

MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Department of general and clinical epidemiology and biosafety

I APPROVE



Vice-rector for scientific and pedagogical work

Eduard BURIACHKIVSKYI

September 1, 2023

**WORKING PROGRAM ON EDUCATIONAL DISCIPLINE
"EPIDEMIOLOGY"**

Level of higher education: second (master's)

Branch of knowledge: 22 "Health care"

Specialty: 221 "Dentistry"

Educational and professional program: Dentistry

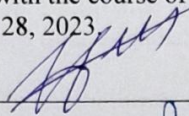
Odesa 2023 - 2024

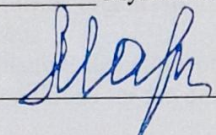
The program was compiled on the basis of the educational and professional program "Dentistry", the training of specialists of the second (master's) level of higher education in the specialty 221 "Dentistry" of the field of knowledge 22 "Health care", approved by the Scientific Council of ONMedU, from (protocol No. 8 of June 29 2023).

Developers:

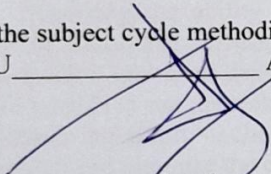
head of the department, Prof., Doctor of Medicine, M.I. Golubyatnykov
professor of the department, Doctor of Medicine, O.V. Bachynska
associate professors of the department: PhD T.V. Fedorenko
assistants to prof.: PhD T.V. Gerasimenko, PhD O.A. Melnyk, K.S. Hrytsenko

The work program was approved at the meeting of the department of general and clinical epidemiology and biosafety with the course of microbiology and virology
Protocol No. 1 dated August 28, 2023.

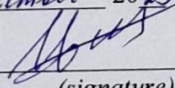
Head of the department  Mykola GOLUBYATNYKOV

Agreed with the guarantor of the OPP  Valery MARICHEREDA

Approved by the subject cycle commission for medical and biological disciplines of ONMedU
Protocol No. ___ of "___" _____ 2023.

Head of the subject cycle methodical commission for medical and biological disciplines of ONMedU  Anatoliy GULYUK

Reviewed and approved at the meeting of the department *of general and clinical epidemiology and biosafety with course of microbiology and virology*
Protocol No. *1* of "*1*" *September* 20*25*

Head of the department  Mykola GOLUBYATNYKOV
(signature) (First Name Surname)

Reviewed and approved at the meeting of the department _____

Protocol No. ___ of "___" _____ 20__

Head of Department _____
(signature) (First Name Surname)

1. Description of the academic discipline:

Name of indicators	Characteristics of the academic discipline	
	Full-time education	
The total number of: Credits - 1 Hours - 30 Content subdivisions – 2	Mandatory	
	A year of training	2
	Semester	III
	Lectures	6
	Practical training	14 hours
	Independent work	10 hours
	Including individual taSCs	0
	Final control form	test

2. The purpose and taSCs of the educational discipline

The purpose of teaching of the educational discipline "Epidemiology" is the study of the causes and mechanisms of the occurrence and spread of infectious diseases, methods of their prevention and the organization of anti-epidemic measures.

TaSC:

1. Formation of SCills and abilities: organization and implementation of anti-epidemic measures in centers of infectious diseases.

2. Improving the SCills of effective detection of the source of the pathogen and the leading ways of its transmission, the conditions for the development of the epidemic process and its forecasting.

3. Mastering the ability to interpret the manifestations of the epidemic process of specific nosological forms belonging to different groups of infectious diseases (respiratory, intestinal, transmissible and external covers) in separate territories.

4. Mastering the ability to formulate working hypotheses regarding riSC factors for morbidity in individual territories, among different population groups, and in collectives regarding specific infectious diseases.

5. To be able to use the techniques of the epidemiological research method in practice.

6. Master the ability to choose appropriate sources of information support for medical and social research and organize the collection of statistical material.

7. Master the ability to work with health databases and basic medical statistics documentation;

8. Master the ability to interpret the obtained results.

The process of studying the discipline is aimed at forming elements of the following competencies:

The process of studying the discipline is aimed at forming elements of the following competencies:

IC - Ability to solve typical and complex specialized taSCs and problems in the field of health care with the specialty "Dentistry", in professional activity or in the process of learning, which involves conducting research and/or implementing innovations and is characterized by the complexity and uncertainty of conditions and requirements.

General (GC):

GC2. Knowledge and understanding of the subject area understanding professional activity.

GC3. Ability to apply knowledge in practical situations

GC6. SCills of use informative communication technologies.

GC9. Ability to identify, pose and solve problems.

GC10. The ability to be critical and self-critical.

GC13.The ability to act socially responsibly and consciously.

GC14.The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (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.The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of 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.

Special (SC):

SC4.The ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial region.

SC13.The ability to assess the impact of the environment on the state of health of the population (individual, family, population).

SC14.Ability to maintain regulatory medical documentation.

SC15.Processing of state, social and medical information.

SC17.Ability to provide legal security ownprofessional activity.

Program learning outcomes (PLO):

PLO 14. Analyze and evaluate state, social and medical information using standard approaches and computer information technologies.

PLO 15. Assess the impact of the environment on the health of the population in the conditions of a medical institution using standard methods.

PLO 16. To form goals and determine the structure of personal activity based on the result of the analysis of certain social and personal needs.

PLO 17. Follow a healthy lifestyle, use self-regulation and self-control techniques.

PLO 18. To be aware of and be guided in one's activities by civil rights, freedoms and duties, to raise the general educational cultural level.

PLO19. To comply with the requirements of ethics, bioethics and deontology in their professional activities.

PLO 20. To organize the required level of individual safety (own and the persons they care about) in case of typical dangerous situations in the individual field of activity.

Expected learning outcomes. As a result of studying the academic discipline, the applicant must:

Know:

- principles of evidence-based medicine and using them in practice.
- manifestations of the epidemic process
- the procedure for carrying out activities related to the detection, examination, monitoring, localization and elimination of an epidemic center;
- the procedure for carrying out anti-epidemic work of a family doctor and an infectious disease doctor;
- principles of application of clinical research results in practical activities.
- basic principles of organization of scientific research;
- forms and methods of statistical analysis;
- the rules of design and editing of the manuscript for printing;
- basic requirements for the design of research, magazine article, illustrative material.

Be able:

- to organize and carry out anti-epidemic measures in centers of infectious diseases.

- to organize and carry out anti-epidemic measures in centers of infections related to the provision of medical assistance.
- to interpret the results of using the epidemiological research method in practice.
 - interpret the epidemiological, social and economic significance of individual nosological forms.
 - fill out the documentation regarding the registration and accounting of infectious patients.
 - to determine and interpret the epidemiological manifestations of the incidence of infections belonging to different groups (respiratory, intestinal, transmissible and infections of the outer coverings).
 - use regulatory and instructional documentation of the Ministry of Health of Ukraine and international standards to eliminate foci of specific nosological forms belonging to different groups of infectious diseases (respiratory, intestinal, transmissible and external integuments, ONI).
 - to interpret the regularities and features of the course of the epidemic process in infectious diseases that require special tactics.

Master the Skills:

- formulation of working hypotheses regarding the riSC factors of morbidity in individual territories, among different population groups and in collectives regarding specific infectious diseases.
 - definition of priority problems of prevention of infectious diseases by groups and nosological forms.
- Integrative final program learning outcomes, the formation of which is facilitated by the educational discipline:

3. Content of the academic discipline

Content module I. Basics of epidemiology.

Topic 1. Basic epidemiological concepts. Reservoirs and sources of pathogens of infectious diseases. Mechanisms, factors and ways of transmission of pathogens of infectious diseases. The subject and tasks of epidemiology. Laws of epidemiology. Epidemic process and its components. Sections of teaching about the epidemic process. Driving forces of the epidemic process. Classification of infectious diseases. The concept of the source of an infectious disease, the mechanism, factors and ways of transmission.

Topic 2. Disinfection and sterilization. Peculiarities of carrying out preventive and anti-epidemic measures in medical and preventive dental institutions.

Topic 3. Organization and implementation of immunoprophylaxis. Preparations for creating active and passive immunity. Vaccinations are planned and according to epidemic indications.

Types of immunity and their characteristics. Calendar of preventive vaccinations of Ukraine, its sections. Requirements for immunobiological drugs. Ways of administering immunobiological drugs into the body. List of medical contraindications to preventive vaccinations. Post-vaccination reactions and complications. Preparations for scheduled immunoprophylaxis (release form, method of administration, dose, reaction to administration).

Organization of immunoprophylaxis. Drawing up a plan of preventive vaccinations. Forms of accounting and reporting documentation on immunoprophylaxis.

Drugs for urgent immunoprophylaxis. Characteristics of drugs for urgent prevention of tetanus, rabies.

Topic 4. Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism (diphtheria, measles, influenza).

Epidemiological characteristics of the group of respiratory infections. Mechanisms, factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and by collectives). Preventive and anti-epidemic measures in centers.

Topic 5. Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, hepatitis A).

Epidemiological characteristics of a group of intestinal infections. Factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and by collectives). Preventive and anti-epidemic measures in centers. Investigation of outbreaks of intestinal infections.

Topic 6. Anti-epidemic measures in foci of blood infections (malaria, hepatitis B and C, HIV infection). Nosocomial infections and their prevention

Epidemiological characteristics of a group of transmissible infections and infections with a contact mechanism of transmission. Factors and ways of transmission of specific nosological forms. Manifestations of the epidemic process (incidence level, manifestations of morbidity over time, by territory, among different population groups and by collectives). Preventive and anti-epidemic measures in centers.

Topic 7. Epidemic process and prevention of tuberculosis.

Topic 8. Prevention of occupational infectious injuries in the work of a dentist

Working conditions of medical workers. Industrial injuries.. Instructions for prevention of in-hospital and professional HIV infection.

Content module 2 "Biostatistics and clinical epidemiology. Epidemiology and principles of evidence-based medicine in dentistry".

Topic 9. Biostatistics as a component of evidence-based medicine.

The concept and role of biostatistics as the main component of the evidence-based medicine system. Definition of the terms "biostatistics", "evidence-based medicine", "clinical epidemiology". The main stages of the development of biostatistics. Outstanding scientists and their contribution to the development of biostatistics. Basic principles of evidence-based medicine. Triad of evidence-based medicine. Theory and practice of evidence-based medicine. Evidence-based medicine and quality of clinical research. Concept of final results. Evidence-based medicine and quality of medical care. Standardization of medical care: clinical protocols, standards and recommendations. The place and role of biostatistics in medical education and the work of a practicing physician.

Topic 10. Statistical research in the health care system.

Methodological foundations of the organization of statistical research in the health care system. Organization of statistical research. Principles of forming statistical populations for analysis. Concept of general and selective population. Classification of data types. Quantitative and qualitative data. Characteristics of measurement scales. General characteristics of methods of statistical analysis, features of their use. Generalization of statistical research results. Assessment of the probability of the obtained results. Concept of null and alternative hypothesis. Hypothesis testing. Error of the 1st and 2nd kind. Typical mistakes at the stages of conducting research. Random and systematic error. Databases for analysis of statistical material.

Topic 11. Clinical epidemiology.

Modern principles and rules of clinical research. Definition of the concept of clinical epidemiology. The main stages of its development. The main principles and provisions of clinical epidemiology, the connection between clinical medicine and epidemiology. Methods of clinical observation and data analysis for decision-making. The role of clinical epidemiology in the development of evidence-based medicine. The rise of clinical phenomena (death, disease, discomfort, disability, dissatisfaction) as the main objects of study of clinical epidemiology. A quantitative approach to predicting clinical outcomes.

Concept of population and sample. Application of clinical epidemiology during conducting clinical research as a basis for the development of evidence-based medicine. Methods clinical observation and data analysis to ensure the adoption of correct and adequate decisions in the treatment of patients taking into account economic support. Implementation of the principles of scientifically based medical practice in practical activity.

Topic 12. Epidemiological studies.

The purpose of clinical and epidemiological studies and the quality of their organization. Assessment of problems based on the analysis of the structure and level of morbidity by groups and nosological forms of diseases. Epidemiological diagnostics. Operational epidemiological analysis. Retrospective epidemiological analysis. Study of manifestations of annual and multi-year dynamics of morbidity. Prediction of epidemic manifestations

process Analysis of morbidity by groups, collectives, territories. AND analytical and experimental epidemiological studies. Approaches to creating a sample from the population patients

Topic 13. Design of epidemiological studies. Types of designs. Research ethics. Inclusion and exclusion criteria from the study. Types of control. Blinding of the study. The role of a specialist - biostatistics in the organization and conduct of research. Clinical research protocol. Controlled clinical trials. Randomization and stratification. A randomized controlled clinical trial is the gold standard of research. Generalization of clinical research results. Analytical reviews. The concept of metadata. Systematic reviews and meta-analysis. The Cochrane Collaboration: History and Activities.

4. The structure of the academic discipline

Topic	L.	Practice occupati	SRS
<i>Content module I. Basics of epidemiology.</i>			
1. Basic epidemiological concepts. Reservoirs and sources of pathogens of infectious diseases. Mechanisms, factors and ways of transmission of pathogens of infectious diseases.	2	2	-
2. Disinfection and sterilization. Peculiarities of carrying out preventive and anti-epidemic measures in medical and preventive dental institutions.	-	2	-
3. Organization and implementation of immunoprophylaxis. Preparations for creating active and passive immunity. Vaccinations are planned and according to epidemic indications.	-	2	-
4. Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism (diphtheria, measles, influenza).	1	2	-
5. Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, hepatitis A)	1	2	-
6. Anti-epidemic measures in foci of blood infections (malaria, hepatitis B and C, HIV infection). Nosocomial infections and their prevention.	-	2	-

7. Epidemic process and prevention of tuberculosis.	-	-	1
8. Prevention of occupational infectious injuries in the work of a dentist	-	-	1
Content module 2 "Biostatistics and clinical epidemiology. Epidemiology and principles of evidence-based medicine in dentistry"			
9. Biostatistics as a component of evidence-based medicine.	-	-	2
10. Statistical research in the health care system.	-	-	2
11. Clinical epidemiology.	2	-	-
12. Epidemiological studies.	-	-	2
13. Design of epidemiological studies.	-	2	2
Total hours - 30	6	14	10
ECTS credits – 1			

5. Topics of lectures/seminars/practical/ laboratory classes

5.1. Thematic plan of lectures

No	Topic	Number of hours
Content module 1. "Biostatistics and clinical epidemiology. Epidemiology and principles of evidence-based medicine in dentistry".		
1.	Basic epidemiological concepts. Reservoirs and sources of pathogens of infectious diseases. Mechanisms, factors and ways of transmission of pathogens of infectious diseases.	2
2.	Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism (diphtheria, measles, influenza). Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, hepatitis A)	2
3.	Clinical epidemiology.	2
	In total	6

5.2. Thematic plan of seminar classes

Seminar classes are not provided

5.3. Thematic plan of practical classes

No	TOPIC	Number hours
1.	Basic epidemiological concepts. Reservoirs and sources of pathogens of infectious diseases. Mechanisms, factors and ways of transmission of pathogens of infectious diseases.	2
2.	Disinfection and sterilization. Peculiarities of carrying out preventive and anti-epidemic measures in medical and preventive dental institutions.	2

3.	Organization and implementation of immunoprophylaxis. Preparations for creating active and passive immunity. Vaccinations are planned and according to epidemic indications.	2
4.	Anti-epidemic measures in foci of infections with an aerogenic transmission mechanism (diphtheria, measles, influenza).	2
5.	Anti-epidemic measures in foci of infections with a fecal-oral transmission mechanism (shigellosis, hepatitis A)	2
6.	Anti-epidemic measures in foci of blood infections (malaria, hepatitis B and C, HIV infection). Nosocomial infections and their prevention.	2
7.	Design of epidemiological studies.	2
	<i>In total</i>	<i>14</i>

6. Independent work of a student of higher education

No. z.p.	TOPIC	Numberhours
1.	Epidemic process and prevention of tuberculosis.	1
2.	Prevention of occupational infectious traumatism in the work of a dentist	1
3.	Biostatistics as a component of evidence-based medicine.	2
4.	Statistical research in the health care system.	2
5.	Epidemiological studies.	2
6.	Design of epidemiological studies.	2
TOTAL		10

7. Teaching methods

Practical training: collection of epidemiological anamnesis, conversation, solving clinical situational problems, practicing the SCills of developing anti-epidemic measures in the focus of an infectious disease, practicing the SCills of working with medical documentation (357/o, 058/o), regulatory documents, preventive work, epidemiological investigation of infectious disease cases in organized collectives

Independent work: independent work with the textbook, independent work with the bank of test taSCs Step-2, independent solution of clinical taSCs.

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

Current control: oral survey, testing, assessment of performance of practical SCills, solution of situational clinical taSCs, assessment of activity in class.

Final control: differential calculation

Evaluation of the current educational activity in a practical session:

- Evaluation of theoretical knowledge on the subject of the lesson:
 - methods: survey, solving a situational clinical problem;
 - the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.
- Evaluation of practical SCills and manipulations on the subject of the lesson:
 - methods: assessment of the correctness of the performance of practical SCills
 - maximum score – 5, minimum score – 3, unsatisfactory score – 2;

3. Evaluation of the work on the ability to conduct an epidemiological investigation, collect an epidemiological history, prescribe anti-epidemic measures for infectious diseases with different transmission mechanisms, with multiple transmission mechanisms, in cases of suspected infectious diseases of international importance, according to the subject of the lesson:

- methods: assessment of: a) communication skills of communication with the patient, b) the correctness of prescribing and evaluating laboratory tests to confirm the preliminary diagnosis of an infectious disease, c) compliance with the algorithm of anti-epidemic measures aimed at individual links of the epidemic process, d) justification of anti-epidemic and preventive measures of spread infectious disease in the center, e) drawing up a plan for anti-epidemic work; forecasting the epidemic process in this area
- maximum score – 5, minimum score – 3, unsatisfactory score – 2;

The grade for one seminar session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current assessment criteria for practical training:

Rating	Evaluation criteria
Perfectly "5"	The applicant is fluent in the material, takes an active part in discussing and solving a situational clinical problem, confidently demonstrates practical skills when collecting an epidemiological history, planning anti-epidemic measures in foci of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting an epidemic situation and interpreting clinical results, laboratory and instrumental research in a specific patient to confirm the preliminary diagnosis of an infectious disease, expresses his opinion on the topic of the lesson, demonstrates epidemiological thinking.
Fine "4"	The applicant has a good command of the material, participates in the discussion and solution of a situational clinical problem, demonstrates practical skills during the collection of an epidemiological history, planning anti-epidemic measures in foci of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting an epidemic situation and interpreting the results of clinical, laboratory and instrumental research in a specific patient to confirm the preliminary diagnosis of an infectious disease with some errors, expresses his opinion on the subject of the lesson, demonstrates epidemiological thinking.
Satisfactorily "3"	The applicant does not have sufficient knowledge of the material, takes part in the discussion and solution of the situational clinical problem without confidence, demonstrates practical skills during the collection of epidemiological anamnesis, planning anti-epidemic measures in outbreaks of infectious diseases with various transmission mechanisms, planning preventive measures, forecasting the epidemic situation and interpreting the results of clinical, laboratory and of instrumental research in a specific patient, to confirm the preliminary diagnosis of an infectious disease with significant errors, expresses his opinion on the subject of the lesson, demonstrates epidemiological thinking.
Unsatisfactorily "2"	The applicant does not possess the material, does not take part in the discussion and solution of the situational clinical problem, does not demonstrate practical skills during the collection of epidemiological anamnesis, planning anti-epidemic measures in foci of infectious diseases with various mechanisms of transmission, planning preventive measures, forecasting the epidemic situation and interpreting the results of clinical and laboratory and instrumental research in a specific patient to confirm a preliminary diagnosis of an infectious disease.

Credit is given to the applicant who completed all taSCs of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Assessment is carried out in the last class before the beginning of the examination session (with the tape system of learning. The grade for the assessment is the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded to 2 (two) decimal places using the statistical method.

9. Distribution of points received by students of higher education

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

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

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

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for the current learning activity, but who have not passed the final examination. A grade of "F" is assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored 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

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% achievers
B	The next 25% of earners
C	The next 30% of earners

D	The next 25% of earners
E	The next 10% of earners

10. Methodological support:

- Working program of the academic discipline
- Syllabus of the academic discipline
- Multimedia presentations
- Situational clinical taSCs
- Methodical development of practical classes
- Electronic bank of test taSCs by subdivisions of the discipline.

11. Questions for preparation for the final control on the subject: "Epidemiology"

Content section 1: General epidemiology and principles of evidence-based medicine

1. General characteristics of the epidemiological research method.
2. The structure and content of the epidemiological research method.
3. Descriptive method of epidemiological research.
4. Analytical method of epidemiological research. Case-control and cohort studies.
5. Experimental method of epidemiological research.
6. Prognostic and epidemiological research.
7. Legislation of Ukraine on epidemiological safety of citizens
8. ensuring the sanitary and anti-epidemic regime in medical institutions of the stomatological profile.
9. Disinfection: types and methods.
10. The main disinfectants approved for use in medical institutions of the stomatological profile.
11. Pre-sterilization treatment: types and methods. Requirements for the storage of sterile material.
12. Basics of sterilization: types and methods of sterilization. Operating modes of sterilizers.
13. Quality control of pre-sterilization processing. Methods of testing for detergent residues and hidden blood.
14. Sterilization quality control.
15. Processing of individual dental kits and other tools and equipment of general purpose.
16. Definition of immunoprophylaxis, its types (scheduled and emergency).
17. The concept of "cold chain".
18. Characteristics of vaccine preparations, their classification.
19. Scheduled vaccinations by age. Contraindications to vaccinations.
20. Drugs for emergency prevention of tetanus and rabies.
21. Organization of scheduled vaccinations
22. Preparations for planned and urgent prevention of infectious diseases.
23. Means of application and methods of administration of immune drugs
24. The main characteristics of viral hepatitis B and C, HIV infection, directions for combating them.
25. Definition of hospital infections.
26. Characteristics of hospital strains of microorganisms.
27. Peculiarities of epidemiology of hospital infections, mechanisms of their transmission.
28. Characteristics of the artificial transmission mechanism.
29. Nosocomial infections of medical personnel.
30. Areas of control and prevention of hospital infections.
31. Architectural and planning, disinfection measures, anti-epidemic regime in medical institutions.
32. The main directions of prevention of VLI in the conditions of dental clinics.

33. Ensuring a sanitary and anti-epidemic regime in medical institutions of the stomatological profile
34. The main requirements for compliance with the rules of personal hygiene by the medical staff of the dental clinic
35. Preventive measures for hepatitis, HIV infection and other nosocomial infections that are transmitted parenterally
36. Epidemiological characteristics of the group of respiratory tract infections.
37. Epidemiological features of diphtheria.
38. Epidemiological features of measles.
39. Epidemiological features of influenza.
40. Epidemiological features of meningococcal infection.

Content module 2"Biostatistics and clinical epidemiology. Epidemiology and principles of evidence-based medicine in dentistry"

1. Anti-epidemic measures in foci of droplet infections.
Basic principles and methodology as the basis of evidence-based medicine
2. Basic provisions of clinical epidemiology, the connection between clinical medicine and epidemiology.
3. Application of clinical epidemiology during clinical research as the basis of the development of evidence-based medicine.
4. Methods of clinical observation and data analysis to ensure acceptance correct and adequate decisions in the treatment of patients within counting economic software.
5. Implementation of the principles of scientifically based medical practice in practical activity.
7. Epidemiological diagnosis. Operational epidemiological analysis.
Retrospective epidemiological analysis.
8. Study of manifestations of annual and multi-year dynamics of morbidity. Prognostication manifestations of the epidemic process. Analysis of morbidity by groups, collectives, territories.
9. Analytical and experimental epidemiological studies. Approaches to creating a sample from the patient population.
10. Purpose and taSCs of analytical epidemiological methods of research.
Representativeness of the sample.
11. The essence and method of conducting analytical research "case-control" and cohort analytical study.
12. Epidemiological experiment. Screening examinations of the population.
13. Mathematical modeling methods in epidemiology. Systematic error as a major riSC factor in clinical trials.
14. Validity and generalization during epidemiological studies.
15. Controlled experimental studies for drug testing means, evaluation of their effectiveness and safety.
16. General rules for conducting clinical research involving people.
17. Organization and conduct of randomized clinical trials.
Concept of randomization. Formation of groups by the method of randomization.
20. Advantages and disadvantages of randomized clinical trials.

12. Recommended literature

Main:

1. Vinohrad N. O. General epidemiology: study guide / N. O. Vinohrad. – IVth. Revised and enlarged edition.- Kyiv AUS Medicine publishing, 2021. - 152 p.
2. Medical Epidemiology: Population Health and Effective Health Care, 5e Raymond S. Greenber. 2020. – 188 p.
3. Tick-borne infections: modern clinical and epidemiological, diagnostic and therapeutic aspects / O.K. Duda, G.V. Batsyura, V.O. Boyko, L.F. Matyukha, L.P. Kotsyubailo// Educational and

- methodological manual. - Kyiv, "Master Books" publishing house. - 2019. - 117 p.
4. Fundamentals of Ukrainian legislation on health care: Law of Ukraine No. 2801-XII in ed. from 07/24/2020 URL:<https://zakon.rada.gov.ua/laws/show/2801-12#Text>
 5. Polymerase chain reaction in laboratory diagnostics of infectious diseases. Educational and methodological manual for doctors / edited by I.V. Dzyublyk, N.G. Horovenko. - K.-2015.-219 p.
 6. On ensuring sanitary and epidemic welfare of the population: Law of Ukraine No. 4005-XII in Ed. from 10/16/2020 URL:<https://zakon.rada.gov.ua/laws/show/4004-12#Text>

Additional:

1. Epidemiology: a textbook for students. higher med. education institutions / A. M. Andreychyn, Z. P. Vasylyshyn, N. O. Vinograd; under the editorship I. P. Kolesnikova. Vinnytsia: Nova Kniga, 2012. 576 p.: illustrations.
2. Order of the Ministry of Health of Ukraine No. 595 "On the procedure for conducting prophylactic vaccinations in Ukraine and quality control and circulation of medical immunobiological preparations" dated September 16, 2011.
3. Provision of first aid in emergency situations in the city: educational method. manual K., 2016. 56 p.
4. Measures of anti-epidemic protection in the Armed Forces, and their research in military epidemiology: training. Manual, 2015. 212 p.
5. Actual issues of epidemiology and prevention of some infections in the armed forces, among the population of Ukraine and in the world. K. 2015. 372 p.
6. Selected issues of prevention of emergencies caused by epidemics in the Armed Forces of Ukraine. K. 2015. 344 p.
7. Evolutionary aspects of the epidemic process in the armed forces of Ukraine. K., 2015. 312 p.
8. Atlas of infectious diseases / [M.A. Andreychyn, V.S. Kopcha, S.O.Kramaryov, etc.]; under the editorship MA. Andreychyna - 2nd ed., Ex. and added - Ternopil: Handbooks and manuals, 2017. - 288 p
9. Vinograd N. O. Terminological dictionary: Biological safety. Epidemiology. Parasitology: education. manual/N. O. Vinograd. - Vinnytsia: "New Book", 2019. - 308 p.
10. Infectious diseases / A. O. Golubovsky [and others]; under the editorship O. A. Golubovska. 2nd ed., revised and supplemented - K.: VSV "Medicine", 2018. - 688 p.
11. Infectious diseases: Textbook / Nikitin E.V., Andreychyn M.A., Servetskyi K.L., Kachor V.O., Golovchenko A.M., Usychenko E.M.; Edited by: E.V. Nikitina, M.A. Andreychyna – Ternopil: Ukrmedknyga, 2014. 364 p.

13. Electronic information resources

1. World Health Organizationwww.who.int
2. Cochrane Center for Evidence-Based Medicinewww.cebm.net
3. Cochrane Librarywww.cochrane.org
4. US National Library of Medicine - MEDLINEwww.ncbi.nlm.nih.gov/PubMed
5. Canadian Center for Evidence in Health Carewww.cche.net
6. Center for Disease Control and Preventionwww.cdc.gov
7. Public Health Center of the Ministry of Health of Ukrainewww.phc.org.ua
8. Ukrainian database of medical and statistical information "Health for all":
<http://medstat.gov.ua/ukr/news.html?id=203>
9. British Medical Journalwww.bmj.com
10. Journal of Evidence-Based Medicinewww.evidence-basedmedicine.com