellosis. Tularemia. | 2 | | | 2 | 0 |
| Topic 4. Rabies. | 2 | | | 2 | 0 |
| Topic 5. Especially dangerous diseases. The concept of biosafety. Hemorrhagic fevers: Ebola, Lassa, Marburg | 2 | | | 2 | 0 |
| Topic 6. Natural and monkey pox. | 2 | | | 2 | 0 |

| | | | | | |
|--|----|---|---|----|---|
| <i>Total in content module 1</i> | 12 | 0 | 0 | 12 | 0 |
| Content module 2. | | | | | |
| The differential diagnosis of the diseases with syndrome of diarrhea | | | | | |
| Topic 7. The differential diagnosis of the diseases with syndrome of diarrhea: salmonellosis, shigellosis, food-borne infections, botulism. | 4 | 0 | 0 | 2 | 2 |
| Topic 8. The differential diagnosis of the diseases with syndrome of diarrhea: escherichiosis, campylobacteriosis, cholera, yersiniosis, viral diarrhea, parasitic invasions of the intestines. | 2 | 0 | 0 | 2 | 0 |
| Topic 9. General characteristics of helminthiases. Intestinal protozoal invasions: giardiasis, balantidiasis. | 2 | 0 | 0 | 0 | 2 |
| Topic 10. Intestinal yersiniosis. Pseudotuberculosis | 2 | 0 | 0 | 0 | 2 |
| <i>Total in content module 2</i> | 10 | 0 | 0 | 4 | 6 |
| Content module 3. | | | | | |
| The differential diagnosis of the diseases with syndrome of jaundice | | | | | |
| Topic 11. Differential diagnosis of diseases with syndrome of jaundice. Clinical and pathophysiological characteristics of jaundice: hemolytic, hepatic, mechanical. Clinical and laboratory syndromes: cytolysis, cholestasis, mesenchymal-inflammatory. | 4 | 0 | 0 | 2 | 2 |
| Topic 12. Differential diagnosis of diseases with syndrome of jaundice. Laboratory diagnosis of jaundice. Methods of express diagnostics. Biochemical investigations. Markers of viral hepatitis. Indications for sending the patient to the hospital. Primary anti-epidemic measures. Acute hepatic encephalopathy. Causes, clinic, diagnosis, emergency care | 2 | 0 | 0 | 2 | 0 |
| <i>Total in content module 3</i> | 6 | 0 | 0 | 4 | 2 |
| Content module 4. | | | | | |
| The differential diagnosis of infectious diseases with air-drop mechanism of transmission | | | | | |
| Topic 13. The differential diagnosis of the diseases with respiratory syndrome. | 4 | 0 | 0 | 2 | 2 |
| Topic 14. Differential diagnosis of angina | 2 | 0 | 0 | 2 | 0 |
| Topic 15. Infectious mononucleosis | 2 | 0 | 0 | 0 | 2 |
| Topic 16. Differential diagnosis of infectious diseases with meningeal syndrome Meningeal syndrome in infectious (meningococcal meningitis, viral serous meningitis, etc.) | 4 | 0 | 0 | 2 | 2 |
| Topic 17. Differential diagnosis of infectious diseases with meningeal syndrome Primary and secondary meningitis. Serous and purulent meningitis. | 2 | 0 | 0 | 2 | 0 |
| Topic 18. Tick and Japanese encephalitis. | 2 | 0 | 0 | 0 | 2 |
| <i>Total in content module 4</i> | 16 | 0 | 0 | 8 | 8 |
| Content module 5. | | | | | |
| Differential diagnosis of exanthemas | | | | | |
| Topic 19. Differential diagnosis of exanthemas | 4 | 0 | 0 | 2 | 2 |
| Topic 20. Lyme disease. Erysipelas | 2 | | | 2 | |

| | | | | | |
|---|----|---|---|----|----|
| <i>Total in content module 5</i> | 6 | 0 | 0 | 4 | 2 |
| Content module 6. | | | | | |
| Differential diagnosis of lymphadenopathies | | | | | |
| Topic 21. Differential diagnosis of lymphadenopathies | 4 | 0 | 0 | 2 | 2 |
| Topic 22. HIV-infection \ AIDS | 2 | 0 | 0 | 2 | |
| <i>Total in content module 6</i> | 6 | 0 | 0 | 4 | 2 |
| Content module 7. | | | | | |
| Differential diagnosis of diseases with syndrome of prolonged fever | | | | | |
| Topic 23. Differential diagnosis of diseases with syndrome of prolonged fever | 2 | 0 | 0 | 2 | 0 |
| Topic 24. Malaria | 2 | 0 | 0 | 2 | 0 |
| <i>Total in content module 7</i> | 4 | 0 | 0 | 4 | 0 |
| At all | 60 | 0 | 0 | 40 | 20 |

5. Topics of lectures / seminars / practicals / labs

5.1. Topics of lectures

Lectures are not provided

5.2. Topics of seminars

Seminars are not provided

5.3. Topics of practical sessions

| № | Topics | Practical Classes |
|-----|---|-------------------|
| 1. | Topic 1. «The general characteristics of zoonotic infections». | 2 |
| 2. | Topic 2. «Plague. Anthrax». | 2 |
| 3. | Topic 3. «Brucellosis. Tularemia». | 2 |
| 4. | Topic 4. «Rabies». | 2 |
| 5. | Topic 5. «Especially dangerous diseases. The concept of biosafety. Hemorrhagic fevers: Ebola, Lassa, Marburg». | 2 |
| 6. | Topic 6. «Natural and monkey pox». | 2 |
| 7. | Topic 7. «The differential diagnosis of the diseases with syndrome of diarrhea: salmonellosis, shigellosis, food-borne infections, botulism». | 2 |
| 8. | Topic 8. «The differential diagnosis of the diseases with syndrome of diarrhea: escherichiosis, campylobacteriosis, cholera, yersiniosis, viral diarrhea, parasitic invasions of the intestines». | 2 |
| 9. | Topic 11. «Differential diagnosis of diseases with syndrome of jaundice. Clinical and pathophysiological characteristics of jaundice: hemolytic, hepatic, mechanical. Clinical and laboratory syndromes: cytolysis, cholestasis, mesenchymal-inflammatory». | 2 |
| 10. | Topic 12. «Differential diagnosis of diseases with syndrome of jaundice. Laboratory diagnosis of jaundice. Methods of express diagnostics. Biochemical investigations. Markers of viral hepatitis. Indications for sending the patient to the hospital. Primary anti-epidemic measures. Acute hepatic encephalopathy. Causes, clinic, diagnosis, emergency care». | 2 |
| 11. | Topic 13. «The differential diagnosis of the diseases with respiratory syndrome». | 2 |
| 12. | Topic 14 «Differential diagnosis of angina». | 2 |
| 13. | Topic 16. «Differential diagnosis of infectious diseases with meningeal syndrome. Meningeal syndrome in infectious (meningococcal meningitis, viral serous | 2 |

| | | |
|-----|---|----|
| | meningitis, etc.)». | |
| 14. | Topic 17. Differential diagnosis of infectious diseases with meningeal syndrome. Primary and secondary meningitis. Serous and purulent meningitis». | 2 |
| 15. | Topic 19. «Differential diagnosis of exanthemas». | 2 |
| 16. | Topic 20. «Lyme disease. Erysipelas». | 2 |
| 17. | Topic 21. «Differential diagnosis of lymphadenopathies». | 2 |
| 18. | Topic 22. «HIV-infection/AIDS». | 2 |
| 19. | Topic 23. «Differential diagnosis of diseases with syndrome of prolonged fever». | 2 |
| 20. | Topic 24. «Malaria». | 2 |
| | At all | 40 |

5.4. Topics of laboratory sessions

Laboratory sessions are not provided

6. Acquirers' self-study activities

| № | Topics | Self-study |
|-----|---|------------|
| 1. | Topic 7. The differential diagnosis of the diseases with syndrome of diarrhea: salmonellosis, shigellosis, food-borne infections, botulism. | 2 |
| 2. | Topic 9. General characteristics of helminthiases. Intestinal protozoal invasions: giardiasis, balantidiasis. | 2 |
| 3. | Topic 10. Intestinal yersiniosis. Pseudotuberculosis | 2 |
| 4. | Topic 11. Differential diagnosis of diseases with syndrome of jaundice. Clinical and pathophysiological characteristics of jaundice: hemolytic, hepatic, mechanical. Clinical and laboratory syndromes: cytolysis, cholestasis, mesenchymal-inflammatory. | 2 |
| 5. | Topic 13. The differential diagnosis of the diseases with respiratory syndrome. | 2 |
| 6. | Topic 15. Infectious mononucleosis | 2 |
| 7. | Topic 16. Differential diagnosis of infectious diseases with meningeal syndrome Meningeal syndrome in infectious (meningococcal meningitis, viral serous meningitis, etc.) | 2 |
| 8. | Topic 18. Tick and Japanese encephalitis. | 2 |
| 9. | Topic 19. Differential diagnosis of exanthemas | 2 |
| 10. | Topic 21. Differential diagnosis of lymphadenopathies | 2 |
| 11. | At all | 20 |

Teaching techniques

Practical classes: conversation, role-playing, solving clinical situational problems, practicing the skills of examining a patient, practicing the skills of performing manipulations according to list 5, skills of differential diagnosis of the most common diseases.

Independent work: independent work with recommended basic and additional literature, with electronic information resources, preparation for practical classes; independent work with a bank of test tasks Step-2, independent mastering of communication algorithms with the patient.

8. Forms of control and evaluation methods (including criteria for evaluating learning outcomes)

Current control: oral questioning, testing, assessment of practical skills, assessment of communication skills during a role play, solving situational clinical problems, assessment of activity in the classroom.

Final control: testing according to the Krok-2 type, oral exam.

Assessment of current learning activities in the practical class:

1. Assessment of theoretical knowledge on the topic of the lesson:

- methods: questioning, solving a situational clinical problem
- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

2. Assessment of work with a patient and practical skills on the topic of the class.

- **Methods:** a) assessment of communication skills with the patient,

b) correctness of appointment and assessment of laboratory and instrumental studies, c) compliance with the algorithm of differential diagnosis, d) justification of clinical diagnosis diagnosis, e) drawing up a treatment plan.

- The maximum grade is 5, the minimum grade is 3, and the unsatisfactory grade is 2.

The grade for one practical lesson is the arithmetic mean of all components and can only have an integer value (5, 4, 3, 2), which is rounded by the method of statistics

Current evaluation criteria in practical training

| Grade | Evaluation criteria |
|--------------------|---|
| Excellent «5» | The acquirer has a fluent command of the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the topic of the lesson, demonstrates clinical thinking. |
| Good «4» | The acquirer has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a patient and the interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the subject of the lesson, demonstrates clinical thinking. |
| Satisfactory «3» | The acquirer does not have sufficient knowledge of the material, is unsure of participating in the discussion and solving of the situational clinical problem, demonstrates practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data with significant errors. |
| Unsatisfactory «2» | The acquirer does not possess the material, does not participate in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the examination of the patient and the interpretation of clinical, laboratory and instrumental research data. |

Only those applicants who do not have academic debt, have an average score for current educational activities of at least 3.00, have passed the tests from the KROK-2 database (more than 90%, 50 tasks) are allowed to take the exam.

The test control is carried out at the Educational and Production Complex of Innovative Teaching Technologies, Informatisation and Continuing Education of ONMedU at the last lesson.

Assessment of learning outcomes during the final control

| Content of the assessed activity | Number of points |
|--|-------------------------|
| Solving a situational clinical problem (by type of OSCI) with the appointment of laboratory and instrumental studies, treatment, preventive measures | 1 |

| | |
|--|----------|
| Evaluation of laboratory examination results with a preliminary diagnosis and determination of changes detected during the study | 1 |
| Answer to 1st theoretical question | 1 |
| Answer to the 2nd theoretical question | 2 |

Criteria for assessing the learning outcomes of acquirers at the exam

| Grade | Criteria for assessing |
|--------------------|--|
| Excellent «5» | The acquirer has correctly, accurately and completely completed all the tasks of the exam ticket, clearly and logically answered the questions posed by the examiners. He/she has a thorough and comprehensive knowledge of the content of theoretical questions, is fluent in professional and scientific terminology. He/she thinks logically and constructs an answer, freely uses the acquired theoretical knowledge in the analysis of practical tasks. When solving a clinical problem, he/she correctly interpreted the anamnesis data, results of clinical, laboratory and instrumental studies, correctly answered all the questions and convincingly justified his/her point of view, could propose and justify an alternative solution to certain issues. When solving a practical task of the OSCE type, he/she correctly demonstrated the performance of practical skills and followed the algorithm of their implementation. |
| Good «4» | The acquirer has sufficiently completed all the tasks of the exam ticket, clearly and logically answered the questions posed by the examiners. He/she has a sufficiently deep and comprehensive knowledge of the content of theoretical questions, knows professional and scientific terminology. He/she thinks logically and constructs an answer, uses the acquired theoretical knowledge in analysing practical tasks. However, some questions lack sufficient depth and argumentation, and the candidate makes minor mistakes that are eliminated by the candidate when pointed out by the examiner. When solving the clinical task, the candidate made minor mistakes or inaccuracies in the interpretation of the anamnesis, results of clinical, laboratory and instrumental studies, answered all the questions without significant errors, fully justified his/her point of view, but the proposal of an alternative option caused difficulties. When solving a practical task of the OSCE type, he made minor errors in the algorithm and technique of performing the skill, which were corrected at the instruction of the teacher. |
| Satisfactory «3» | The acquirer has not completed all the tasks of the exam ticket in full, the answers to additional and leading questions are unclear and vague. He/she has the basic amount of theoretical knowledge, uses professional and scientific terminology inaccurately. Experiences significant difficulties in constructing an independent logical answer, in applying theoretical knowledge in the analysis of practical tasks. There are significant errors in the answers. When solving a clinical problem, he/she made mistakes in interpreting the anamnesis data, results of clinical, laboratory and instrumental studies, did not know certain details, made inaccuracies in answering questions, did not properly justify his/her answers and interpret the wording, had difficulties in completing tasks and suggesting alternative options. When solving a practical task of the OSCE type, he made significant errors in the algorithm and technique of performing the skill. |
| Unsatisfactory «2» | The acquirer did not complete the tasks of the exam ticket, in most cases did not answer additional and leading questions of the examiners. He/she has not mastered the main body of theoretical knowledge and has shown a low level of proficiency in professional and scientific terminology. Answers to the questions are fragmentary, inconsistent, illogical, and unable to apply theoretical knowledge in the analysis of practical tasks. There are a significant number of gross errors in the answers. When solving a clinical problem, he/she could not interpret the anamnesis data, the results of clinical, |

| |
|--|
| laboratory and instrumental studies, answer the questions posed, or made significant errors in the answers; could not justify his/her decisions or did not do so convincingly. No alternative options were offered. When solving a practical task of the OSCE type, he/she did not demonstrate or made gross errors and mistakes in the algorithm and technique of performing the skill. |
|--|

9. Distribution of points received by acquirers of higher education

The obtained grade point average for the discipline for acquirers who have successfully completed the work program of the discipline is converted from the traditional four-point scale to points on a 200-point scale, as shown in the table:

Table of conversion of traditional grade into a multi-point scale

| National assessment for discipline | The sum of points for the discipline |
|---|---|
| Excellent («5») | 185-200 |
| Good («4») | 151-184 |
| Satisfactory («3») | 120-150 |
| Unsatisfactory («2») | Lower then 120 |

A multi-point scale (200-point scale) characterizes the actual performance of each acquirer in mastering the educational component. The conversion of the traditional grade (grade point average for a discipline) into a 200-point scale is performed by the University's Information Technology Department.

According to the points obtained on a 200-point scale, the achievements of applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows to evaluate the achievements of applicants in the educational component who study in one course of one specialty, according to the points they received.

The ECTS scale is a relative and comparative rating scale that establishes the applicant's belonging to the group of the best or worst among the reference group of fellow acquirers (faculty, specialty). Grade A on the ECTS scale cannot be equal to grade A, and grade B cannot be equal to grade B, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" on the ECTS scale do not coincide with the limits of grades "5", "4", "3" on the traditional scale. Applicants who have received grades "FX" and "F" ("2") are not included in the list of ranked applicants. The grade "FX" is assigned to applicants who have scored the minimum number of points for current academic activities, but who have not been credited with the final control. The grade "F" is assigned to applicants who have attended all classes in the discipline, but have not gained an average score (3.00) for current academic activities and are not allowed to take the final control.

Acquirers enrolled in the same course (one specialty), based on the number of points gained in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

| ECTS mark | Statistic index |
|------------------|------------------------|
| "A" | Next 10% of acquirers |
| "B" | Next 25% of acquirers |
| "C" | Next 30% of acquirers |
| "D" | Next 25% of acquirers |
| "E" | Next 10% of acquirers |

10. Methodological back-up

- The course's work program;
- The syllabus;
- Methodical manuals to practical sessions;
- Guidelines to s acquirers' self-studies;
- Multimedia presentations;
- Case study assignments;
- Cases of laboratory studies results
- Role-play scenarios
- Examination cards for the exam
- KROK-2 database;

11. Questions for preparing for the final control

General part

1. General characteristics of zoonotic infections.
2. The concept of especially dangerous diseases and biosafety.
3. Dehydration shock. Causes, clinical signs, emergency care.
4. Differential diagnosis of jaundice: suprahepatic, hepatic and subhepatic.
5. Laboratory diagnosis of jaundice.
6. Markers of viral hepatitis.
7. Acute hepatic encephalopathy. Causes, clinical signs, emergency care.
8. Infectious-toxic shock. Causes, clinical signs, emergency care.
9. Meningeal syndrome in infectious and non-infectious diseases.
10. Cerebral edema-swelling syndrome. Causes, clinical signs, emergency care.
11. Primary and secondary meningitis.
12. Changes in cerebrospinal fluid in purulent and serous meningitis.
13. Differential diagnosis of infectious diseases with manifestations of exanthema: typhus and typhoid fever.
14. Differential diagnosis of infectious diseases with manifestations of exanthema: meningococemia and hemorrhagic fevers.
15. "Children's" droplet infections in adults.
16. Differential diagnosis of lymphadenopathy.
17. Malarial coma. Clinic. Diagnostics. Treatment.
18. Hemoglobinuria fever. Clinic. Diagnostics. Treatment.
19. Differential diagnosis of viral hepatis with fecal-oral transmission mechanism.
20. Differential diagnosis of blood-borne hepatitis.
21. AIDS-associated viral infections.
22. AIDS-associated bacterial infections.
23. AIDS-associated parasitic infections.
24. Principles of prescribing HAART to patients with HIV infection.
25. Differential diagnosis of infectious diseases with long fever syndrome.
26. Modern methods of treatment and prevention of malaria.
27. Stages of laboratory laboratory diagnostics of HIV infection.
28. Pre-treatment and post-contact prophylaxis of HIV infection. Assignment rules.
29. Calendar of preventive vaccinations in Ukraine: rules for vaccinations.
30. Characteristics of exanthems. Differential diagnosis of infectious diseases with manifestations of exanthema.

31. Acute respiratory failure. Causes, clinical signs, emergency care.

Special part

1. Plague. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
2. Anthrax. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
3. Tularemia. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
4. Brucellosis. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
5. Rabies. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
6. Hemorrhagic fevers. Hemorrhagic fever with renal syndrome. Crimean-Congo fever. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
7. Especially contagious haemorrhagic fevers: Ebola, Lassa, Marburg.
8. Smallpox and monkeypox. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
9. Acute infectious diseases with diarrhea syndrome. Salmonellosis. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
10. Acute infectious diseases with diarrhea syndrome. Shigellosis. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
11. Acute infectious diseases with diarrhea syndrome. Foodborne toxic infections. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
12. Acute infectious diseases with diarrhea syndrome. Botulism. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
13. Differential diagnosis of infectious diseases with diarrhea syndrome. Escherichioses. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
14. Differential diagnosis of infectious diseases with diarrhea syndrome. Cholera. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
15. Intestinal yersiniosis and pseudotuberculosis. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
16. Protozoal intestinal diseases. Labliosis. Balatidiasis. Etiology. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
17. Influenza and other acute respiratory viral infections. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
18. Coronavirus infection (SARS, MERS, COVID-19). Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
19. Infectious diseases with oropharyngeal involvement. Diphtheria. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
20. Infectious diseases with oropharyngeal lesions. Infectious mononucleosis. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
21. Tick-borne and Japanese encephalitis. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
22. Lyme borreliosis. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
23. Erysipelas. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
24. Malaria. Etiology. Epidemiology. Pathogenesis. Clinical manifestations. Diagnostics.
25. Features of the clinical course of various forms of malaria.
26. Typhoid fever. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
27. HIV infection. Etiology. Epidemiological features. Pathogenesis.
28. HIV infection. Classification of clinical stages.
29. Acute hepatitis A. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.

30. Acute hepatitis B. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
31. Acute hepatitis C. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
32. Acute hepatitis D. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.
33. Acute hepatitis E. Epidemiology. Pathogenesis. Clinic. Diagnostics. Treatment. Prevention.

11. Topics for preparation to final control

1. Methods of specific diagnosis in infectious diseases.
2. Basic principles of etiologic and pathogenetic therapy in infectious diseases.
3. Prevention of infectious diseases: general, specific, and in emergency.
4. Differential diagnosis of infectious diseases with respiratory syndrome: rhinovirus, adenovirus infections and influenza.
5. Differential diagnosis of infectious diseases with respiratory syndrome: parainfluenza, VRS-infection, flu.
6. Acute respiratory failure. Causes of occurrence. Clinical features at different stages of ARF.
7. Acute respiratory failure. Emergency care.
8. Serous and purulent meningitides. Differential diagnosis according to changes in cerebrospinal fluid.
9. Primary and secondary meningitis. Treatment principles.
10. Cerebral edema syndrome. Clinical signs. Emergency care.
11. Differential diagnosis of infectious diseases with meningeal syndrome (meningococcal and tuberculous meningitis, viral severe meningitis).
12. Differential diagnosis of infectious and non-infectious diseases with meningeal syndrome (purulent meningitis and subarachnoid hemorrhage, traumatic brain injury).
13. Differential diagnosis of acute infectious diseases with exanthema manifestations (typhus and typhoid fever).
14. Differential diagnosis of acute infectious diseases with exanthema manifestations (meningococcemia and hemorrhagic fevers).
15. Differential diagnosis of acute infectious diseases with exanthema manifestations (erysipelas and anthrax).
16. Lyme disease. Clinical manifestations. Methods of specific laboratory diagnostics. Principles of treatment and prevention of Lyme disease.
17. Malaria. Features of the clinical course in different forms of malaria. Malaria treatment and prevention.
18. Complications of malaria. Treatment of malaria coma and other complications.
19. Highly dangerous diseases. Quarantine infections (plague, cholera).
20. Highly dangerous diseases. Quarantine infections (smallpox and monkeypox, yellow fever).
21. Differential diagnosis of lymphadenopathies (AIDS, tularemia, brucellosis).
22. Differential diagnosis of lymphadenopathies (toxoplasmosis, rubella, infectious mononucleosis).
23. HIV infection/AIDS. Classification. Clinical manifestations. Methods of specific laboratory diagnostics.
24. HIV infection/AIDS: actions health care team members take when a workplace incident occurs, urgent prevention.
25. Anaphylactic shock. Emergency care.
26. Toxic shock syndrome. Emergency care.
27. Dehydration shock. Emergency care.
28. Differential diagnosis of diseases with persistent fever syndrome (typhoid fever, paratyphoids, typhus and other rickettsioses).

12. Recommended literature

Main literature

1. Infectious Diseases: textbook (IV a. 1.) / O.A. Holubovska, M.A. Andreichyn, A.V. Shkurba, T.V. Chaban et al. К. ВСВ «Медицина», 2018. (APPROVED by the Ministry of Education and Science of Ukraine as a textbook for students of higher medical educational establishments; APPROVED by the Ministry of Health of Ukraine as a textbook for students of higher medical educational establishments) – 664 с. + 12 с. кольор. вкл. ; двокольор. вид. ISBN 978-617-505-727-8.
2. Pediatric Infectious Diseases: textbook / S.O. Kramarov, O.B. Nadraga, L.V. Pyra et al.; edited by S.O. Kramarov, O.B. Nadraga. — 4th edition. — Kyiv: AUS Medicine Publishing, 2020. — 240 p.

Additional

1. Comprehensive Textbook of Infectious Disease: M. I. Sahadulla, S. A. Udman. – 2nd edition. Jaypee Brothers, Medical Publishers Pvt. Limited, 2019 – 835 p.
2. Атлас дитячих інфекційних хвороб. Червона Книга = Red Book® Atlas of Pediatric Infectious Diseases: пер. 3-го англ. вид. : двомов. вид. / Керол Дж. Бейкер ; наук. ред. пер. проф. С.О. Крамарьов ; пер. з англ. Л.В. Загородонець. — К. : ВСВ «Медицина», 2019. — 744 с. Tropical infections: manual/ed. MA Andreychyn, VD Moskaliuk. - Lviv: "Magnolia 2006", 2019. - 220 p.
3. Tropical infections: manual/ed. MA Andreychyn, VD Moskaliuk. - Lviv: "Magnolia 2006", 2019. - 220 p.
4. General epidemiology: study guide (IV a. 1.) / N.O. Vynograd. — 3rd edition, corrected K: ВСВ «Медицина», 2017. – 128 с.
5. Hagberg H., Wennerholm U.B., Savman K. // Current Opinion in Infectious Disease. – 2015. - Vol. - № 3. - P. 301-306.
6. Harrison's Principles of internal medicine. 19th edition /edited by Anthony S. Fauci, Dennis L Kasper, Dan L. Longo [et all]. – New York. - 2017. – 1307 p.
7. CDC Yellow Book Travelers Health – 2020 (www.cdc.gov/yellowbook)

Information resource:

<http://moz.gov.ua> – Міністерство охорони здоров'я України
www.ama-assn.org – Американська медична асоціація / American Medical Association
www.who.int – Всесвітня організація охорони здоров'я
www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
<http://bma.org.uk> – Британська медична асоціація
www.gmc-uk.org - General Medical Council (GMC)
www.bundesaerztekammer.de – Німецька медична асоціація
<https://library.odmu.edu.ua/catalog/> Електронний каталог бібліотеки ОНМедУ