

MINISTRY OF HEALTH OF UKRAINE
ODESSA NATIONAL MEDICAL UNIVERSITY
Faculty of Medicine
Department of General Practice

Confirmed by
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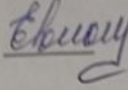
Methodological recommendations
to the independent work of applicants for higher education
Faculty of Medicine, VI year
Academic discipline "General practice family medicine"

Approved

meeting of the Department of General Practice

Odessa National Medical University

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The topic of the lesson: «Evidence-based medicine. Main provisions. Concept of randomized clinical trials" – 4 hours

Objective: To improve the knowledge of applicants of higher education on the methods of evidence-based medicine in the practice of a family doctor to find and use the most effective and safe methods of diagnosis and treatment, make decisions taking into account the best modern evidence, ensure optimal and objective decision-making in the management of patients.

Basic concepts: Evidence-based medicine, randomized controlled trials, clinical guidelines.

Plan:

I. Theoretical questions for the lesson:

- Definition of evidence-based medicine.
- List the benefits of evidence-based medicine.
- Determination of RCI (randomized, double-blinded, placebo-controlled trial).
- How to formulate a clinical question correctly?
- What is a placebo?
- What is the hierarchy of evidence values?
- What is the evidentiary power of different types of research?
- What are the requirements for a randomized double-blinded, placebo-controlled trial (blinding, randomization, stratification, placebo, inclusion and exclusion criteria from the study)?
- What are primary and secondary endpoints, true and surrogate criteria, their advantages and disadvantages?
- What is the significance of systematic reviews, their advantages and disadvantages?
- Meta-analyzes, their advantages and disadvantages.
- Opportunities for information resources on evidence-based medicine.
- What are the advantages of Best Evidence, Cochrane Library, Clinical Evidence, MedLine, PubMed databases?

Questions for self-control.

1. What is evidence-based medicine? Give a definition of the concept.
2. Prerequisites for the emergence of evidence-based medicine
3. The concept of the "gold standard" of a clinical trial
4. Signs of correctly conducted clinical trials
5. The existing hierarchy of clinical trials according to the reliability of their results
6. Methodology for formulating a clinical question
7. Name the best clinical databases available
8. How to assess the evidentiary power of recommendations according to their class and level of evidence?
9. Benefits of evidence-based medicine
10. Determination of randomized double-blinded, placebo controlled
11. What are primary and secondary endpoints, true and surrogate criteria, their advantages and disadvantages
12. What is a systematic review, its advantages and disadvantages
13. What is meta-analysis, its advantages and disadvantages
14. The importance of clinical research for the practice of the doctor

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

Analytical research – devoted to identifying the causes of the emergence and spread of diseases

Relative risk – the ratio of the frequency of development of an undesirable effect among persons exposed to the factor under study to the frequency of development of a similar effect in a group of persons who have not been exposed to this factor

Odds ratio – an indicator used in medical statistics to quantify the density of the relationship between traits in a population

A sample is a specially selected part of the population

Selective study – a study based on data obtained during the study of morbidity of a relatively small part of the population – sample

Secondary endpoint – characterizes the improvement of the patient's quality of life, either by reducing the incidence of non-lethal forms of complications, or by alleviating the clinical signs of the disease

Evidence-based medicine – evidence-based clinical medicine section

Case-control study - an analytical retrospective study, the purpose of which is to identify risk factors for the disease being studied

Dynamic study – involves a systematic study of information on morbidity among the same population group

Experimental research – involves controlled intervention in the natural course of the disease in order to identify its causes

The end clinical outcome is a phenomenon that is essential for changes in health indicators (recovery, disability, mortality, life expectancy) and/or quality of life.

Clinical study – an experiment conducted in the clinic to assess the potential effectiveness of therapeutic drugs, diagnostic methods, treatment regimens for patients Clinical epidemiology is the methodological basis of evidence-based medicine, which studies the patterns of disease spread

Cochrane Cooperation is an international non-profit organization that studies the effectiveness of medical products and techniques through randomized controlled trials

Meta-analysis is a scientific method of generalization (integration) of quantitative results of homogeneous studies conducted at different times by different authors of the same medical technology in order to obtain the total statistical indicators of these studies The supervisory study does not involve interference in the natural process of the emergence and spread of diseases.

Scientific research – is organized specifically to obtain (confirm) new data

Indirect criterion of effectiveness – laboratory indicator or symptom, the dynamics of which directly characterizes the patient's condition and is reflected in the final clinical result

Simultaneous research – can be both descriptive and analytical, the main goal is to obtain information about the incidence of a disease in a limited period of time, if necessary, such studies can be repeated

Descriptive study – involves obtaining descriptive epidemiological data, i.e. morbidity data

The primary endpoint is the leading indicator indicating the possible prolongation of the patient's life (reduction of overall mortality, mortality from the disease)

Field study – conducted outside medical institutions

A population is a large group of people living in a certain geographical region and reproducing itself in a number of generations.

Prospective research – involves the study of information as new (fresh) cases of the disease appear that did not exist before the study began

Randomization – randomization of patients into groups

Retrospective study – based on the study of information about cases of the disease that have arisen in any period of time in the past

Routine research – does not imply the acquisition of new scientific data, is carried out within the framework of currently existing scientific ideas about the causes of the emergence and spread of the disease

Systematic review is a scientific study of a number of published individual homogeneous original studies for the purpose of their critical analysis and evaluation

Surrogate endpoints – parameters of the disease that predict the immediate or distant result of the action of the factor

A continuous study is a study conducted in the scope of the population, which in epidemiology is more often denoted by the term population

The tertiary endpoint is an indicator that is irrelevant to improving the quality of life or its prolongation, but may indicate the possibility of preventing disease by eliminating risk factors

GCP (Good Clinical Practice) – Good Clinical Practice – international standard of ethical standards and quality of scientific clinical research

GIN (Guidelines International Network) – International network of developers of clinical guidelines and protocols
GLP (Good Laboratory Practice) – good laboratory practice – a system of norms, rules and guidelines aimed at ensuring the reliability of laboratory results

GMP (Good Manufacturing Practice) – Good Manufacturing Practice – rules for organizing the production and quality control of medicinal products

ICH (International Conference on Harmonization) – International Conference on the Harmonization of Technical Requirements for the Registration of Medicinal Products Used by Humans

MEDLINE is the largest bibliographic database of articles on medical sciences, created by the US National Library of Medicine

II. Practical work (tasks):

1. find and use clinical recommendations and protocols for the management of patients with hypertension, coronary artery disease, atrial fibrillation, heart failure, COPD, pneumonia, COVID, rheumatoid arthritis, etc.
2. evaluate clinical recommendations by evidentiary strength and level;
3. find and use meta-analyses and systematic reviews of evidence

III. Test tasks for self-control

Test tasks to control the assimilation of material

1. Controlled testing is:

- A. retrospective
- B. Prospective
- C. Through
- D. perpendicular

2. The "gold standard" of medical research is called:

- A. Cross-examination
- B. Solitary Blind Research
- C. randomized controlled
- D. Paired comparisons

3. A method in which neither the patient nor the doctor supervising him know which method of treatment was used

- A. double blinded
- B. triple blinded
- C. solitary blinded
- D. placebo-controlled

4. A safe inactive substance offered under the type of medicine that does not differ from the medicine in appearance, taste, smell, texture, is called

- A. Supplement
- B. analogue of the drug under investigation
- C. homeopathic medicine
- D. placebo

5. A study in which the patient does not know and the doctor knows what treatment the patient is receiving is called

- A. placebo-controlled
- B. double blinded

- C. triple blinded
 - D. simple blinded
6. How to create conditions so that in a randomized controlled trial, patients receiving a placebo are not deceived:
- A. the attending physician receives the patient's oral consent to conduct the test
 - B. the patient signs an "Informed Consent" (where his consent to the use of a placebo is provided)
 - C. placebo does not have a harmful effect on the body, so its use does not require consent
 - D. the patient signs consent to hospitalization
7. A study with a randomly selected control group and the presence of influence from the researcher is called
- A. randomized controlled clinical trial
 - B. non-randomized trial
 - C. observational examination
 - D. retrospective study
8. The concept of the "gold standard" includes
- A. double-blind, placebo-controlled randomized trials
 - B. simple non-randomized trials
 - C. Triple Blind Research
 - D. double-blind non-randomized trials
9. Conscious, clear and dispassionate use of the best available evidence when deciding to help specific patients is one of the definitions of the concept:
- A. Biometrics
 - B. Evidence-Based Medicine
 - C. clinical epidemiology
 - D. Medical Statistics
10. According to the method of selecting patients, studies are distinguished by
- A. random and complex
 - B. equivalent and impossible
 - C. randomized and non-randomized
 - D. primary and tertiary
11. Random selection of observations is called
- A. randomization
 - B. median
 - C. Fashion
 - D. probability
12. According to the degree of openness of the research data, there may be
- A. Open or Blind
 - B. closed or blind
 - C. open or randomized
 - D. randomized or multicenter
13. From the standpoint of evidence-based medicine, the doctor must decide on the choice of treatment method based on
- A. Information from the Internet
 - B. Colleagues' Experience
 - C. articles from a peer-reviewed journal with a high citation index
 - D. Articles from an unknown source
14. Indicators characterizing the reliability of information given in a scientific journal are
- A. Reliability index
 - B. Trust Index
 - C. significance index
 - D. citation index

15. One of the prerequisites for the emergence of evidence-based medicine is

- A. limited financial resources allocated to health care
- B. the emergence of new medical specialties
- C. improvement of research methods
- D. development of mathematical statistics

Test response standards: 1-B; 2-C; 3-A; 4-D; 5-D; 6-B; 7-A; 8-A; 9-B; 10-C; 11-A; 12-A; 13-C; 14-D; 15-A.

IV. Individual assignments for students on the topic of the lesson

Consider the different (optional) clinical recommendations for practitioners and evaluate the following aspects:

1. definition of the tasks facing the doctor;
2. description of the disease (etiology, prevalence, clinical picture, etc.);
3. algorithms of diagnostic procedures (examination program, indications and contraindications to the appointment of diagnostic manipulations);
4. treatment (tactics, description of specific drugs and therapeutic measures, criteria for effectiveness and cessation of treatment);
5. complications, prognosis, indications for hospitalization, clinical observation, etc.
6. determining the relative value of various sources of information regarding the search for answers to clinical questions.

List of recommended literature

Main

1. List of recommended literature (main, additional, electronic information resources):

Main:

1. Kolesnik N. A. Theory and practice of evidence-based medicine / N. A. Kolesnik, S. P. Fomina. - Kyiv : Polygraph Plus, 2017. - 246 p.
2. Sharon Strauss, Paul Glaziou, W. Scott Richardson, R. Brian Haynes Evidence-Based Medicine: How to Practice and Teach EBM. 5th edition. – 2018. - 336 p.

Additional:

- Website of the Ministry of Health of Ukraine, evidence-based medicine <https://en.moz.gov.ua/evidence-based-medicine>
- BMJ clinical evidence <http://clinicalevidence.bmj.com>
- Medscape by WebMD <http://www.medscape.com>
- National Guideline Clearinghouse <https://www.guideline.gov/>
- Centers for Disease Control and Prevention (CDC) <https://www.cdc.gov/>
- Cochrane Collaboration Cochrane Library <http://www.cochrane.org/>
- Clinical Knowledge Summary (CKS) <http://prodigy.clarity.co.uk/>

Electronic information resources:

1. Best Evidence. URL: <http://www.bestevidence.com/>
2. BritishMedicalJournal. URL: <http://www.bmj.com/specialties/evidencebased-practice>
3. CanadianMedicalAssociation. URL: <http://www.cma.ca/>
4. Centre for Evidence-based Medicine at the University of Oxford. URL: <http://www.cebm.net/>
5. Clinical Evidence. URL: <http://clinicalevidence.bmj.com/x/index.html>
7. Cochrane Library. URL: <http://www.thecochranelibrary.com/>
8. Current Controlled Trials. URL: <http://www.controlled-trials.com/mrct>
9. eGuidelines. URL: <http://www.eguidelines.co.uk/>
10. Evidence-Based Medicine. URL: <http://ebm.bmj.com/>
11. Canada Clinical Guidelines Database. URL: <http://www.phac-aspc.gc.ca/>
12. JAMA evidence. URL: <http://www.jamaevidence.com/>
14. National Institute for Clinical Excellence. URL: <http://www.nice.org.uk/>

16. Supercourse Epidemiology, the Internet and Global Health. URL: <http://www.pitt.edu/>
17. The Cochrane Collaboration. URL: <http://www.cochrane.org/>
18. The KT Clearinghouse. The Canadian Institute of Health Research. URL: <http://ktclearinghouse.ca/cebm>
19. UpToDate. URL: <http://www.uptodate.com/>

Topic of the lesson: " Psychological aspects of the family doctor's activity" – 4 hours

Purpose:

To improve the knowledge of the applicant for higher education regarding:
issues of medical ethics and deontology and communicative competence of the doctor;
psychological aspects of communication between the family doctor and the patient and the patient's family;

the concept of professional deformation, clinical manifestations of occupational stress, features and methods of their prevention;

the concept of medical secrecy, criteria and responsibility of the doctor

Basic concepts:

Medical ethics and deontology, communicative competence of the doctor, medical secrecy

Equipment: illustrative material, tables

Plan:

1. Theoretical questions:

V. The content of the topic of the lesson:

Medical ethics is a scientific discipline that studies the specifics of the emergence and development of medical morality in connection with specific historical conditions, as well as new moral problems that are put forward by modern society and scientific and technological progress. Studying the objective laws of improving the morality of a doctor, its norms, principles, concepts, medical ethics determines the dynamics of moral views and problems, actively influences the education of the proper deontological qualities of a doctor.

The ethics of a medical worker is a part of general ethics that determines the moral principles of the behavior of a medical worker in his field of activity. Medical ethics includes a set of norms of behavior and morality, creates the basis for a sense of duty and honor, the moral advantages of a medical professional. Medical ethics studies and determines the solution of various problems of interpersonal relationships in three main areas:

- medical worker – patient;
- medical worker – a healthy person (relatives);
- medical worker – medical worker.

Like professional ethics, professional codes usually contain the core values of the profession. Codes may embody professional ethics, but they differ from professional ethics because they are more formal regulatory systems, usually framed in writing and often supported by a professional organization. Codes are one way of formulating and disseminating professional ethics, but there are other ways, say, the oath taken by some professionals when they are given permission to engage in their professional activities. A well-known Education for the sake of justice, an example is the Hippocratic Oath, which is given by doctors. The current version is the Doctor's Oath, approved by the World Medical Association.

Deontology is a science and practice about the moral and ethical duties of a physician, including a medical student, in the process of his professional, medical-diagnostic, educational and scientific clinical activity, which determines the psychoethical norms of the doctor's relationship with patients and colleagues. This is a set of ethical principles and rules of conduct for a medical worker during the performance of professional duties, that is, providing a sick person with the maximum amount of professional assistance, and also provides for the exclusion of the likelihood of harm to him and helps to increase the effectiveness of the patient's treatment and prevent the occurrence of complications, chronicity of the process and the addition of concomitant diseases. In general, the essence of the concept of medical psychology best corresponds to the Latin saying "Salus aegroti suprema lex" (The good of the patient is the highest law). Medical deontology presupposes the right of physicians to professional dignity and honor, includes the normative principles of the doctor's behavior. In the structure of medical ethics, deontology occupies a special place.

Determining the list of personal qualities of a doctor, the most important for effective professional activity should be considered: a high level of personal responsibility, respect, tolerance, invaluable attitude towards all patients, regardless of the coincidence of his moral and ethical norms and behavior with generally accepted and acceptable for the doctor himself, sincere interest in the patient's personality and the reasons that led to pathological disorders; intuition based on knowledge and life and professional experience, the ability to predict events; the desire for self-knowledge, self-development; tact, good manners; ability to keep medical secrets; curiosity; initiative, purposefulness, perseverance; Creativity; erudition.

A modern integrated approach to the treatment of a sick person should combine three main types of therapeutic activity: biological, psychological and social.

Communication is the process of establishing and developing contacts between people, generated by the needs for joint activities. It contains the exchange of information, the development of a single strategy of interaction, perception and understanding of another person.

Interpersonal communication is an interaction between several people, carried out through the means of speech and infant interaction, as a result of which psychological contact and certain relationships between the participants in communication arise.

For successful interpersonal communication, the doctor will need:

- take into account that this is a direct interaction, that is, its participants are in spatial proximity, have the opportunity to see, hear, touch each other and necessarily - to provide feedback;
- remember that this is a person-centered communication, that is, that each of its participants recognizes the indispensability, uniqueness of another person, takes into account the peculiarities of his emotional state, self-esteem, personal characteristics;
- use mental processes and states of the interlocutor that provide the transaction (interpersonal perception, needs and motivations, feelings and emotions, self-esteem, psychological defenses);
- apply communicative practices that mediate interaction between people (speech, non-verbal messages);
- adhere to established norms and rules that make communication possible.

In communication, the following interrelated components are distinguished:

- communicative - consists in the exchange of information between the doctor and the patient;
- interactive - in the organization of interaction between them, when it is necessary to coordinate certain actions, affect the mood, behavior, beliefs of the patient;
- perceptual - includes the process of perception by the doctor and the patient of each other and the establishment of mutual understanding on this basis.

Communicative competence of a doctor is a professionally significant quality. The profession of a doctor involves to one degree or another expressed intensive and long-term communication: with patients, their relatives, medical staff – from nurses and nurses to chief doctors, heads of medical institutions.

In the process of professional communicative activity, the doctor performs therapeutic, diagnostic, psychological, intermediary and other functions, and also solves a block of professional tasks:

- establishing contact with the patient;
- reception and transmission of information; reception and transmission of the emotional state;
- influence on the patient's behavior and train of thought.

In the process of treatment, situations arise when information about the patient's health may become known to unauthorized persons. When reporting information about the patient's health to other persons, including family members, the doctor must comply with the requirements of current legislation regulating the provision of medical care, confidentiality and medical secrecy:

Civil Code of Ukraine of 16.01.2003 [Articles 285 (part 4), 286]. "The right to secrecy about the state of health: An individual has the right to secrecy about his state of health, the fact of seeking medical help, diagnosis, as well as information obtained during his medical examination.

It is prohibited to require and submit at the place of work or study information about the diagnosis and methods of treatment of an individual.

An individual is obliged to refrain from disseminating the information specified in part one of this article, which became known to him in connection with the performance of official duties or from other sources" (Article 286).

Criminal Code of Ukraine of 05.04.2001 [Articles 132, 145]. "Illegal disclosure of medical secrets: Intentional disclosure of medical secrets by a person to whom it became known in connection with the performance of professional or official duties, if such an act caused serious consequences, is punishable by a fine of up to fifty thousand rubles or public works for a period of up to two hundred and forty hours, or deprivation of the right to hold certain positions or engage in certain activities for a term of up to three years, or correctional labor for a term of up to two years" (Art. 145).

Information constituting a medical secret includes:

- the fact of a person's appeal to a medical institution for medical help;
- human health;
- diagnosis;
- circumstances that preceded the disease or provoked it;
- functional features of the body;
- bad habits
- features of the psyche,
- property status,
- other information obtained during the medical examination, in particular information about the family, intimate life of a person, as well as the state of health of relatives and relatives of the patient.

Medical secrecy is not hiding information from the patient. On the contrary, the patient has the right to know about all aspects of his illness, treatment options, possible risks, etc. Medical secrecy is the preservation of information that rightfully belongs to the patient from other people.

The object of medical secrecy is both medical and non-medical information, such as relates to the patient's personal life. Each of these groups can be considered both in relation to patients (diagnosis, prognosis, bad habits, family and personal life, etc.) and in relation to the family members of the patient (hereditary diseases, the state of health of relatives, their personal and family life, etc.) depending on the specific situation.

A prerequisite for medical intervention in Ukraine is the **informed consent of the patient in accordance with** Part 1 of Article 43 of the Fundamentals. Information consent to medical care is a free, informed decision of the person who applied for medical help and / or his legal representatives on the selection and application of methods of diagnosis, prevention and treatment, which is based on receiving from the doctor in an accessible form information about his state of health, the purpose of the proposed research and therapeutic measures, the prognosis of the possible development of the disease, including the presence of a risk to life and health. A necessary condition for obtaining consent to the intervention or refusal from it is medical information, which should be provided taking into account the psycho-emotional and mental characteristics of the patient. In this case, attention is focused on the patient's ability to understand the doctor's explanation and make his decision, on the ability to assess his condition and the degree of risk of medical intervention and alternative care offered by the doctor, on the need to make a choice and be aware of the consequences of the decision. Such consent must be voluntary, which means a ban on any pressure on the patient, as well as the ability to withdraw such permission at any time. The word "voluntary" emphasizes that this decision cannot be the result of external coercion or active conviction of anyone (even a doctor) in the need for a certain direction of action. This should

only be the result of the personal choice of the patient (his legal representative), based on complete information about the situation. Basic organizational and legal principles of informed consent. The basic organizational and legal principles of informed consent include:

- informed consent is the patient's right and the duty of the medical professional who carries out medical intervention;
- informed consent must be obtained for any variant of medical intervention, ranging from the measurement of blood pressure, including a hypnosis session to many hours of complex surgery;
- obtaining informed consent indicates respect for the rights and legitimate interests of the patient;
- informed consent determines the active participation of the patient himself in the treatment process;
- Thanks to informed consent, the degree of responsibility of the doctor in the provision of medical care increases.

Criteria for the legitimacy of informed consent. From a methodological point of view, it is quite important to determine those criteria, the presence of which indicates the legitimacy of obtaining informed consent to medical intervention. Given the normative legal definitions, as well as using the general principles of medical law, we can distinguish the following criteria for the legitimacy of the patient's consent to medical intervention: awareness; voluntariness; Competence.

Under the awareness of consent understand the provision by the doctor before medical intervention to the patient of information about the essence of the upcoming intervention.

In accordance with the general universal structure of informed consent, the information provided by the physician should contain information about:

- the patient's state of health;
- the results of the survey; diagnosis of the disease;
- the purpose of medical intervention; duration of medical intervention;
- prognosis of the disease with and without treatment;
- consequences of medical intervention;
- existing methods of treatment of this disease;
- risk of future medical intervention;
- patient rights and basic ways to protect them.

Professional deformation is a change in a person's properties: character, behavior, communication style, stereotypes of perception, value orientations that occur as a result of long-term professional activity. The professional deformation of the doctor is manifested both in his professional activity and outside it.

Factors leading to professional deformation can be divided into three groups:

1. Factors due to the specifics of the activity (regulation of activities that lead to its formalization with elements of bureaucracy; the presence of significant power in relation to other people, which is often manifested in abuses; corporateness of activities that cause psychological isolation and alienation from society; increased responsibility for the results of their activities; mental and physical overload associated with unstable work schedule; extreme activity; necessity in the process professional activities to contact representatives of different segments of the population, which can lead to the assimilation of elements of a particular subculture).
2. Factors reflecting personality traits (level of harassment, inadequate work experience; professional attitudes (perception of all other people as patients); change in activity motivation (loss of interest, disappointment).
3. Socio-psychological factors: (inadequate leadership style; adverse influence of the immediate social environment; low social assessment of activities).

Professional deformation of the doctor develops gradually, starting with his professional adaptation. One of the first signs of such adaptation is a decrease in emotional perception and response to the suffering and death of another person. Doctors with significant work experience

usually have an almost emotionless attitude towards their patients, and at the same time retain the ability to empathize and respect the patient, his experiences, his illnesses and his prospects. In some cases, with significant occupational deformities, there is an attitude towards the patient as an "interesting object of study", which has certain symptoms.

Due to prolonged exposure to occupational stresses of varying intensity, **emotional burnout syndrome** (combustion) may occur.

Emotional burnout syndrome is the physical, emotional and cognitive symptoms experienced by a specialist unable to effectively cope with the stress caused by limitations relating to his goal and personal career."

Burnout is a syndrome of emotional exhaustion, depersonalization (loss of individuality, separation from others) and a decrease in personal achievements that can occur in workers whose work is associated with people. It is a reaction to chronic emotional stress due to working with other people, especially if they are worried or have problems. Thus, it can be considered a type of stress at work.

In the International Classification of Diseases (ICD-10), emotional burnout syndrome is referred to the heading: "Problems associated with difficulties in managing one's life." According to ICD-11, *burnout* is a syndrome resulting from chronic stress in the workplace (MOH, 2019).

The reasons for professional burnout in medical institutions are:

- Empathy - empathy with the emotional state of the patient. The doctor perceives the patient's problems on a personal level.
- The discrepancy between experience and knowledge and the work that is performed. Since medical activity is associated with human health, not having sufficient experience and practical skills, the doctor is especially acutely worried about the consequences of his activities.
- Tense relations in the team, with the authorities.
- Insufficient material incentives for a medical professional.
- Excessive workload of the doctor.
- Poor working conditions.
- The discrepancy between the desired and the levels of responsibility provided.
- The impossibility of personal development.
- Other.

Stages of emotional burnout:

- The employee is initially satisfied with the work, works with enthusiasm, and as the work stresses accumulate, the activity begins to bring less and less pleasure and the employee becomes less energetic.
- Fatigue, apathy appear, sleep problems may occur. In the absence of additional motivation and incentives, the employee loses interest in the medical activity itself and in its results. During this period, there are violations of labor discipline and attempts to avoid the performance of professional duties.
- As a result of excessive physical and emotional stress, the doctor feels exhausted, he has excessive irritability, repressiveness, a tendency to psychosomatic disorders or traumatization.
- Psychosomatic disorders acquire a chronic course, in connection with which the doctor loses his ability to work, which leads to a deepening of depression and an increase in aggressiveness (primarily autoaggression).

The physical and psychological problems of the doctor make his professional activity impossible and can provoke the formation of severe somatic and mental disorders. To prevent emotional burnout when detecting the first signs of a disorder, psychologists recommend applying certain techniques of self-regulation and assistance, which is based on creating an appropriate level of communication: informing about the causes and signs of burnout, informal communication, emotional support in groups.

The main strategies for the prevention of emotional burnout:

- Creating a positive atmosphere in the workplace.
- Providing favorable conditions in medical schools.
- Improving technologies in the field of healthcare
- Reducing the administrative burden
- Providing support to doctors and medical students
- Investing in research to study professional burnout

Iatrogeny is a disease and pathological processes that occur under the influence of medical interventions that have been carried out for preventive, diagnostic or therapeutic purposes and are classified as an accident from a legal point of view. Any undesirable or adverse effects of preventive, diagnostic and therapeutic interventions or procedures that lead to dysfunction of the body, restriction of habitual activities and disability or even death; complications of medical measures.

The concept of iatrogenic diseases includes those conditions and diseases that were provoked by careless statements of doctors when communicating with both the patient and his environment or medical staff. These can be both physical problems and psychological ones.

Tasks for the study of theoretical material:

- Make a dictionary of basic concepts on the topic

№ p/n	Term	Definition
1	Ethics	branch of philosophical knowledge, the science of morality, comprehending, generalizing, systematizing the history of the formation and development of ethical theories, concepts that substantiated the nature, essence, specificity, functions of morality, patterns of its development and functioning, the relationship with other forms of spiritual and material life of people.
2	Medical deontology	A set of ethical norms and principles of behavior of a medical worker in the performance of their professional duties.
3	Bioethics	normative knowledge covering <u>moral</u> issues related to the development of biomedical sciences that relate to <u>issues of genetics</u> , <u>medical</u> research, <u>therapy</u> , care for <u>human health</u> and life.
4	Medical and social work	Multidisciplinary professional activity of medical, psychological, pedagogical, socio-legal nature aimed at restoring, preserving and strengthening public health

1. Practical work (tasks) to be performed:

Problem 1.

Doctors are required to maintain the confidentiality of the information provided by patients. The doctor treating the HIV-infected patient, in a conversation with the patient, learned that he had unprotected sexual intercourse with several partners, and he did not tell his partners about his health condition. The patient told the doctor that no one would want to be his partner if he talked about his illness. The doctor explained the danger he was exposing his partners to, and the patient agreed not to do so again.

What recommendations can you formulate for your doctor to help him solve the problem?

Problem 2.

The patient suffers from an inoperable form of pancreatic cancer. The doctor decided not to inform the patient about the diagnosis and inform relatives about his condition.

Evaluate the doctor's decision from a legal and ethical standpoint.

Problem 3.

A patient of 20 years old entered the clinic with a penetrating stab-cut wound of the anterior abdominal wall, liver injury, intra-abdominal bleeding, and grade III hemorrhagic shock. The patient is unconscious, taken by ambulance from the street at 3 a.m., there are no relatives.

What principles and rules of biomedical ethics should be guided by medical professionals in this situation?

Problem 4.

During the examination, the doctor of a private commercial clinic diagnoses a woman with syphilis. From the medical record, he knows that a woman works in a catering system.

Should the doctor report the patient's diagnosis at her place of work?

Problem 5.

The patient is operated on for appendicitis. The operation revealed signs of cecum cancer. A radical operation is performed. Metastases have not been established.

Is it necessary to inform the patient about the expansion of the scope of the operation and the reasons for this?

Problem 6.

The patient sought medical help from a doctor, but does not fulfill his prescription, arguing that he does not "like" the doctor's prescriptions, and insists on changing the treatment. The doctor made a corresponding fixation of violations by the patient in the outpatient card and suggested that the patient consult another doctor.

Does the doctor have the right to refuse further management of the patient?

Test tasks for self-control:

1. Deontological principles of the modern doctor
2. Basic concepts of medical deontology.
3. Basic models of the relationship between the doctor and the patient.
4. Features of the behavior of the doctor when working with patients of different nosological groups.
5. Moral and legal aspects of medical secrecy. The principle of "informed consent".
6. The concept and causes of chronic fatigue and emotional burnout of the doctor.
7. Principles of therapy and prevention of occupational stress.
8. Psychological aspects of the emergence of professional deformation.
9. The problem of iatrogeny in modern medicine and deontology.
10. Deontological and psychological aspects of communication with incurable patients and their family members.

2. Individual tasks for applicants for higher education on the topic:

-Develop measures to prevent the occurrence of chronic fatigue and emotional burnout of the doctor

-Develop a model of the relationship between the doctor and the patient

3. List of recommended literature (main, additional, electronic information resources):

1. Bilichenko O.V. Fundamentals of professional ethics of medical workers: educational and methodical manual. – Vinnytsia: "Works", 2019. – 224 p.
2. Kalashnikov N.A., Kunitsa S.N. Aspects of the interaction of the patient and the patient, the possibilities of their optimization in medical practice (Part 1, 2, 3) // Ukrainian Medical Bulletin. Therapia. – 2015. - № 6, 7–8, 9.
3. Actual issues of palliative and hospice care in the practice of a family doctor: a textbook for interns and doctors - students of institutions (faculties) of postgraduate education / Y.V. Voronenko [et al.]; ed. Yu.V. Voronenko and others. ; National. honey. acad. Postgraduate diploma. education them. P.L. Shupika Ministry of Health of Ukraine, Institute of Family. medicine of the Ministry of Health of Ukraine. - Kyiv : Zaslavsky O.Yu., 2017. - 206 p.

4. Fundamentals of bioethics and biosecurity: educational institution (UNIVERSITY III-IV ur. a.) / O.N. Kovaleva, V.N. Lesova, T.N. Ambrosova, V.I. Smirnova. — K.: VSI "Medicine", 2015. — 424 p.
5. Riga O.O., Penkov A.Yu., Konovalova N.M. Principles of palliative care for children. Manual for children's palliative care trainers. – Kharkiv: 2017. – 97 p.

Electronic information resources:

1. <https://ua-referat.com> ›
2. <https://pidru4niki.com>
3. <https://vo.uu.edu.ua>

The topic of the lesson. Fundamentals of information support for the work of a family doctor.

Distance learning methods

The duration of the lesson is 4 hours.

Objective: To improve the knowledge of applicants for higher education on the methods of information support in the practice of a family doctor to find and use the most effective and safe methods of diagnosis and treatment, make decisions taking into account the best modern clinical guidelines, ensure optimal and objective decision-making in the management of patients.

Basic concepts: medical information systems, evidence-based medicine, screening.

Plan:

I. Theoretical questions for the lesson:

1. Modern methods of information support of family doctor's outpatient clinics
2. The introduction of telemedicine in the practice of a family doctor
3. Screening method in family medicine
4. The main principles of evidence-based medicine
5. Examination of working capacity, rational employment

Questions for self-control.

1. What does the "automation of the workplace" mean for a general practitioner – family medicine (GP-FM)?
2. What does the "information support" of the work of a general practitioner – family medicine mean?
3. The amount of necessary information in the GP-FM doctor's database? (list)
4. The experience of introducing new information technologies into the work of GP-FM doctor in Ukraine?
5. Is there a regulatory framework for reforming the work of GP-FM doctor at the present stage?
6. What does telemedicine mean? What types of it already exist in Ukraine? Development prospects? Obstacles?
7. What does "screening research methods" mean? Which of them exist at the present time?
8. Implementation of which screening methods is appropriate in the future?
9. What does "evidence-based medicine" mean?
10. What other modern medical technologies do you know?

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

Complex medical information systems, as a rule, consist of modules. This allows you to assemble and configure MIS in the desired configuration for institutions of various types and provide the necessary functionality with the possibility of subsequent addition / removal of modules. The structure of the medical information system is a separate component that can be combined into several large groups:

1. **Analytical and management** components. Modules and means of management accounting, tools for analyzing the quality and effectiveness of medical services. These components of MIS allow you to analyze the state of your medical organization, identify problem areas and optimize business processes. At the user level - search for medical records for any criteria, taking into account restrictions on the level of access. The results of the analysis can be displayed in the form of graphs, tables or for printing.
2. **Medical components.** All modules related to patient registration, maintenance of the register of electronic medical records, accounting of sick leaves, maintenance of treatment protocols, information support for the treatment of patients in various types of institutions (outpatient clinic, clinic, hospital), medical statistics and analytics, medical history and much more.
3. **Financial** and economic components. These include tools for keeping records of medicines, inventory management, calculating the cost of treatment and tariffs for the provision of medical

services, calculating allowances for doctors, tools for conducting an economic analysis of the organization's activities, etc.

4. **Components** of data exchange. Maintenance of unified registers, catalogs and directories, data exchange in the system of health care institutions, processing of the received data.

5. **General technical components.** User access control and database protection, as well as support for integration with other systems and programs.

Medods is a platform for organizing the work of private medical centers and dentistry, as well as a network of clinics from Russian developers. The program is available in the local and cloud version (SaaS), supports all the necessary modules and allows you to record patients, keep their electronic maps, set up an online record from the site, automatically generate contracts and other documents, issue invoices, make and track payments, keep records of stocks, plan marketing campaigns, email and SMS newsletters, receive summary statistics of work and much more. Medods is an example of a successful combination of CRM system elements with support for schedule and patient records, and business intelligence tools.

Pros. Important advantages of Medods are the presence of an online recording, a manager's desktop, built-in integration with UIS telephony, integration with other phones via API, for example, with Asterisk, support for marketing tools, integration with 1C and more. Technical and customer support is included in the purchase price. Convenient, intuitive interface.

Cons. Multi-factor authorization, multi-location backup, limited built-in integration are not supported.

MedElement is a medical information system developed in Kazakhstan. The combination of cloud services and a powerful help system for doctors, medical students and anyone who cares about health. The scope of MedElement is the automation of clinics, ART clinics, dentistry, pharmacies, power supplies, private medical practices. An interesting feature of this MIS is that in addition to supporting the main modules, it is a powerful help system. Here are the directories of diseases, medical terms, laboratory indicators, medicines, reviews of world periodicals are posted, etc. Moreover, it has the advantages of cloud MIS: it supports the automation of all medical records, the formation of reports, the collection of marketing information, accounting for finances, services, etc.

Pros. Convenient web services, the presence of a mobile application for quick search for a doctor, making an appointment and conducting communication. The program includes technology to help make clinical decisions - MedElement is associated with an online database of interactive medical reference books.

Cons. Not very convenient interface, support for "all at once" is not always a plus, however, this applies to all programs.

Clinic365 is a more specialized CRM solution for commercial clinics than a comprehensive medical information system. It can develop both in the cloud and on the server. Clinic365 includes basic functions for patient accounting, scheduling management, and monitoring financial relationships with patients. To start working in the system and ensure the functioning of other processes, you need to enter manually or import reference information on the following blocks: employees and work schedules, resources, a catalog of services, a "single window" of the patient, a patient file cabinet. A key feature of MIS Clinic365 is the ability to build a flexible algorithm for working with the patient. Telephony integration with Telfin, Oktell is supported.

Pros. The presence of an integrated CRM-system, options that configure the work with electronic medical records of the patient, support for IP-telephony / contact center, marketing tools, reports and access management.

Cons. Trial access is not provided. There is no multi-factor authorization, no client messages are supported.

Doctor Eleks is a comprehensive solution that allows you to optimize the work of clinics of any size and profile (private and public). The developer is Eleks (Lviv, Ukraine). Doctor Eleks supports the patient's electronic medical record, tools for editing document templates, a doctor's personal account, a registry module and work with reporting, finances, and staff. The schedule subsystem

allows you to form work schedules for employees, taking into account the wishes of doctors and patients. Doctor Eleks laboratory information system can be used as a separate software product. Among the additional features is a full-fledged editor for processing video and images that can be added to documents. Flexible technology of reporting, it is possible to conduct an audit of medical documents, supports the PACS module, Web-client and much more.

Pros. Powerful functionality, availability of a communication server for data exchange in HL7 format with adjacent IC, external laboratories, insurance companies. There is integration with Toshiba ultrasound, support import of DICOM images, connection of DICOM-compatible equipment and much more. Doctor Eleks is connected to the [eHealth](#) system, the system has been tested and recommended for use by the Ministry of Health of Ukraine.

Cons. Even if they are (for example, electronic directions are not supported), these shortcomings are compensated by other possibilities.

Meduchet SQL is a computer program for conducting medical business in clinics, medical centers and laboratories from Ukrainian developers. It consists of a base unit - the functional core of the system - and a number of additional ones. Key feature: all information and processes line up around the patient. Electronic medical records, medical history, record-keeping tools and much more are supported, for example, the organization of the work of emergency teams.

Pros. Simplicity and clarity, support for laboratory research forms, the presence of the "Complex Laboratory" block, to which the main complex analyzers are connected.

Cons. Limitations of functionality, flaws of the interface.

EMCiMED is an advanced Ukrainian medical information system for medical institutions, private clinics and laboratories, connected to the [eHealth](#) system of Ukraine. It consists of modules that can be easily assembled in the desired configuration for each individual institution. The main supported modules are: registry, personnel management, organization management, clinic, hospital, laboratory, partnership management. You can purchase additional modules: accounting for services, management stocks, an archive of PACS medical images and others. If necessary, they can be supplied as part of the EMCiMED-Polyclinic and EMCiMED-Hospital packages.

Pros. The ability to choose modules in accordance with the requirements of the organization, flexible configuration, powerful functional component. The system is protected through the use of USB key fobs and encryption of all information, supports integration with other products, for example, IC. Passed the test and recommended for use by the Ministry of Health of Ukraine.

Cons. If present, they do not significantly affect the work with the program.

II. Practical work (tasks):

1. List modern medical information systems.
2. Describe modern medical information systems.
3. Advantages and disadvantages of modern medical information systems.

III. Test tasks for self-control

1. What are the names of MIS that create a single information space in the field of health care?

- A. banks of information of medical institutions
- B. medical information and reference systems
- C. Computer Telecommunication Networks
- D. medical consultative and diagnostic systems
- E. AWP – Doctor

2 What are the names of systems designed for information support and automation of diagnostic and therapeutic processes carried out in direct contact with the patient's body?

- A. Statistical Systems
- B. medical hardware and software complexes (MAPK)
- C. administrative and management systems
- D. Information Banks of Medical Institutions
- E. screening systems

3. What systems include information systems for the study of the respiratory system, nervous system, brain, circulatory system, ultrasound diagnostics?
 - A. Pribor-oriented computer systems
 - B. Monitor system
 - C. control systems for the treatment process
 - D. Information and Reference Systems
 - E. laboratory diagnostic systems

4. What tasks do MIS perform in clinics?
 - A. streamlining the flow of information in the hospital itself
 - B. automation of laboratory tests: biochemical, electro-physiological, radiological, etc.
 - C. budgeting
 - D. logical analysis and control of reporting medical and statistical information
 - E. all answers are correct

5. What are medical information and reference systems for?
 - A. Creating Directories by Organizing Medical Information
 - B. processing of biomedical data
 - C. processing laboratory tests
 - D. Retrieval and issuance of medical information from a user's request
 - E. Conducting statistical analysis

6. What are medical information systems (MIS) divided into according to the hierarchical principle?
 - A. levels: basic, state, territorial
 - B. categories: first, second and third
 - C. simple, complex and mixed information systems
 - D. deterministic, stochastic, and mixed MIS
 - E. linear, branched, and cyclic species

7. What is the name of the organizationally ordered set of documents and information technologies, including the use of computer equipment and communications that implement information processes?
 - A. Database
 - B. Operating System
 - C. Software
 - D. computing system
 - E. Information System

8. What classes can be divided into tasks arising in the process of functioning of medical institutions?
 - A. Structured
 - B. unstructured
 - C. systematized
 - D. mediated
 - E. peripheral

9. What tasks does the control system solve?
 - A. Diagnosis of patients
 - B. collection and transmission of information about the controlled object
 - C. Information Processing
 - D. Directing control actions to the control object

E. all answers are correct.

IV. Individual assignments for students on the topic of the lesson

1. Analyze the current state of the organization of the work of the doctor of PHC.
2. Identify concrete steps to reform the information support of the work of a PHC doctor (general practitioner and medical rehabilitation) as a central figure of the future health care system.
3. Establish compliance with the basic concepts, their essence.
4. Description of the situational exercise. You have been appointed chief physician of a new family outpatient clinic, in which 4 family doctors will work. The population of the district where the family outpatient clinic is located is 10000, including children from birth. Propose specific measures for the arrangement of workplaces for general practitioners – family medicine. Formation of the doctor's database.
5. Justify the reasons and the need for information reform in modern medicine.
 - A. The STD doctor must serve 80% of requests for medical help, conducts not only medical, preventive, but also social work. Therefore, it should have access to a wide range of information.
 - B. Medicine is a part of modern world science, which is experiencing a time of "information explosion".
 - B. Medicine is "used" in the process of "globalization", covering all spheres of human activity.

List of recommended literature

Main

List of recommended literature (main, additional, electronic information resources):

Main:

1. Kolesnik N. A. Theory and practice of evidence-based medicine / N. A. Kolesnik, S. P. Fomina. - Kyiv: Polygraph Plus, 2017. - 246 p.
2. Sharon Strauss, Paul Glaziou, W. Scott Richardson, R. Brian Haynes Evidence-Based Medicine: How to Practice and Teach EBM. 5th edition. – 2018. - 336 p.

Additional:

- Website of the Ministry of Health of Ukraine, evidence-based medicine <https://en.moz.gov.ua/evidence-based-medicine>
- BMJ clinical evidence <http://clinicalevidence.bmj.com>
- Medscape by WebMD <http://www.medscape.com>
- National Guideline Clearinghouse <https://www.guideline.gov/>
- Centers for Disease Control and Prevention (CDC) <https://www.cdc.gov/>
- Cochrane Collaboration Cochrane Library <http://www.cochrane.org/>
- Clinical Knowledge Summary (CKS) <http://prodigy.clarity.co.uk/>

Electronic information resources:

1. Best Evidence. URL: <http://www.bestevidence.com/>
2. BritishMedicalJournal. URL: <http://www.bmj.com/specialties/evidencebased-practice>
3. CanadianMedicalAssociation. URL: <http://www.cma.ca/>
4. Centre for Evidence-based Medicine at the University of Oxford. URL: <http://www.cebm.net/>
5. Clinical Evidence. URL: <http://clinicalevidence.bmj.com/x/index.html>
7. Cochrane Library. URL: <http://www.thecochranelibrary.com/>
8. Current Controlled Trials. URL: <http://www.controlled-trials.com/mrct>
9. eGuidelines. URL: <http://www.eguidelines.co.uk/>
10. Evidence-Based Medicine. URL: <http://ebm.bmj.com/>
11. Canada Clinical Guidelines Database. URL: <http://www.phac-aspc.gc.ca/>
12. JAMAevidence. URL: <http://www.jamaevidence.com/>
14. National Institute for Clinical Excellence. URL: <http://www.nice.org.uk/>
16. Supercourse Epidemiology, the Internet and Global Health. URL: <http://www.pitt.edu/>
17. The Cochrane Collaboration. URL: <http://www.cochrane.org/>

- 18.The KT Clearinghouse. The Canadian Institute of Health Research. URL:
<http://ktclearinghouse.ca/cebm>
- 19.UpToDate. URL: <http://www.uptodate.com/>

Topic: "Methods of research of the cardiovascular system" – 2 hours

Objective: to be able to conduct questioning and master the physical methods of examination of patients with pathology of the cardiovascular system. Know the methods of research in cardiology, features of patient care and first aid to patients with pathology of the cardiovascular system. Interpret the main syndromes in the pathology of the cardiovascular system and give a clinical assessment of the data obtained.

Basic concepts: heart rate and heart rhythm, electrocardiogram, echocardiography, radiography, angiography

Equipment: illustrative material, tables, thematic patients

Plan:

2. Organizational measures (greetings, checking those present, communicating the topic, the purpose of the lesson, the motivation of higher education students to study the topic).

3. Control of the reference level of knowledge is carried out by the method of frontal survey. To control the reference level of knowledge with the applicant of higher education must know the answers to questions.

1. General rules, methods of questioning the patient, the specifics of complaints in patients with pathology of the cardiovascular system.

2. Topography of the chest wall.

3. Topographic and anatomical features of the location of organs in the thoracic Cavity.

4. Percussion of the heart, the physical basis of percussion.

5. Auscultation of the heart.

6. Technique, stages of chest palpation, diagnostic value of the data obtained.

7. Leading syndromes in the pathology of the organs of the cardiovascular system.

Diagnostic value of data that is obtained using basic and additional laboratory methods.

4. Formation of professional skills and abilities (mastering skills, conducting curation, determining the treatment regimen, conducting laboratory research, etc.).

Recommendations (instructions) for completing tasks

The applicant for higher education must:

- be able to collect anamnesis and conduct a general examination of the patient and determine his general condition, make a conclusion about his compliance with the norm or a certain degree of violation.

- be able to assess the shape, size of the chest.

- learn the method of studying the properties of arterial pulse.

- make an examination and palpation of the heart and apical push.

- conduct percussion of the heart.

- determine the normal parameters of the size of the heart during percussion.

- listen to noise in the carotid artery.

- conduct auscultation of the heart.

- evaluate heart tones.

- assess the diagnostic value of symptoms

- know the main syndromes in the pathology of the organs of the cardiovascular system

- know the diagnostic value of the data obtained using the basic and additional instrumental and laboratory methods of examination.

Materials for the final stage of the lesson

Situational problem 1

Patient K., 35 years old, turned to the doctor about coughing with the release of a small amount of sputum mixed with red blood, which occurs with prolonged exertion, a feeling of palpitations, interruptions in the work of the heart. On objective examination: The oral mucosa is swollen, dry, pale with a cyanotic tinge. In the region of the heart, a heart push is determined, a symptom of "cat purring" in the diastole phase. The boundaries of the heart are expanded to the right and upwards. At the apex, an increase in I tone, diastolic noise, on the pulmonary artery, an accent of the II tone is heard.

- A. Your diagnosis?
- B. What rhythm disturbance is characteristic of this pathology?
- C. What can be detected in the study of the pulse?
- D. What is the configuration of the heart of this patient?

Solving a situational problem:

- A. mitral stenosis
- B. atrial fibrillation
- B. pulse of small filling
- G. mitral configuration of the heart

Test control

1. I heart tone occurs during:
 - A. Ventricular systoles
 - B. Ventricular diastoles
 - C. Atrial systoles
 - D. Atrial diastoles
 - E. Systolic pause

2. Where is the point of listening to the aortic valve localized:
 - A. At the top of the heart
 - C. In the second intercostal space to the right of the sternum
 - C. In the second intercostal space to the left of the sternum
 - D. Over the xiphoid process
 - E. In the fourth intercostal space to the left of the sternum

3. In what sequence are the heart valves heard:
 - A. Left atrial-ventricular, right atrial-ventricular, aortic, pulmonary trunk
 - B. Aortic, pulmonary trunk, left atrial-ventricular, right atrial-ventricular
 - C. Left atrial-ventricular, aortic, pulmonary trunk, right atrial-ventricular
 - D. Left atrial-ventricular, aortic, pulmonary trunk, right atrial-ventricular
 - E. Right atrial-ventricular, left atrial-ventricular, aortic, pulmonary trunk

4. The accent of the II tone over the aorta is heard in the case of:
 - A. A. Aortic semilunar valve insufficiency
 - B. Stenosis of the aortic mouth
 - C. Arterial hypertension
 - D. Increased pressure in the pulmonary circulation

E. Arterial hypotension

5. An attack of angina pectoris is characterized by everything except:

- A. Retrosternal localization of pain
- B. Prickly nature of pain
- C. The occurrence of pain at the height of physical activity
- D. The effect of taking nitroglycerin under the tongue after 3-5 minutes.
- E. Squeezing Nature of Pain

6. A direct sign of stenosis of the mouth of the aorta:

- A. Systolic noise in the II intercostal space to the left of the sternum
- B. Diastolic noise at the apex of the heart
- C. Enhanced first tone
- D. Systolic noise in the xiphoid process
- E. Systolic noise in the II intercostal space to the right of the sternum in combination with weakened II tone

7. What is the correct sinus rhythm:

- A. Prong P in front of any QRS complex is negative
- B. Prong P positive before each QRS complex, duration P ranges from 0.15-0.45 s.
- C. Zubets R in front of each QRS complex is positive, duration P ranges from up to 0.10 s.
- D. Prong P in front of each QRS complex - not the same amplitude and Form
- E. Not before every QRS complex there is a prong P, an interval RR ranges from 0.25 to 0.35 s.

8. What registers the prong P on the ECG:

- A. Atrial excitation
- B. Ventricular disorders
- C. Atrial contraction
- D. Ventricular contraction
- E. Excitation of the legs of the atrial-ventricular bundle

9. A typical sign of the acute stage of transmural myocardial infarction:

- A. Poor differentiation of segments
- B. Voltage reduction
- C. Disappearance of tooth R, formation of QS D. ST segment displacement
- E. Blockade

10. Facial expressions in patients with heart failure are called:

- A. Facies mitralis
- B. Facies aortalis
- C. Facies Corvisara
- D. Facies Hippocratica
- E. Facies selenica

11. What heart defect is characterized by the pulsation of the carotid arteries (dance carotid)?

- A. Mitral insufficiency
- B. Aortic insufficiency

- C. Tricuspid valve insufficiency
- D. Aortic stenosis
- E. Mitral stenosis

12. What pathology is characterized by systolic "cat purring":

- A. Stenosis of the mitral opening
- B. Stenosis of the aortic mouth
- C. Aortic semilunar valve insufficiency
- D. Mitral valve insufficiency
- E. Tricuspid valve insufficiency

13. What does the expression "prong P of sinus origin" mean:

- A. Not in front of every QRS complex there is a prong P
- V. Zubets R is layered on the QRS complex
- C. Zubets P is in front of each QRS complex, of the same shape and values, positive
- D. Prong P is in front of each QRS complex, of unequal amplitude
- E. Prong P negative before each QRS complex

14. What conductivity does the QRS complex register:

- A. Atrial-ventricular
- B. Intraventricular
- C. Intraatrial
- D. Conductivity on the right leg of the atrial-ventricular bundle
- E. Conductivity on the left leg of the atrial-ventricular bundle

5. Summing up:

Conducting an assessment of students, summing up, announcing the next topic of the lesson.

6. List of recommended literature (main, additional, electronic information resources):

Basic literature

1. Functional diagnostics: Textbook for interns and doctors-students of institutions (faculties) of postgraduate education of the Ministry of Health of Ukraine \ ed. O.Y. Zharinova, Yu.A. Ivanova, V.O. Kutsya. - 2nd ed., reported. and reworked.- Kyiv: Fourth Wave, 2021. – 784 p.: ill.
2. Zharinov O.Y., Kuts V.O. (editors) Fundamentals of electrocardiography (fourth edition, revised and supplemented). – Kyiv: Fourth wave, 2020. – 248 p.
3. Zharinov O.Y., Kuts V.O., Verezhnikova G.P., Serova O.D. Practicum on electrocardiography. – Lviv, 2014. – 268 p.

Further reading

1. Clinical electrocardiography for professionals \ V.A. Skibchik, Y.V. Skibchik. – Lviv: Publisher Marchenko T.V., 2021. – 568 p.
2. Atrial fibrillation and fluttering \ ed. O.Y. Zharinova, V.O. Kutsya. – Kyiv: Fourth wave, 2022. -248 p.: ill.

Electronic resources

1. Ukrainian portal of functional diagnostics <https://fd.org.ua/>
2. Dr. Smith`s ECG Blog <http://hqmeded-ecg.blogspot.com/>
3. AmericanCollegeofCardiology <http://www.acc.org/>
4. American Heart Association <http://news.heart.org/>
5. European Society of Cardiology <http://www.escardio.org/>
6. National Comprehensive Cancer Network <https://www.nccn.org/>

7. The European Society for Medical Oncology <http://www.esmo.org/>
8. Up To Date <http://www.uptodate.com>
9. BMJ Clinical Evidence <http://clinicalevidence.bmj.com>
10. Medscape from WebMD <http://www.medscape.com>
11. National Guideline Clearinghouse <https://www.guideline.gov/>
12. Centers for Disease Control and Prevention (CDC) <https://www.cdc.gov/>
13. The Cochrane Collaboration The Cochrane Library <http://www.cochrane.org/>
14. Clinical Knowledge Summaries (CKS) <http://prodigy.clarity.co.uk/>
15. Official website of the Ministry of Health–Ukraine<https://moz.gov.ua/>
16. Official website of the World Association of Family Doctors
<https://www.woncaeurope.org/>
17. Official website of the Ukrainian Association of Family Doctors -<http://www.ufm.org.ua/>
18. Official website of the Ministry of Health of Ukraine. Guidelines for Primary Care
Duodecim Medical Publications Ltd.-<https://guidelines.moz.gov.ua/>
19. Online platform of the British Medical Journal -<https://bestpractice.bmj.com/>

Topic: "Differential diagnosis of cardialgias" – 2 hours

Objective: to be able to carry out differential diagnosis in cardialgia, using different methods and examinations, to be able to prescribe treatment for this condition.

Basic concepts: cardialgia, angina pectoris, myocardial infarction, arterial hypertension, heart defects, hypertrophic cardiomyopathy, myocarditis, pericarditis, gastroesophageal reflux disease, neurocirculatory dystonia

Equipment: illustrative material, tables, thematic patients

Plan:

1. Organizational measures (greetings, checking those present, communicating the topic, the purpose of the lesson, the motivation of higher education students to study the topic).
2. Control of the reference level of knowledge is carried out by the method of frontal survey. To control the reference level of knowledge with the applicant of higher education must know the answers to questions.
 1. Definition and classification of cardialgias;
 2. Causes of chest pain;
 3. Features of questioning and history in cardialgia;
 4. The main differences between angina pain and cardialgia;
 5. Additional survey methods;
 6. Criteria for the diagnosis of various cardialgias (angina pectoris, myocardial infarction, vertebrogenic, arterial hypertension, heart defects, hypertrophic cardiomyopathy, myocarditis, pericarditis, gastroesophageal reflux disease, neurocirculatory dystonia, pathology of the esophagus, diaphragm, lung disease, etc.);
 7. Diagnostic methods for cardialgia of various genesis;
 8. Tactics of management of patients with cardialgia;
 9. Treatment of various forms of cardialgias.
3. Formation of professional skills and abilities (mastering skills, conducting curation, determining the treatment regimen, conducting laboratory research, etc.).

Recommendations (instructions) for completing tasks

The applicant for higher education must:

- conduct a clinical examination of a patient with cardialgia;
- make a plan of additional methods of examination of the patient;
- analyze data from additional survey methods;
- be able to identify the most informative symptoms indicating the cause of chest pain;
- develop a diagnostic algorithm for cardialgias;
- formulate a diagnosis;
- make a differential diagnosis of cardialgias;
- make a treatment plan for the patient;
- provide emergency care for pain in the heart.

Materials for the final stage of the lesson

Situational problem 1

Patient V., 60 years old, 2 weeks ago, severe pain appeared in the lower jaw, gradually bouts of pain became more frequent, in recent days up to 10-15 times a day. Warm rinses, analgin do not

help. The dentist found a carious tooth on the left, but said that the pain was due to some other cause and referred the patient to a neurologist.

Question:

1. What are your questions for the patient?
2. During the inspection, another attack occurred. Your actions?
3. What are your further medical tactics?

Situational problem 2

Patient A., 37 years old, entered the clinic in the direction of a local doctor with complaints of aching pain in the region of the heart, extending to the left shoulder, under the left shoulder blade, shortness of breath during physical exertion, interruptions in the heart in the supine position. For 3 years she had chronic adnexitis, a year ago she was diagnosed with uterine fibroids. There is a history of 8 pregnancies, of which 7 are artificially interrupted.

On examination: the condition is satisfactory, the temperature is normal, the pulse is 80 in 1 minute, rhythmic, labile. Blood pressure 120/70 mm Hg. Art. Century. The left boundary of the relative dullness of the heart is shifted to the left by 1.5 cm. from the left midclavicular line. Heart tones of weakened sonority. No changes were found in other bodies.

ECG data: reduction of the T tooth in V1-U3, single ventricular extrasystoles.

Data from laboratory and radiological studies without deviations from the norm. Emotional lability, tearfulness, insomnia, irritability are determined.

Question:

1. Your preliminary diagnosis (justify it)?
2. How can ECG changes be explained?

Situational problem 3

Patient N., 26 years old, complains of chest pain without irradiation, palpitations, interruptions in heart activity. The pain in the left half of the chest is aching, lasts about 20 minutes, passes on its own. The patient notes these symptoms for many years. For about 5 years, she was observed by a rheumatologist about the diagnosis of rheumatism, mitral heart defect. In this regard, she was on disability for 3 years. At this time, she was sent to the clinic with a diagnosis of congenital heart disease.

On examination: a patient with asthenic physique, reduced nutrition. Cyanosis, edema no. Pulse 88 in 1 min. Blood pressure 110/70 mm Hg. Art. Century. Percussion, the borders of the heart are shifted to the left by 2 cm. And the tone preserved is marked by a systolic "click", systolic noise.

ECG data: sinus rhythm, decreased amplitude of T teeth in standard and left thoracic leads. On the PCG above the apex, systolic noise in the second phase of systole, reaches the II tone, the systolic "cry" before the noise.

Radiologically, the size of the heart is not increased. Changes in the clinical analysis of blood, urine are not detected.

Question:

1. Your diagnosis?
2. What additional research is needed?
3. What diseases should be excluded?
4. Your medical tactics?

Test control

1. A young man of 16 years complains of rapid fatigue, pain in the heart, palpitations, interruptions in the work of the heart, a feeling of lack of air, patience, cooling of the limbs. Objectively: a patient with asthenic body structure. The boundaries of the heart are not increased. The tones are sonorous, at the top there is a systolic noise without irradiation. On the ECG – sinus tachycardia. What is the diagnosis of the patient?

- A. NCD on the cardiac type
- V. Tonsillogenic myocarditis
- S. Myocardial dystrophy
- D. Mitral valve insufficiency
- E. Defect of the interventricular membrane

2. Hupa is 49 years old, complains of heart pain, fatigue, confusion. The pain originated 3 years ago and is associated with menstrual irregularities, the appearance of "hot flashes". Objectively: the heart is not enlarged, the tones are muted. AT 155/90 mmHg ECG: smoothness of T teeth in V5-V6. On the second ECG – without dynamics. What is the most likely diagnosis?

- A. Angina pectoris
- B. Hypertension
- C. Dyshormonal myocardial dystrophy
- D. Neuro-circulatory dystonia
- E. Myocardial atherosclerosis

3. Sick 30 years, football player, after the next training lost consciousness. Before that, there were episodes of pressing pain behind the chest, interruptions in the activity of the heart. The patient's father died suddenly from an unknown cause at the age of 44 years. AT-120/70 mmHg The boundaries of the heart are not expanded, the 4th tone of the heart is heard at the top; The 1st and 2nd tones are not changed. On the left edge of the chest and on the basis of the heart is a systolic noise, the intensity of which increases during the Valsalva test. Clinical tests, chest x-ray examination without features. ECG: voltage signs of left ventricular hypertrophy with overload (deep negative T teeth in the leads and, aVL, V5- V6). What is the preliminary diagnosis?

- A. Hypertrophic cardiomyopathy
- V. CHD. Myocardial infarction
- S. Stenosis of the mouth of the aorta
- D. Sporting heart
- E. Dilated cardiomyopathy

4. A patient of 46 years complains of almost constant pain in the heart area with irradiation in the left shoulder blade, arm. Previously, pain occurred when you had to work with your hands raised. Recently, they began to appear in bed, especially with a sharp turn. On palpation in the paravertebral zones, pain with irradiation of pain in the heart is expressed. What is the preliminary diagnosis?

- A. Osteochondrosis of the cervical-thoracic vertebra

- V.Brachiopathic periarthritis
- S.Angina pectoris tension
- D.Ankylosing spondylitis
- E.Titze syndrome

5. A patient of 28 years old, complains of shortness of breath, pain in the heart, weakness, fever up to 38.3 ° C. His disease is associated with pneumonia suffered 10 days ago. Objectively: the skin is pale, cyanosis of the lips. AT – 110/70 mm Hg. Art. Century. BH - 24/min. Above the lungs is vesicular breathing. The boundaries of the heart are not expanded, the tones are weakened, in the III-IV intercostal space on the left at the edge of the sternum systole-diastolic noise of soft timbre. Heart rate, pulse - 96/min. Liver +1 cm. In blood: L - 11.2x10⁹/l, ESR - 38 mm / h.

Indicate the most likely diagnosis:

- A. Rheumatic heart defect
- B. Infectious-allergic myocarditis
- C. Acute fibrinous pericarditis
- D. Acute pleurisy
- E.Exudative pericarditis

6. A patient of 45 years old, complains of stabbing pain in the area of the heart to the left of the sternum with irradiation in the left hand, cannot establish a clear dependence on physical activity. Eight years old suffers from chronic tonsillitis with frequent exacerbations. On the ECG: negative prong T in the leads V1-V3. Echocardiogram data correspond to the age norm. During bicycle ergometry, the T tooth became positive. What is the most likely diagnosis?

- A.NCD
- B. Dysmetabolic cardiomyopathy
- C. Rheumatism, latent course, rheumatic carditis
- D. Angina pectoris, II FC
- E. Menopausal cardiomyopathy

7. A woman 65 years old, complains of aching pain in the heart, headache, dizziness, tinnitus. Within 6 years, an increase in AT is detected. Objectively: pulse - 64/min., rhythmic, tense, AT - 170/70 mm Hg. Art. Century. Accent II tone and systolic noise in the second intercostal space to the right of the sternum, positive Syrothinin-Kukoverov syndrome. On the part of other organs – without features. Preliminary diagnosis:

- A. Atherosclerosis of the aorta
- B. Hypertension
- C.Coarctation of the aorta
- D.Syphilitic mesoaorthritis
- E.Subaortic stenosis

8. A patient of 45 years, complains of pain in the area of the heart of a pressing nature, is not associated with physical gain, lasting up to one hour, hot flashes, increased irritability, menstrual irregularities. He drinks 50 grams of grape wine daily. The patient's body weight is 62 kg. To reduce (eliminate) the symptoms, you will recommend:

- A. Nitrosorbide
- B. Seduxen
- C. Ryboxin
- D. Verapamil
- E. Asparkam

9. Patient 59 p., complains of shortness of breath, pain behind the sternum with irradiation in the left arm under load, sudden loss of consciousness. The skin is pale. Expansion of the boundaries of the heart by 1 cm to the left. Heartbeats are rhythmic, tones are weakened, at point V there is a rough systolic noise that is made on the vessels of the neck. AT - 110/95 mm Hg. Art. Art., Ps - 64/min., small, slow. ECG: Rv5-v6 - 26 mm, depression - ST in V5-V6. What is the most likely pathology in a patient?

- A. Myocardial infarction of the lateral wall without a tooth Q
- B. Subaortic stenosis
- C. Aortic stenosis
- D. Non-growth of the botal duct
- E. Stable angina pectoris

10. A woman of 48 years old, on the 12th day after the extirpation of the uterus with appendages, complains of prolonged burning pain in the heart, palpitations, feeling of lack of air. Objectively: increased fatness. Vesicular breathing, BH – 18/min. Heart tones are muffled, heart rate – 94/min., AT – 160/90 mm Hg. Art. Century. In the blood - hemoglobin - 105 g / l, L - $5.6 \times 10^9 / l$, ESR 32 mm / h. On ECG: depression Tv2-v4 (up to 3 mm). Indicate the most likely diagnosis.

- A. Neurocirculatory dystonia
- B. Myocardial infarction without tooth Q
- C. Pulmonary embolism
- D. Anemic myocardial dystrophy
- E. Dyshormonal cardiopathy

7. Summing up:

Conducting an assessment of students, summing up, announcing the next topic of the lesson.

8. List of recommended literature (main, additional, electronic information resources):

Basic literature

1. Voronenko Yu.V., Shekera O.G., Dolzhenko M.M. and others. Actual issues of cardiovascular diseases in the practice of a family doctor. – Zaslavsky Publishing House. – K., 2017. – 414 p.
2. Family medicine: in 3 kn. — Kn.2: Symptoms and syndromes in the clinic of internal diseases: A textbook for honey. University IV r.a. Approved by the Ministry of Education and Science, Recommended by the Ministry of Health / Ed. O.M. Girina, L.M. Pasiyeshvili. — K., 2016. — 456 p.

Further reading

1. Knowlman T, Greenslade JH, Parsonage W, et al. The association of electrocardiographic abnormalities and acute coronary syndrome in emergency patients with chest pain. Acad Emerg Med. 2017;24(3):344-352.

2. Voronenko Yu.V., Shekera O.G., Khimion L.V. and others. Actual issues of internal diseases in the practice of a family doctor. – Zaslavsky Publishing House. -K., 2018. – 600 p.

Electronic resources

1. Ukrainian portal of functional diagnostics <https://fd.org.ua/>
2. Dr. Smith`s ECG Blog <http://hqmeded-ecg.blogspot.com/>
3. AmericanCollegeofCardiology <http://www.acc.org/>
4. American Heart Association <http://news.heart.org/>
5. European Society of Cardiology <http://www.escardio.org/>
6. National Comprehensive Cancer Network <https://www.nccn.org/>
7. The European Society for Medical Oncology <http://www.esmo.org/>
8. Up To Date <http://www.uptodate.com>
9. BMJ Clinical Evidence <http://clinicalevidence.bmj.com>
10. Meds cape from WebMD <http://www.medscape.com>
11. National Guideline Clearinghouse <https://www.guideline.gov/>
12. Centers for Disease Control and Prevention (CDC) <https://www.cdc.gov/>
13. The CochraneCollaboration The Cochrane Library <http://www.cochrane.org/>
14. Clinical Knowledge Summaries (CKS) <http://prodigy.clarity.co.uk/>
15. About theofficial website of the Ministry of Health–Ukraine<https://moz.gov.ua/>
16. About theofficial website of the World Association of Family Physicians
<https://www.woncaeurope.org/>
17. About theofficial website of the Ukrainian Association of Family Doctors -
<http://www.ufm.org.ua/>
18. About theofficial website of the Ministry of Health of Ukraine. Guidelines for Primary Care Duodecim Medical Publications Ltd. -<https://guidelines.moz.gov.ua/>
19. Oh nline platform of the British Medical Journal -<https://bestpractice.bmj.com/>-

Topic: "Differential diagnosis of dysphagia" – 2 hours

Objective: to know the definition of dysphagia syndrome; the main causes and manifestations of dysphagia syndrome (oropharyngeal associated with neuromuscular disorders, various esophageal dysphagias – esophageal hernia, achalasia of the esophagus, gastroesophageal reflux disease, mechanical narrowings (tumors of the esophagus)); know the symptoms of "red flags"; know the main issues of prevention of esophageal dyspepsia.

Basic concepts: dysphagia (oropharyngeal associated with neuromuscular disorders, various esophageal dysphagia – hernia of the esophageal opening, achalasia of the esophagus, gastroesophageal reflux disease, mechanical narrowing (tumors of the esophagus));

Equipment: illustrative material, tables, thematic patients

Plan:

9. Organizational measures (greetings, checking those present, communicating the topic, the purpose of the lesson, the motivation of higher education students to study the topic).

10. Control of the reference level of knowledge is carried out by the method of frontal survey. To control the reference level of knowledge with the applicant of higher education must know the answers to questions.

1. Determination of dysphagia syndrome.
2. The main causes of dysphagia syndrome (oropharyngeal associated with neuromuscular disorders, various esophageal dysphagia – hernia of the esophageal opening, achalasia of the esophagus, gastroesophageal reflux disease, mechanical narrowing (tumors of the esophagus)).
3. The main clinical manifestations in gastroesophageal reflux disease, principles of diagnosis, treatment and prevention.
4. The main clinical manifestations in achalasia of the esophagus, the principles of treatment and prevention.
5. The main clinical manifestations of esophageal cancer, treatment tactics.
6. The main clinical manifestations of functional dysphagia, the possibility of adequate treatment and prevention.
7. Symptoms of "red flags".
8. The main issues of prevention of esophageal dyspepsia.

11. Formation of professional skills and abilities (mastering skills, conducting curation, determining the treatment regimen, conducting laboratory research, etc.).

Recommendations (instructions) for completing tasks

The applicant for higher education must:

- be able to examine patients with various manifestations of esophageal dyspepsia (gastroesophageal reflux disease, achalasia of the esophagus, functional dyspepsia, etc.).
- be able to draw up a survey plan and interpret the data of the necessary laboratory and instrumental studies for diagnosis and in order to confirm it.
- formulate a diagnosis of gastroesophageal reflux disease, achalasia of the esophagus, functional dysphagia, etc. according to existing classifications.

- to draw up a scheme of adequate therapy for dysphagia syndrome of various origins.
- be able to interpret the issues of the symptoms of "red flags".
- determine the prognosis for a particular patient.
- identify the clinical manifestations of dysphagia syndrome on the example of the patient, while demonstrating the ability to conduct a medical examination and physical examination, in accordance with the main complaints of the patient and the data of the medical history.
- demonstrate the ability to explain and apply clinical methods to detect the manifestations of the disease in a hospital setting.
 - to interpret the data of additional laboratory and instrumental methods of research in patients with various causes of dysphagia (results of fluoroscopy and graphia, upper endoscopy, biopsy, ultrasound, general and biochemical analyzes).
 - to carry out a differential diagnosis of frequent diseases of the esophagus, leading to esophageal dyspepsia (gastroesophageal reflux disease, achalasia of the esophagus, functional dysphagia, esophageal cancer).
 - correctly interpret the course and complications of dysphagia syndrome.
 - demonstrate the ability to diagnose and draw up a treatment plan for diseases with esophageal dyspepsia.
 - apply differential, adequate treatment for various manifestations of esophageal dyspepsia, and at the same time be able to write prescriptions for medicines, classify drugs, depending on their mechanism of action.
 - prescribe the main methods of prevention of diseases of the esophagus.

Materials for the final stage of the lesson

Situational problem 1

Patient K., 19 years old. He complains of frequent heartburn (often 2 times a week), odinophagy, drooling, belching sour, sometimes a feeling of lump behind the sternum and dysphagia. These complaints are aggravated in the supine position or when the body is tilted forward, hard physical work. Indicates irregular indiscriminate nutrition, often overeating, smokes from the age of 15, consumes beer, after which the state of health worsens. He loves hot food.

Objectively: Appearance is ordinary, body weight is increased. The skin is wet. Pulse – 60 beats per minute, rhythmic, medium value. Blood pressure 120/70 mm. Rt. Century. The boundaries of the heart are not changed. Auscultative: tones are sonorous, noises and accents are absent. Breathing over the lungs is vesicular. The tongue is wet, covered with a thick yellowish-brown layering. The stomach is soft, slightly swollen.

Superficial palpation determines the pain in the epigastric region, a positive sign of Ker.

With FGS – hyperemia of the lower esophagus (signs of esophagitis) and the presence of bile in the stomach.

Your diagnosis.

GERD, duodenogastral reflux.

Test control

1. Functional disorders of the esophagus include:
 1. Komok
 2. Achalasia of the esophagus
 3. GERD

4. Barrett's esophagus
 5. Esophageal diverticulum
2. Hiccups are more often observed with:
1. Esophageal cancer
 2. Esophageal diverticulum
 3. Achalasia of cardia
 4. Hernia of the esophageal opening
 5. GERD
3. Cacosmia (bad breath) is more common when:
1. Esophageal diverticulum
 2. Dyskinesia of the esophagus
 3. Achalasia cardia
 4. Hernia of the esophageal opening
 5. GERD
4. Paradoxical dysphagia is more common with:
1. Cancer stenosis
 2. Diverticula of the esophagus
 3. Achalasia of the esophagus
 4. Esophageal polyps
 5. GERD
5. Anemia is more common when:
1. Axillary hernia
 2. Achalasia cardia
 3. Reflux esophagitis
 4. Functional dysphagia
 5. Mallory-Weiss syndrome
6. Symptoms characteristic of diseases of the esophagus:
1. Nausea, vomiting, dizziness
 2. Pain and heaviness in the epigastrium
 3. Flatulence
 4. Dysphagia, heartburn, odynophagia
7. The patient complains of heartburn, sour belching, odynophagia, dysphagia, nausea, a feeling of rapid saturation. Complaints are aggravated when washing the floor, washing, lifting heavy things. This is typical for:
- A. gastroesophageal reflux disease
 - B. chronic gastritis
 - C. duodenal ulcer
 - D. Gastric dyspepsia
8. The patient is worried about heartburn at night in a horizontal position, a feeling of lump behind the sternum, belching sour. These complaints are aggravated by tilting the body forward, after eating. What is the reason for this condition?
- A. gastroesophageal reflux disease
 - B. duodenal ulcer
 - C. chronic gastritis
 - D. gastric ulcer

9. A patient of 56 years complains of heartburn, dysphagia, belching, aggravated by tilting the body, pain when swallowing behind the sternum. X-ray examination revealed a hernia of the esophageal opening. What is the reason for this?

- A. reflux esophagitis
- B. chronic gastritis
- C. stomach ulcer
- D. erosive gastritis

12. Summing up:

Conducting an assessment of students, summing up, announcing the next topic of the lesson.

13. List of recommended literature (main, additional, electronic information resources):

Basic literature

1. Gastroenterology / ed. N. V. Kharchenko, O. Y. Babaka. - Kyiv, 2017. - 720 p.
2. Denisyuk V.I. Evidence-based internal medicine. Secrets, standards of diagnosis and treatment / V.I. Denisyuk, O.V. Denisyuk. - Vinnitsa: DP DKF, 2016. - 704 p.
3. Syndrome diagnosis in gastroenterology. / Ed. N. E. Dorofeeva, V. M. Berezova. - Donetsk, 2018. - 261 p.

Further reading

1. Babak O. Y. Gastroesophageal reflux disease / O. Y. Babak, G. D. Fadeenko. – Kyiv: Interpharma, 2017. – 175 p.
2. Modern classifications and standards for the treatment of common diseases of internal organs / ed. Yu.M. Mostovoy. - 11th ed., add. and processing. – Vinnytsia: SE "DKF", 2016. – 528 p.

Electronic information resources:

1. <http://moz.gov.ua> – Ministry of Health of Ukraine
2. www.ama-assn.org – American Medical Association / American Medical Association
3. www.who.int – World Health Organization
4. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
5. <http://bma.org.uk> – British Medical Association
6. www.gmc-uk.org - General Medical Council (GMC)
7. www.bundesaerztekammer.de – German Medical Association
8. <https://library.odmu.edu.ua/catalog/> - Electronic catalogue

Topic: "Etiology of HIV – infections. Principles of laboratory diagnosis of HIV infection. Screening and verification studies. » – 4 hours

Objective: To deepen the knowledge of higher education students about the etiology, pathogenesis of HIV infection, sources and ways of transmission and risks of infection. Explain the role of the family doctor in the detection and diagnosis of HIV infection at the outpatient stage.

Basic concepts: Define the concept of the etiological factor of HIV infection. Stages of HIV infection. The concept of AIDS. Sources and ways of HIV transmission. Infectious biomaterials. Infectious dose .Viral load .Screening and verification methods for diagnosing HIV infection.

Plan:

I. Theoretical questions for the lesson:

1. Etiology of HIV infection, structure of HIV.
2. Features of the pathogenesis of HIV infection.
3. The development cycle of HIV infection. Clinical stages of HIV infection.
4. Sources and ways of HIV transmission.
5. What is the degree of infectiousness of various biological materials.
6. High-risk groups for HIV infection.
7. Methods of diagnosis of HIV infection.
8. What clinical stages of the disease are distinguished according to the "Clinical protocol of antiretroviral therapy of HIV infection in adults and adolescents" (Order of the Ministry of Health of Ukraine dated 12.07.2010 No. 551)?
9. What diseases are characteristic of clinical stage I?
10. What diseases are inherent in the clinical stage II?
11. What diseases are typical for clinical stage III?
12. What diseases are characteristic of the clinical stage IV?
13. What are the modern methods of laboratory diagnostics?
14. Organization of screening and verification examinations for HIV infection.
15. The procedure and requirements for testing for HIV infection with rapid tests.
16. What are HIV screening tests?
17. What are HIV verification tests?
18. What are confirmatory HIV tests?

Questions for self-control.

1. What is the structure of HIV, the development cycle and pathogenesis of HIV?
2. What are the sources and ways of HIV transmission?
3. What is the degree of infectiousness of various biological materials?
4. What are the high-risk groups for HIV infection?
5. What clinical stages of the disease are distinguished according to the "Clinical protocol of antiretroviral therapy of HIV infection in adults and adolescents" (Order of the Ministry of Health of Ukraine dated 12.07.2010 No. 551)?
6. What diseases are characteristic of clinical stage I?
7. What diseases are inherent in the clinical stage II?
8. What diseases are typical for clinical stage III?
9. What diseases are characteristic of the clinical stage IV?
10. What are the modern methods of laboratory diagnostics?
11. Indicate the ways in which HIV is transmitted to the human body. Indicate which ways HIV is not transmitted. What biological materials contain the largest amount of HIV at any stage of the disease?
12. Organization of screening and verification examinations for HIV infection.
13. The procedure and requirements for testing for HIV infection with rapid tests.

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

- 1) HIV is a human immunodeficiency virus that causes HIV infection;
- 2) **HIV-infected person** - a person in whose body HIV is detected, but who is in a state of asymptomatic HIV carriage;
- 3) HIV status of a person - the state of the person's body in relation to the absence or presence of HIV in it: the negative HIV status of a person is characterized by **the absence of HIV** in his body, the positive HIV status of a person is characterized by the presence of HIV in his body;
- 4) groups at increased risk of **HIV infection** - a group of the population who, taking into account the peculiarities of their behavior and the behavior of their environment, are at increased risk of contact with the source of HIV. Determination and revision of the list of such groups is carried out by the central executive body, which ensures the formation of state policy in the field of health care, taking into account the criteria and recommendations of the World Health Organization;
- 5) **people living with HIV** - HIV-infected persons and persons suffering from HIV-related disease;
- 6) a person suffering from a disease caused by HIV is a person who, according to the results of a medical and laboratory examination, revealed AIDS or other clinical manifestations of the disease caused by HIV established by the International Classification of Diseases;
- 7) partner - sexual partner of an HIV-infected person or his partner in the use of narcotic drugs and psychotropic substances by injection;
- 8) **post-exposure prophylaxis** is a short-term course of antiretroviral treatment, the purpose of which is to reduce the likelihood of HIV infection of a person who has been at increased risk of such infection;
- 9) **acquired immunodeficiency syndrome (AIDS)** - the stage of development of the disease caused by HIV (HIV infection), characterized by clinical manifestations caused by deep damage to the human immune system under the influence of HIV;
- 10) diseases caused by HIV (**HIV infection**) - a complex of diseases determined by the International Classification of diseases of the human body caused by injuries of the immune system associated with the influence of HIV, which at the initial stage of its development has the character of a state of asymptomatic carrier of HIV, and in the absence of appropriate treatment and exposure to other unfavorable circumstances for the body of an HIV-infected person, acquires clinical manifestations in the form of a variety of infectious, parasitic diseases, malignant tumors, other diseases or HIV-related acquired immunodeficiency syndrome.

II. Practical work (tasks):

1. Make the main groups of increased risk of HIV infection.
2. Analyze the risk of HIV infection depending on the situation and route of transmission.
3. Assess the degree of infectiousness of various biological materials.
4. To draw up an algorithm of diagnostic (screening) actions of a family doctor in case of suspected HIV infection.
5. Make an algorithm for verification studies for HIV infection.
6. To diagnose the clinical stages of HIV infection in accordance with the "Clinical protocol of antiretroviral therapy of HIV infection in adults and adolescents" (Order of the Ministry of Health of Ukraine dated 12.07.2010 No551).
7. Algorithm for HIV testing with rapid tests.

III. Test tasks for self-control

1. Ways of HIV transmission:
 - A. parenteral
 - B. sexual

- C. transplacental (from the mother of the fetus)
- D. All of the above

2. HIV infection is characterized by disorders of the immune system:

- A. reduction of T-lymphocytes (T-helpers)
- B. change in the ratio of T-helpers - T-suppressors
- C. increase in serum globulins
- D. detection of specific antibodies to the virus
- E. All of the above

3. In a laboratory study of patients with AIDS, it is revealed:

- A. anemia
- B. thrombocytopenia
- C. leukopenia
- D. lymphopenia
- E. All of the above

4. The most characteristic signs of AIDS:

- A. lymphadenopathy for more than 3 months, fever for 3 months, torpid to antibiotic treatment
- B. diarrhea (at least 2 months)
- C. recurrent oral candidiasis
- D. weight loss more than 10%, sweating at night
- E. All of the above

5. Storage of biological material collected for research should be:

- A. in minimal quantities, in containers specially designed for this purpose, marked "Caution-AIDS"
- B. stored in the refrigerator, the sample should be delivered as soon as possible and the larger the sample volume, the better
- C. biological material is not stored, immediately after the study is thrown away

6. Indicate under what conditions the causative agent of HIV dies in the external environment:

- A. 70-80 ° C for 10 minutes
- B. 50-60 ° C for 10 minutes
- C. 40-50 oC for 30 minutes

7. What period after infection with HIV antibodies begin to be produced in the blood:

- A. in 2-3 days
- B. in 2-3 weeks
- C. after 6-12 weeks or more

8. A positive test for antibodies to HIV does not mean:

- A. exposure to the virus
- B. persistent infection (infectiousness)
- c. indication of AIDS

9. Persistent generalized lymphadenopathy is characterized by everything except:

- A. enlarged lymph nodes not less than 1 cm in diameter in 2 or more non-tic loci
- B. enlarged lymph nodes retain their appearance for at least 3 months if untreated
- C. lymph nodes are affected symmetrically
- D. may be accompanied by splenomegaly
- E. lymph nodes decrease in size on their own after 1-2 months

10. What type of tumor is the most common clinical manifestation of AIDS:
A. sarcoma Kaposi
B. malignant lymphoma
C. squamous cell carcinoma of the oral cavity and rectum
11. Often occurring pneumonia in AIDS is caused by:
A. Pneumocystis carinii
B. Micobacterium xenori
C. Streptococcus pnevmoniae
12. An important clinical sign of mucosal candidiasis is all but:
A. No fetid odor
B. erythematous foci of bright red color
C. on the focus there is a slight swelling and painful cracks
D. the presence of a fetid odor
13. The cause of weight loss in AIDS is everything but:
A. anorexia
B. diarrhea
C. malabsorption
D. increased basic metabolism
14. With infection with which pathogen is most often associated diarrhea in patients with AIDS?
A. cytomegalovirus
B. Campylobacter
C. salmonella
D. cryptosporidia
15. The classic form of Kaposi's sarcoma includes:
A. Kaposi's AIDS-associated sarcoma
B. legged sarcoma in older adults of Jewish or Eastern European descent
C. Different Types of African Kaposi Sarcoma
16. Kaposi's sarcoma is a tumor that originates:
A. from the epithelium of the skin
B. from the vascular endothelium
V. from muscle tissue
17. The main target of HIV is:
A. Monocytes
B. leukocytes
C. T-helpers (inductors)
D. B-lymphocytes
18. What deviations in laboratory parameters are not characteristic of AIDS?
A. leukocytosis
B. lymphopenia, leukopenia
C. thrombocytopenia
D. Anemia
19. What immunological tests are not typical for AIDS?

- A. reduced number of T-helpers
 - B. oppressed blastogenesis
 - C. elevated gamma globulin levels
 - D. reduced gamma globulin levels
20. One of the characteristic skin lesions in AIDS is:
- A. pyoderma
 - B. psoriasis
 - C. seborrheic dermatitis due to candidal flora
 - D. erysipelas
21. What sign characterizes diarrhea in AIDS?
- A. duration of at least two months
 - B. Duration Up to One Month
 - C. does not lead to significant weight loss
 - D. does not cause malabsorption

IV. Individual assignments for students on the topic of the lesson

1. Make an algorithm for HIV screening.
2. Identify the main groups at increased risk of HIV infection.
3. Determine the criteria for classifying persons as high-risk groups for HIV infection according to various forms of behavior.
4. Assess the degree of infectiousness of various biological materials.
8. Assess the risk of HIV infection depending on the situation and route of transmission.
9. Reproduce the algorithm of diagnostic (screening) actions of a family doctor in case of suspected HIV infection.
10. Make an algorithm for verification studies for HIV infection.
11. Differential diagnosis of clinical stages of HIV infection according to the "Clinical protocol of antiretroviral therapy of HIV infection in adults and adolescents" (Order of the Ministry of Health of Ukraine dated 12.07.2010 No551).
12. In the process of testing for HIV infection with rapid tests.

List of recommended literature

Main

1. Law of Ukraine "On counteracting the spread of diseases caused by the human immunodeficiency virus (HIV) and legal and social protection of people living with HIV" of 12.12.1991 [Electronic resource]. Resource access mode: <https://zakon.rada.gov.ua/laws/show/1972-12#Text>
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5. Order of the Ministry of Health of Ukraine 21.12.2010 No1141 "On approval of the Procedure for testing for HIV infection and ensuring the quality of research, forms of primary accounting documentation for HIV testing, instructions for filling them out".
6. "Internal diseases". National textbook // L.V. Glushko et al./ "MEDICINE", 2019. - p. 437
7. Family medicine: in 3 books. - Book 3. General issues of family medicine: textbook / O.M. Girina, L.M. Pasiashvili, G.S. Popik, A.S. Svintsitskyi and others. — K.: VSV "Medicine", 2015.
8. Management of a patient with HIV/AIDS by a family doctor: a textbook for teachers. – K.: Agency "Ukraine". – 2015. – 520 p. ISBN 978-966-137-052-3

Additional

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2. "Managing a patient with HIV/AIDS as a family doctor" Materials of the training with the support of the USAID Project and the All-Ukrainian Network of People Living with HIV/AIDS-2017. **Resource access mode:**www.network.org.ua
3. BMJ Best Practice - " HIV-infection ", updated: Oct 17, 2019. **[Electronic resource].– Mode of access to the resource:** <https://bestpractice.bmj.com/topics/uk-ua/555/pdf/555/%D0%92%D0%86%D0%9B%20%D1%96%D0%BD%D1%84%D0%B5%D0%BA%D1%86%D1%96%D1%8F.pdf>

Topic: "Counseling in the context of HIV – infections. Voluntary testing with pre- and after test counseling (DKT)" – 4 hours

Objective: To expand the knowledge of higher education students in the field of counseling in the context of HIV infection. Definition of principles, roles, importance of DCT for a person and society.

Basic concepts: Define the concept, purpose and objectives of DKT and its basic principles. Advising on ways to spread HIV infection and prevent infection. Determination of a person's HIV status.

Plan:

I. Theoretical questions for the lesson:

1. What are the main tasks of DKT?
2. What are the principles of DCT?
3. What is pre-test counseling? Goals and objectives of pre-test counseling.
4. What are the types of pre-test counseling?
5. In what cases can group counseling be carried out?
6. What is the structure of pre-test counseling?
7. What are the requirements for a consultant?
8. What is post-test counseling and for what purpose is it carried out?
9. What are "open" and "closed" questions?
10. What is non-verbal communication?
11. The main typical mistakes of consultants during counseling?
12. Name the means to avoid typical DKT errors.
13. Name the basic principles of the consultant's work.
14. Counseling scheme for a negative test result
15. Counseling scheme for an uncertain test result
16. Counseling scheme for a positive test result
17. Counseling with a pregnant HIV-infected person. Give her recommendations.
18. The procedure for examination of HIV infection.

Questions for self-control.

1. What is pre-test counseling for HIV?
2. Goals and objectives of pre-test counseling
3. Pre-test counseling scheme
4. Goals and objectives of post-test counseling
5. Counseling scheme for a negative test result
6. Consultation scheme for non-reinterpreted test result
7. Counseling scheme for a positive test result
8. Counseling with a pregnant HIV-infected person. Give her recommendations.
9. The procedure for examination of HIV infection.

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

Counseling is a process of mutual communication, during which one participant helps the other to identify the problems of his health and make an informed, voluntary and informed decision regarding the problem.

Voluntary counseling and testing (DCT) for HIV has proven to be an important role both in HIV prevention and as a starting point for providing medical care to people infected with HIV. DKT provides an opportunity to learn and perceive your serological status in relation to HIV in a

confidential setting, with the provision of advice and direction for constant medical care and emotional support.

II. Practical work (tasks):

1. Conduct pre-test counseling on HIV according to the scheme
2. Consult with a negative test result
3. Consult with an indefinite test result
4. Consult with a positive test result
5. Counseling with a pregnant HIV-infected person. Give her recommendations.
6. The procedure for examining HIV infection.

III. Test tasks for self-control

1. Is it possible to have a tumor process in the central nervous system with HIV infection?

- A. Perhaps as a consequence of the generalization of Kaposi's sarcoma
- B. No
- C. Yes, always
- D. Possibly in the form of primary and secondary brain lymphoma
- E. There is no correct answer

2. What viruses is the causative agent of HIV infection?

- A. Paramyxoviruses (parainfluenza virus)
- B. Hepadnaviruses (hepatitis B virus)
- C. Retroviruses (human immunodeficiency virus)
- D. Arboviruses (tick-borne encephalitis virus)
- E. There is no correct answer

3. HIV nucleic acid:

- A. RNA and DNA
- B. RNA
- C. DNA
- D. tRNA
- E. mRNA

4. The main distinguishing feature of retroviruses :

- A. Presence of a supercapsid
- B. Presence of reverse transcriptase (reversal)
- C. Diploid genome
- D. Presence of 3 main and 4 additional genes
- E. All answers are correct

5. Does HIV inactivation occur under the influence of hydrogen peroxide solution?

- A. Yes, but you need a 5% solution and exposure for at least 8-10 hours
- B. No
- C. Yes, under the action of a 6% solution for 30 minutes
- D. Maybe, but under the condition of a pure HIV culture
- E. Possibly

6. The source of the pathogen in HIV infection:

- A. Rodents
- B. Wild animals
- C. Pets
- D. Man

E. Bird

7. Mechanism of HIV transmission:

- A. Parenteral
- B. Airborne
- C. Parenteral, sexual
- D. Transmissible
- E. Fecal-oral

8. Which of the following categories do you not consider to be at risk for HIV infection?

- A. Medical professionals
- B. Drug addicts
- C. Preschool children
- D. Men who have sexual relations with men
- E. Persons practicing unprotected sex and having casual sexual partners

9. In which of the biological fluids of the body is it possible to determine HIV?

- A. Blood
- B. Determination of HIV is possible only in the stage of AIDS
- C. Saliva, urine, feces
- D. Sweat, tear fluid
- E. In all body fluids

IV. Individual assignments for students on the topic of the lesson

Task number 1. During prophylaxis in donor P. 35 years, antibodies to HIV were detected by enzyme-linked immunosorbent assay. The patient has been married for 15 years, does not cheat on his wife. Does not use drugs. He makes no complaints. Well-being is good. Objectively, no changes in the parts of systems and organs have been identified.

Question:

1. Preliminary diagnosis.
2. Where should the patient be sent?
3. Who should be recommended to conduct similar studies?

Answer: HIV infection. Send to the territorial center of AIDS. Examine your wife.

Task number 2. In a child aged 3 months. antibodies to HIV were detected - 1/2 with confirmation in the immunoblot. The mother was tested for HIV when admitted to the maternity hospital and had a negative ELISA result. The baby was breastfed.

1. Is it possible to conclude about HIV - infection of the child?
2. What method can be proposed to confirm the fact of HIV - infection of the child?
3. If HIV - infection is proven, how could the infection of the child occur?
4. Do I need an additional examination of the mother for VCH infection?

Answer:

1. Yes. The presence of antibodies to HIV - 1/2 in a child in their absence from the mother at the time of birth indicates infection of the child.
2. The best method of proving HIV - infection of the child is PCR.
3. One might think that the mother during hospitalization in the maternity hospital was already HIV - infected and was in the phase of the "serological window" (stage of primary viremia and lack of antibodies). The mother could infect the baby during childbirth or during thoracic

Task number 3. Patient C., 29 years old, turned to an appointment with a general practitioner with complaints of weakness, runny nose, fever up to 37.60 ° C, pain in the joints of

the upper extremities. It is known from the anamnesis that 1 month ago the patient completed the treatment cycle of urogenital chlamydia .

Determine the doctor's tactics regarding the patient's HIV status.

Answer: During the reception, at the request of the patient, conduct a blood sample test for the presence of antibodies to HIV-1/2 using rapid ICHA tests, following the requirements of the instructions. The study should be carried out only on condition of conducting mandatory pre- and post-test counseling. The positive result obtained with the help of the ICA test must be confirmed in ELISA using diagnostic test systems registered in Ukraine in specialized laboratories for the diagnosis of HIV infection. In the case of a negative ICHA test of the test result, it is advisable for this patient to offer a second test for the presence of antibodies to HIV-1/2 after 1-15 months.

List of recommended literature

Main

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10. Order of the Ministry of Health of Ukraine dated 19.08.2005 No415 "On improving voluntary counseling and testing for HIV infection".
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14. Unified clinical protocol of primary, secondary (specialized) and tertiary (highly specialized) medical care co-infection (tuberculosis/HIV infection/AIDS). [Electronic resource]. Resource access mode: <https://phc.org.ua/sites/default/files/uploads/files/%D0%9F%D1%80%D0%BE%D1%82%D0%BE%D0%BA%D0%BE%D0%BB%20%D0%A2%D0%91%20%D1%83%20%D0%B2%D0%B7%D1%80%D0%BE%D1%81%D0%BB%D1%8B%D1%85%20620%20%D0%BE%D1%82%20%2004%2009%2014.pdf>
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5. "Managing a patient with HIV/AIDS as a family doctor" Materials of the training with the support of the USAID Project and the All-Ukrainian Network of People Living with HIV/AIDS-2017. **Resource access mode:** www.network.org.ua
6. BMJ Best Practice - " HIV-infection ", updated: Oct 17, 2019. **[Electronic resource].– Mode of access to the resource:** <https://bestpractice.bmj.com/topics/uk-ua/555/pdf/555/%D0%92%D0%86%D0%9B%20%D1%96%D0%BD%D1%84%D0%B5%D0%BA%D1%86%D1%96%D1%8F.pdf>

Topic: "Rules and methods of protecting medical workers from HIV infection in the workplace. Medical post contact prophylaxis. » – 4 hours

Objective: To expand the knowledge of applicants for higher education about: rules and methods of protecting medical workers from HIV infection in the workplace; personal protective equipment against HIV infection; the procedure for emergency post-exposure prophylaxis (PCP) of HIV infection in employees in the performance of professional duties; first aid procedure for a person at risk of occupational HIV infection; indications for the appointment and conduct of medical post-exposure prophylaxis (MPCP); cases in which the appointment of MPCP is impractical; laboratory research and organization of IPCS.

Basic concepts: Ways of HIV transmission. Rules and methods of protecting healthcare workers from HIV infection in the workplace. Emergency post-exposure prophylaxis. Medical PCP HIV infection.

Plan:

I. Theoretical questions for the lesson:

1. Ways of HIV transmission?
2. Common causes of nosocomial infection with HIV infection?
3. Which healthcare professionals are at the highest risk of contracting HIV?
4. Factors that determine the risk of infection of medical personnel with HIV infection.
5. What are the ways to reduce the risk of infection of medical personnel?
6. How is post-exposure prophylaxis of HIV infection carried out in case of skin damage, in case of contact with infected material on the face and other exposed areas of the body, on clothes, when infected material gets on the floor, walls, furniture, equipment and other surrounding objects?
7. What is the chemoprophylaxis of parenteral transmission of HIV?
8. What are the surveillance measures for affected employees from HIV infection?
9. Basic personal protective equipment against occupational HIV infection.

Questions for self-control.

1. What are the main personal protective equipment against occupational HIV infection.
2. What should the administration of the HEALTH do regarding a specialist with injuries, wounds on the hands, exudative skin lesions that cannot be covered with a bandage?
3. How quickly should first aid be organized in case of an "emergency" situation?
4. Which employees have emergency manual transmission in the performance of professional duties? What are confirmatory HIV tests?
5. Name the laboratory tests and the organization of the IPCS.
6. Name the procedure for monitoring a person who has had a case of contact with a source of potential HIV infection in the performance of professional duties and receives an MPC.
7. What are the indications for HIV testing by polymerase chain reaction.
8. Name the indications for HIV testing with two rapid tests, one rapid test.
9. What is the procedure for conducting primary screening tests for the presence of antibodies to HIV infection.

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

The case of contact with the source of potential HIV infection associated with the performance of professional duties is direct open physical contact with human blood or biological materials contaminated with tools, equipment or objects as a result of their ingress under the skin, mucous membrane, damaged skin (cracks, abrasions), which occurred during the performance of professional duties;

Emergency post-exposure prophylaxis (hereinafter - PCP) is a medical measure aimed at preventing the development of HIV infection in workers who conduct diagnostic tests for HIV infection, provide medical care and social services to people living with HIV, or come into contact with human blood or biological materials contaminated with tools, equipment or objects, involving first aid, counseling and risk assessment of HIV infection, HIV testing after obtaining informed consent and depending on the degree of assessed risk of drug PCP with support and follow-up medical supervision;

Drug post-exposure prophylaxis (hereinafter - MPCP) - a short course (28 days) of antiretroviral therapy (hereinafter - ART), aimed at preventing the development of HIV infection.

II. Practical work (tasks):

- 1) List the necessary provision in the workplace with protective equipment against HIV infection.
- 2) Determine the procedure for emergency post-exposure prophylaxis of HIV infection in employees in the performance of professional duties.
- 3) Determine the indications for emergency manual transmission of employees in the performance of professional duties
- 4) Determine the conditions under which the PKP is impractical to carry out.
- 5) Draw up an algorithm for emergency PCP to protect the employee from possible HIV infection. in case of occurrence of the so-called. "emergency" situation
- 6) Assess the factors that negatively affect the implementation of a full-fledged MPCP
- 7) To draw up an algorithm for examining and observing a person who has had a case of contact with the source of potential HIV infection in the performance of professional duties and receives an MPCP.

III. Test tasks for self-control

1. HIV infection is:
 - A. zoonose.
 - B. anthroozoonosis.
 - C. anthroponosis.
 - D. sapronose.
 - E. Diseases with an unknown source of infection.
2. HIV-infected people contain:
 - A. In the blood.
 - B. In the cerebrospinal fluid.
 - C. In breast milk.
 - D. In sperm.
 - E. In all of the above.
3. The highest concentration of HIV contains the following biological fluid of an HIV-infected person:
 - A. Breast milk.
 - B. Vaginal secretion.
 - C. Sperm.
 - D. Blood.
 - E. Saliva.
4. The probability of infection of medical personnel in case of injury with a needle contaminated with the blood of an HIV-infected patient is:
 - A. 0,3-0,5%.
 - B. 1-3%.

- C. 5-10%.
 - D. 40-50%.
 - E. 90-100%.
5. HIV can be transmitted:
- A. During sexual intercourse.
 - B. With a handshake.
 - C. With oral communication.
 - D. When using a shared phone.
 - E. With auscultation of HIV - infected.
6. HIV can be transmitted by:
- A. When transfusion of autoblood.
 - B. During sexual intercourse.
 - C. From the infected mother of the fetus during pregnancy.
 - D. True 2,3.
 - E. True 1,2,3.
7. Ways of HIV transmission:
- A. Sexual, contact, from mother to fetus.
 - B. Parenteral, contact, from mother to fetus.
 - C. Sexual, parenteral, transmissible.
 - D. Parenteral, sexual, from mother to fetus.
 - E. Sexual, from mother to fetus, transmissible.
8. From an infected mother to a child, HIV is transmitted to:
- A. Antenatally, during breastfeeding.
 - B. Intranatal, postnatal.
 - C. Antenatal, intranatal.
 - D. Postnatally, during breastfeeding.
 - E. In all these cases.
9. HIV can be transmitted:
- A. From an infected mother baby during breastfeeding.
 - B. Through the hair in the process of cutting.
 - C. When measuring blood pressure through the cuff of the tonometer.
 - D. True 2,3
 - E. True 1,2,3
- 10 HIV can be transmitted:
- A. Through contaminated HIV medical instruments.
 - B. In transplantation of organs and tissues contaminated with HIV.
 - C. During the transfusion, blood was not tested for HIV.
 - D. True 1,2.
 - E. True 1,2,3.

IV. Individual assignments for students on the topic of the lesson

1. Make an action plan for a medical professional to prevent HIV infection in contact with the body fluids of an HIV-infected patient.
2. Name the elements of special clothing of medical personnel working in the mode of possible contact with the blood and other biological fluids of the patient.
3. List the composition of the emergency AIDS first aid kit.

4. Give recommendations to the patient on the prevention of infection and the spread of HIV infection.
5. Consider situational problems:

Situational problem number 1

When performing laboratory tests in the clinical diagnostic laboratory, blood serum fell on the open area of the laboratory assistant's skin.

Task

1. Tell us what infectious diseases a laboratory assistant can become infected with. Name the ways of HIV transmission and which way is a priority in this situation.
2. Make an action plan for a medical professional to prevent HIV infection in contact with the body fluids of an HIV-infected patient.

Answer standard:

1. A laboratory assistant risks contracting infectious diseases such as HIV infection, parenteral hepatitis, syphilis, etc. in this situation, ways of transmission in HIV infection: sexual, parenteral, transplacental, in childbirth, when feeding with breast milk. In this situation, the parenteral pathway (through the blood) is a priority.

2. Action plan of a medical worker for the prevention of HIV infection in contact with the biological fluids of an HIV-infected person:

a) in case of ingress of biological fluids:

- the skin should be treated with an antiseptic solution (70% alcohol solution) for two minutes, without rubbing, after 5 minutes, wash with warm water and soap twice and repeat the treatment with an antiseptic;

- mucous membranes treated with a 0.05% solution of potassium permanganate, mouth and throat can be rinsed with a 70% alcohol solution;

- for injections and cuts, squeeze out the blood or let it drain, treat the skin with a 70% alcohol solution, wash your hands thoroughly under running water, treat the edges of the wound with a 5% solution of iodine, glue the wound with adhesive tape.

b) notify the manager of the emergency situation and record it in a special journal;

c) consult an infectious disease doctor for consultation and be observed with him for 12 months;

d) undergo laboratory testing for antibodies to HIV;

e) as prescribed by a doctor, no later than 3 days to begin chemoprophylaxis with antiretroviral drugs;

Situational problem number 2

The patient turned to the emergency room of the hospital for medical help. From the anamnesis it became known that the patient is infected with HIV.

Task

1. List to which categories of persons, called "risk group", the patient may be related, and why they are so called.
2. Name the elements of special clothing of medical personnel working in the mode of possible contact with the blood and other biological fluids of the patient.
3. List the composition of the emergency AIDS first aid kit.

Answer standard:

1. Risk groups are categories of persons, among whom the highest incidence of HIV infection is recorded. These include:

- Homo- and bisexual;
- Intravenous drug addicts;
- Persons with promiscuous sex;
- Recipients of blood, body fluids, tissues and organs.

2. All manipulations in which contact with the patient's biological fluids can occur are carried out in a surgical gown, rubber gloves, hat, removable shoes; If there is a threat of splashing, you should use a mask, goggles, a protective screen, an oilcloth or rubber apron.

3. The composition of emergency AIDS - first aid kits include:

- 70% alcohol;
- 5% iodine solution;
- A sample of potassium permanganate at 0.05 g;
- Sterile water of 100 ml for dilution of potassium permanganate;
- Sterile dressing material;
- Sterile pipettes - 2 pcs .;
- Adhesive plaster;
- Toilet soap;
- 6% hydrogen peroxide solution or 3% chloramine solution.

Situational problem number 3

A young man of 19 years old turned to the clinic with complaints of malaise, weakness, heaviness in the right hypochondrium, loss of appetite. Objectively: enlarged submandibular and posterior lymph nodes, painless, not soldered to each other and to the surrounding tissue. On the hands traces of injections. The liver protrudes 1.5 cm from under the edge of the costal arch.

Task

1. Does the patient have an attitude to the risk group for HIV infection?
2. Formulate and justify the patient's problems.
3. Make a plan to collect an epidemiological history.
4. Give recommendations to the patient on the prevention of infection and the spread of HIV infection.
5. Tell us about the rules for processing special clothes, equipment when they are contaminated with blood.

Response standard

1. Clinical data do not exclude the presence of viral hepatitis and HIV infection in the patient (malaise, weakness, heaviness in the right hypochondrium, loss of appetite, enlarged liver) traces of injection may indicate intravenous drug use. The ways of transmission of HIV infection and hepatitis B, C, D are the same.

2. Patient problems

Real problems: malaise, loss of appetite, heaviness in the right hypochondrium.

Potential problems: when confirming the diagnosis of hepatitis B or C, the transition to a chronic form, cirrhosis and liver cancer is possible, with HIV infection - the addition of secondary diseases.

Priority problem: malaise and loss of appetite.

3. When collecting an epidemiological history, attention is paid to the following issues:

a) sex life, the number of partners, the presence of casual partners, sexual relations with persons of their own and opposite sex, the use of a condom, the presence of sexual relations with foreigners (from which countries);

b) the use of drugs, including intravenously, with a general or individual syringe, during which time he uses drugs, the circle of partners, the technology of drug preparation;

c) information about sexual partners and partners for intravenous drug administration, indicating full name, age, address, place of study or work;

d) social predisposition;

e) in women - the presence of secretions, artificial termination of pregnancy (date, place), the number of births (when, where), the nature of feeding;

f) whether the patient is transferred by the donor;

g) whether the patient observes personal hygiene;

h) whether he uses the services of hairdressers, conquered, manicure, beauty parlors, or received dental care.

4. To exclude infection with HIV infection, you should follow the rules of personal hygiene: use an individual razor, toothbrush, manicure scissors, use condoms during sexual intercourse, make injections with single-use syringes. To prevent the spread of infection in addition to the above - to warn about your status as sexual partners, use a condom.

List of recommended literature

Main

1) Order of the Ministry of Health of Ukraine dated 05.11.2013 No 955 " *On approval of regulatory legal acts on protection against HIV infection in the performance of professional duties*" [Electronic resource]. Resource access mode: <https://soic.in.ua/base65https://zakon.rada.gov.ua/laws/show/z1978-13#Text>

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Additional

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Topic: "Organization of medical care for HIV - infected. Care and psychological support for HIV infected people. Symptomatic treatment and management of patients. Primary HIV prevention is infection. Organization of preventive HIV infection programs for different groups of the population" – 4 hours

Objective: Deepening existing and acquiring new knowledge of higher education students on the provision of medical care to HIV-infected patients, approaches to symptomatic treatment and management of such patients, organization of preventive programs. Acquire skills in care, develop the skill of communication and psychological support of patients with HIV infection and their relatives.

Basic concepts: counseling and testing for HIV infection, viral load, antiretroviral therapy, adherence to treatment, opportunistic infections.

Plan:

I. Theoretical questions for the lesson:

1. Expand the concept of HIV infection. The current state of the epidemic in Ukraine and the world.
2. What are the documents in Ukraine on the problem of HIV / AIDS? Rights and obligations of doctors and patients.
3. Counseling and testing for HIV infection. Basic principles of DKT. DCT algorithm for a general practitioner / family doctor
4. Principles of laboratory diagnosis of HIV infection. Screening and verification studies
5. Protecting healthcare workers from HIV infection in the workplace.
6. Clinical supervision of HIV-positive patients.
7. Medical supervision of pregnant HIV-positive women and prevention of HIV transmission from mother to child.
8. Medical supervision of children born to HIV-positive mothers.
9. Palliative care for HIV infection.
10. Ethical and deontological aspects of HIV-positive patients' management. Stigma, discrimination and tolerant treatment of HIV-positive patients.

Questions for self-control.

1. HIV testing: characteristics in different populations.
2. What are the methods of HIV prevention? Give a brief description.
3. Diagnosis of HIV infection. Basic concepts and their characteristics.
4. Features of HIV diagnosis in infants and children.
5. Features of the diagnosis of HIV in pregnant women.
6. What are the recommendations for the prevention of co-trimoxazole in patients with HIV?
7. What are the features of diagnosis in patients with HIV with suspected and tuberculosis?
8. What are the approaches to the diagnosis and prevention of crypto coccal infection in HIV-infected patients?
9. Evaluation and control of noncommunicable diseases in HIV-infected patients.
10. What are the main components of the intervention to improve attachment and achieve virological suppression?
11. The procedure for organizing medical care for patients with HIV / AIDS;
12. Indications for inpatient specialized and highly specialized medical care for patients with HIV / AIDS;
13. Who is prescribed ART (antiretroviral therapy)?
14. ART principles;
15. ART preparations;

16. ART schemes;
17. The purpose of ART;
18. Timing of the onset of ART in adults;
19. Timing of the onset of ART in children;
20. Timing of ART initiation in pregnant and lactating women;
21. Opportunistic infections;
22. Treatment of opportunistic infections.

Tasks for the study of theoretical material

Dictionary of basic concepts on the topic

Counseling is a process of mutual communication, during which one participant helps the other to identify the problems of his health and make an informed, voluntary and informed decision regarding the problem.

The term "counseling" in relation to HIV implies a dialogue and the creation of such a relationship between the counselor and the patient, which allows to prevent the spread of HIV infection and make support to those who have affected this problem.

Viral load – the number of HIV RNA particles in 1 ml of blood.

Highly active antiretroviral therapy (abbreviated as HAART) is a method of treating HIV infection and AIDS, which consists in the simultaneous use of several antiretroviral drugs by patients, in contrast to monotherapy (use of one drug), which was used earlier.

Adherence to treatment is the measure to which a person's behavior (taking medications, dieting, and/or lifestyle changes) meets the agreed recommendations of a healthcare professional.

II. Practical work (tasks):

13. Inform the patient and their relatives about possible/confirmed HIV infection.
14. Conduct pre-test counseling (in compliance with the principles of DCT) with the patient and his relatives before taking the HIV test.

III. Test tasks for self-control

1. Patient M 31 years old complains of weakness, weight loss, fever within 37.2 °C in the evening, the appearance on the skin of the body of an abundant, widespread rash, which is accompanied by pain. Antibodies against the HIV virus were found three days ago. What is the most likely T lymphocyte content?

- A. 950-1000
- B. 550-600
- C. 750-800
- D. 350-400
- E. 1150-1200

2. Patient C34r. has been registered with the AIDS Center for 7 years. Fell ill gradually: fever 37.8 °C, cough dry, inability to take a breath. Radiologically, in the area of the root of the right lung, a homogeneous darkening with irregular contours. The most likely ethiology of pneumonia.

- A. Pneumocystosis
- B. Cytomegalovirus
- C. Candidiasis
- D. Tuberculosis
- E. All answers are correct

3. A patient 18 years old, 3 years old uses drugs intravenously. There is an increase in multiple lymph nodes for more than 6 months, repeated episodes of widespread hermetic rashes, a significant decrease in body weight. The last 4 weeks complains of the appearance of watery feces

5-6 times a day. Antibiotic treatment is ineffective. What are the most appropriate studies to determine the etiology of diarrhea?

- A. Biopsy of the mucous membrane of the duodenum 12 to determine *Helicobacter pylori*
- B. Duodenal sensing to detect *Lambliya intestinalis*
- C. Colon biopsy to detect *Entamoeba histolytica*
- D. Virological examination for mouth detection of viruses
- E. Stool microscopy to detect *Cryptosporidium*

4. A patient of 18 years, has been using intravenous drugs for several years. He complains of a prolonged cough for more than six months, an increase in temperature to 38°C, an increase in multiple nodes, frequent spread of hermetic rashes, a significant decrease in body weight. In the immunogram, the ratio of T-4-lymphocytes-helpers T-8 lymphocytes –suppressors is 0.3. This is because:

- A. Induces T-helper proliferation
- B. Excitable disease infects cells with DM4 receptors
- C. Induces T-suppressor proliferation
- D. Induces macrophage proliferation
- E. Stimulates the synthesis of leukotrienes

5. A patient of 18 years, has been using intravenous drugs for several years. Complains of prolonged cough for 4 months, , fever up to 38°C. Treatment for "interstitial pneumonia" is ineffective. There were episodes of widespread hermetic rashes, and decreased body weight. The most likely will be the following changes in the immunogram:

- A. Increase in absolute T-lymphocyte count
- B. Increase in immunoregulatory index T4/T8
- C. Elevation of cheat of T-lymphocytes –helpers
- D. Decrease in the number of T-lymphocytes –helpers
- E. Increased delayed-time hypersensitivity

6. A patient of 28 years complains of an increase in lymph nodes for 6 months, progressive weakness, sweating, periodic fever up to 38°C. For several years he has been using norcots intravenously. Reduced nutrition, widespread seborrheic dermatitis, palpable increase painless cervical, axillary and axillary lymph nodes up to 2-2.5 cm in size. What research should be prescribed first?

- A. Blood test for the presence of antibodies to HIV
- B. Bacteriological blood test
- C. Lymph node biopsy
- D. Sternal puncture
- E. Blood test for the presence of antibodies to Ebshnein-Bara virus

7. HIV is a positive patient, 28 years old, in the past, an injectable drug addict complains of shortness of breath, unproductive cough, fever up to 37.5°C for 2 months. Objectively: the skin is pale, weakened breathing is heard in the lungs, especially in the posterior regions, shortness of breath 24 per minute. X-ray cloud-like bilateral infiltrates in the form of "butterfly wings". Choose the most effective treatment approaches:

- A. Antiviral gamma-globulin + vitamins of group B, C
- B. Antibiotics+transcriptase inhibitors
- C. Bone marrow transplantation+ transcriptase inhibitors
- D. Protease inhibitors. Trascriptase inhibitors
- E. Detoxification therapy

8. Which HIV proteins are most confirmed by antigenic variations?

- A. GP41
 - B. P24
 - C. P7
 - D. P9
 - E. GP120
9. A boy from an antisocial family with hemophilia developed pneumocystis pneumonia against the background of generalized lymphadenopathy and recurrent oral candidiasis, and the ratio of T-helpers to T-suppressors significantly decreased. What is the most likely cause of opportunistic infections in this patient?
- A. Age-related transient immunosuppression
 - B. Chronic disease of the digestive system
 - C. HIV infection, AIDS
 - D. Hemophilia.
 - E. Social and domestic problems
10. The most important diagnostic proteins of the human immunodeficiency virus are:
- A. p24, p18
 - B. p7, p9
 - C. p17, gp41
 - D. gp 41, gp120
 - E. All answers are correct

IV. Individual assignments for students on the topic of the lesson

Consider situational problems:

1. Patient I., 19 years old, hospitalized in the surgical department on 01/06/98 with a diagnosis of fracture of the 8th rib on the left, suspected closed abdominal injury. Diagnostic laparotomy made it possible to exclude abdominal injury. On 01/07/98, with a diagnosis of opium addiction, withdrawal syndrome, sepsis, fracture of the 8th rib, he was transferred to the intensive care unit of a psychiatric hospital. There, during the examination, HIV antibodies were found in him. In this regard, on 19.01.98, the patient transferred to an infectious diseases hospital with a diagnosis of sepsis, post-traumatic left-sided exudative pleurisy, lower dormant right-sided pneumonia, closed fracture of the 8th rib on the left, chronic opium addiction, HIV infection.

History of intravenous drug use for 6 years.

When hospitalized, the patient's condition is very serious. He got into the department on a stretcher, could not move independently. Complaints of extremely severe weakness, chest pain on the left, liquid coughing, fever up to 38° C.

Objective state: the position in bed is forced, on the back or right side due to the resulting shortness of breath when changing body position. Cachexia (weight 49 kg), pale, earthy skin, polyadenopathy (enlarged all groups of peripheral lymph nodes). The mucous membrane of the oral cavity is pale, clean. The tongue is lined with white bloom. Above the lungs on the right is hard breathing, dry wheezing. On the left, breathing is sharply weakened at the top, further down is not listened to, there is also a sharp shortening of the percussion sound. Shallow breathing – 28-30 in 1 minute. Heart tones are weak. Heart rate - 126 in 1 minute. Pulse 126 in 1 minute, weak filling and tension. Blood pressure 100/60 mmHg The abdomen is soft, the liver is enlarged (+2cm), the spleen is enlarged. There are no meninguals. Physiological shipments are not disturbed.

General blood test (19.01.98): er. – $2.3 \cdot 10^{12}/l$; Hb – 60; KP – 0.7; blood clot. – $160 \cdot 10^9/l$; lake. – $10.6 \cdot 10^9/l$; e. – 1%; p. – 16%; p. – 70%; lymph. – 11%; m. – 2%; ESR – 36 mm / h.

General analysis of urine (19.01.98 p.): light yellow color, specific gravity 1016; no protein or sugar detected; epithelium: bladder in half-field of view, transitional – in groups, urethral little; leukocytes 5-7 in the field of view; erythrocytes unchanged 1-3 in the field of view; no cylinders; a lot of mucus.

Ro-graphy of OGK (19.01.98): total darkening of the left pulmonary field, displacement of the mediastinal organs to the right. Conclusion: left-sided pneumonia complicated by exudative pleurisy.

Task:

1. Formulate a preliminary diagnosis.
2. Assign the necessary laboratory tests to confirm the diagnosis.
3. What opportunistic diseases can you think about in this case?
4. What examinations should be prescribed to confirm them?
5. Prescribe treatment to the patient.
6. What are the rules of the anti-epidemic regime that medical staff must follow when working with a patient?
7. When can a patient be discharged from the hospital?
8. Does this patient pose a danger to others after discharge from the hospital?
9. Who performs dispensary supervision of HIV-infected people?
10. What is the prognosis for life?

Answer:

1. HIV infection: stage III clinical (lymphadenopathy, left-sided mandibular pneumonia, exudative pleurisy). Opium addiction.
 2. Blood examination by ELISA, immunoblotting.
 3. Pneumocystis pneumonia, pulmonary tuberculosis, sepsis, candidiasis.
 4. a) bacanalysis of sputum and exudate for pneumocysts, VC, fungi and other pathogenic microflora; b) blood test for sterility; c) urine analysis for sterility.
 5. Before the detection of the causative agent of pneumonia – broad-spectrum antibiotics, biseptol, detoxification therapy, antifungal therapy.
 6. When working with a patient, health workers work in rubber gloves, masks, goggles, hats or kerchiefs. Examination of all contacts for the presence of HIV antibodies.
 7. With a significant improvement in the clinical condition, the patient was discharged from the hospital after 67 days with an improvement in the condition, a decrease in the clinical manifestations of the disease, with a body weight of 63 kg.
 8. Yes, during sexual relations; when using a shared syringe with other drug addicts, when using its blood to prepare a "shirk"; in health care facilities – when it is infected with the blood of health workers and other patients in case of non-compliance with the treatment regime of medical instruments (surgical, dental).
 9. Infectious disease doctor at the place of residence
 10. The prognosis for life is unfavorable.
2. Patient K., 24 years of injection drug addict from 18 years, HIV-infected for 4 years.
Complained of weight loss, fever and diarrhea for 3 months, weakness, cough with sputum.
The clinical examination revealed: severe condition, adynamia, lethargy, cachexia, polyadenopathy, white crumbly plaque on the mucous membrane of the oropharynx, bilateral pneumonia and bilateral exudative pleurisy, ascites, hepatosplenomegaly.

Task:

1. Formulate a preliminary diagnosis.
2. Assign a survey plan.
3. Specify the principles of therapy.

Answer:

1. HIV infection, stage IV clinical (sepsis, polyadenopathy, bilateral pneumocystis pneumonia? pulmonary tuberculosis with exudative pleurisy, oral candidiasis, ascites, hepatosplenomegaly, toxic encephalopathy).
2. a) general clinical tests; b) blood cultures; c) bacterioscopic examination of sputum for pneumocysts; d) Ro-graphy of the chest organs; e) Ultrasound of the abdominal organs; g) determination of DM4 lymphocytes; h) consultation of the phthisiologist.
3. a) antiretroviral therapy; b) therapy of opportunistic infections – broad-spectrum antibiotics, then depending on the results of laboratory tests.

List of recommended literature

1. **Order of the Ministry of Health of Ukraine** No1292 of 05.06.2019 "New clinical protocol for the use of antiretroviral drugs for the treatment and prevention of HIV infection" **[Electronic resource]. Resource access mode:** https://moz.gov.ua/uploads/2/12794-dn_20190605_1292_dod.pdf
2. Zhilka N.Y. Management of a patient with HIV / AIDS by a family doctor: an educational and methodical manual for teachers of the thematic improvement cycle, within the framework of advanced training of family doctors / N.Y. Zhylka, G.V. Batsyura, L.I. Hetman and others. – Kyiv, 2015.
3. **World Health Organization.** Planning and implementing palliative care services: a guide for program managers. – 2016.
4. Principles and examples of communication with relatives of the patient / Medical file **[Electronic resource].** – 2017. – **Resource access mode:** <https://www.medsprava.com.ua/article/710-printsipi-ta-prikladi-splkuvannya-z-rodichami-hvorogo>
5. Guziy O.V. Palliative care in Ukraine: what should change [Electronic resource] / O.V. Guziy // Journal "Ukrainian Medical Journal". – 2018. – **Resource access mode:** <https://www.umj.com.ua/article/129968/paliativna-dopomoga-v-ukrayini-shho-maye-zminitisya>.

Topic: "Principles of multidisciplinary approach in working with incurable patients. Deontological aspects of communication with incurable patients and their relatives" – 2 hours

Objective: To improve the knowledge of the applicant for higher education about the multidisciplinary approach in working with incurable patients and the role of a general practitioner – a family doctor in organizing palliative care, including psychological, deontological aspects of the family doctor's activity in working with incurable patients and their family members; formation of a comprehensive program of medical and social assistance and peculiarities of communication with the patient and his family; formation of motivated behavior in the palliative patient to solve problems.

Basic concepts:

Palliative patient, palliative approach, palliative care

Equipment: illustrative material, tables

Plan:

14. Theoretical questions

1. Organization of assistance to dissenting patients

Medical and social work (MSR) refers to multidisciplinary professional activity of a medical, psychological, pedagogical and socio-legal nature, aimed at restoring, preserving and strengthening the health of the population. MSR involves intervention in the early stages of disease development and social maladjustment, potentially leading to severe complications or disability. Thus, MSR has not only a pronounced rehabilitation, but also a preventive focus.

Palliative care (WHO definition) is an approach that improves the quality of life of patients and their families facing the problems of a life-threatening disease by preventing and alleviating suffering through early detection, proper assessment and treatment of pain and other physical symptoms, as well as the implementation of psychosocial and spiritual support.

Palliative medicine is a comprehensive qualified medical care for an incurable patient at the stage of uncontrolled progression of the disease. Palliative treatment is not aimed at cure, but at improving the patient's quality of life.

Palliative treatment is carried out by incurable cancer patients at the stage of uncontrolled progression of the disease, as well as incurable patients who have suffered as a result of injury or severe non-oncological pathology, does not prolong or shorten life, helps to perceive dying as a natural way out of life, saves the patient from pain and suffering, helps the patient's family and attendants, provides an acceptable quality of life and a decent way out of it.

In Ukraine, the main coordinating role in the organization and conduct of palliative care is assigned to the family doctor, who directly monitors the patient and involves specialists of other profiles in the treatment, if necessary.

Multiprofessional and interdisciplinary approach

Teamwork is considered the basis of palliative care. The multiprofessional team consists of people of different specialties and clinical disciplines working together to assist the patient and / or improve its quality. The composition of the multiprofessional team will vary depending on many factors, including the characteristics of patients, the amount of care provided and the size of the service area.

Palliative care should be carried out within a multiprofessional and interdisciplinary approach. Solving complex problems of specialized palliative care is possible only through constant communication and cooperation of representatives of various specialties and professions in order to provide the patient with medical care, psychological, social and spiritual support. There is strong evidence that teamwork in palliative care brings more benefit to the patient, helps to identify and meet the needs of the patient and his relatives, reduces the overall cost of care by reducing the time the patient spends in emergency departments. The composition of the team can be expanded depending on the need. The minimum team includes a general practitioner, a nurse with the appropriate specialization. In most cases, the minimum team is also made up of social workers, volunteers, psychologists. In accordance with the recommendations of the Council of

Europe, the leading role in each team on palliative care should be played by a specialist qualified in the field of palliative care.

Palliative care affirms life and the treatment of death as a natural process; has no intention of delaying or bringing the onset of death closer. In other words, palliative care is not only a medical service provided to an incurable patient, but a whole range of measures aimed at the patient and his immediate environment and designed to contribute to achieving perhaps the best quality of life of the patient and his loved ones.

Palliative patient rights:

- respect for dignity;
- on a sensitive attitude, on actions and thoughts based on the principles of universal morality, on the part of medical and pharmaceutical workers;
- consent and refusal of medical, including palliative, interventions;
- on medical information, namely on the state of health, the purpose of the proposed studies and therapeutic measures (in particular palliative), the prognosis of the possible development of the disease, including the presence of a risk to life and health;
- for qualified medical care in full;
- on medical secrecy;
- freedom of choice in the field of palliative care, that is, the free choice of a doctor, the choice of a health care institution;
- without free consent not to be subjected to medical, scientific or other experiments;
- to admit to it other medical professionals, family members, guardian, trustee, notary and lawyer.

The main task of palliative care is to ensure the highest possible quality of life for the patient and his family members by solving physical, psychological and spiritual problems that occur in the patient.

The main components of palliative care: prevention and treatment of chronic pain; symptomatic therapy, care, psychological and spiritual support of the patient and his family.

The provision of palliative care is based on the principles of accessibility, high quality, continuity and continuity, taking into account the ethical and humane attitude towards the patient and his family members.

Palliative care involves monitoring the patient's condition and applying the necessary highly specialized diagnostic and therapeutic methods when changing the patient's status.

2. Tasks and content of the hospice

Hospice is a treatment and prophylactic institution intended for round-the-clock qualified care, medical and social assistance, including the provision of palliative and symptomatic care, psychological and social support for incurable cancer patients, chronic patients in the terminal stage and other contingents in need of this type of assistance.

The decision to open a hospice is made by the territorial health authority to which the hospice reports. The hospice activity is carried out in accordance with the current legislation, directive and instructional documents of the Ministry of Health of Ukraine, territorial bodies of local self-government.

The hospice is located in a specially built or adapted building that, according to the set and area of office space, meets the current sanitary and hygienic and building codes and regulations, safety requirements and fire safety requirements. The hospice must be provided with all types of communal benefits for the stay of seriously ill patients in need of medical and social assistance.

The main tasks of the hospice

1. Increasing the availability of qualified inpatient and outpatient medical care for incurable patients and chronically ill patients in the terminal stage.
2. Implementation of medical care for incurable cancer patients, chronically ill patients in the terminal stage.
3. Providing hospitalized patients and their relatives with active psychological and social support.

4. Providing emergency medical care to hospitalized patients in case of emergency.
5. Ensuring proper medical and security, sanitary and hygienic and anti-epidemic regime.
6. Ensuring interaction with other medical and non-medical institutions in solving issues of medical and social assistance.
7. Organization of patronage supervision of incurable cancer patients and chronic patients in the terminal stage at home in case of impossibility of their hospitalization in the inpatient department of the hospice.

Cooperates with social protection institutions and other medical and non-medical institutions and public, religious organizations on the provision of medical and social assistance.

The basic principles of hospice, supported by WHO, are that palliative medicine:

- affirms life and considers death as a normal process;
- does not hasten or slow down death;
- provides relief of pain and other troubling symptoms;
- offers a support system to help patients live an active life to the end;
- offers a support system to help families cope with difficulties during a relative's illness, as well as after his death.

Deontological aspects of communication with incurable patients and their relatives.

Deontology is a science and practice about the moral and ethical duties of a physician, including a medical student, in the process of his professional, medical-diagnostic, educational and scientific clinical activity, which determines the psychoethical norms of the doctor's relationship with patients and colleagues. This is a set of ethical principles and rules of conduct for a medical worker during the performance of professional duties, that is, providing a sick person with the maximum amount of professional assistance, and also provides for the exclusion of the likelihood of harm to him and helps to increase the effectiveness of the patient's treatment and prevent the occurrence of complications, chronicity of the process and the addition of concomitant diseases. In general, the essence of the concept of medical psychology best corresponds to the Latin saying "Salus aegroti suprema lex" (The good of the patient is the highest law). Medical deontology presupposes the right of physicians to professional dignity and honor, includes the normative principles of the doctor's behavior. In the structure of medical ethics, deontology occupies a special place.

Determining the list of personal qualities of a doctor, the most important for effective professional activity should be considered: a high level of personal responsibility, respect, tolerance, invaluable attitude towards all patients, regardless of the coincidence of his moral and ethical norms and behavior with generally accepted and acceptable for the doctor himself, sincere interest in the patient's personality and the reasons that led to pathological disorders; intuition based on knowledge and life and professional experience, the ability to predict events; the desire for self-knowledge, self-development; tact, upbringing; ability to keep medical secrets; curiosity; initiative, purposefulness, perseverance; creativity; erudition.

Communication (from the Latin *sommunicatio* — unity, transmission, connection, message from the Latin verb *sommunico* — I make it common, I inform, connect, communicate) is the process of exchanging information (facts, ideas, attitudes, emotions, etc.) between two or more persons, communication through verbal and non-verbal means in order to transmit and receive information.

The main sign of effective communication is the qualitative feedback between what you reported and how you were heard and understood. In order to maintain a trusting relationship and be effective in providing high-quality pediatric palliative care, it is necessary to understand the specifics and characteristics of the group of people with whom you communicate. Speaking about working with relatives and the family as a whole, it is necessary to take into account the multidisciplinary nature of the assistance and the personal readiness of each specialist for contact.

Trust in professionals is one of the main strategies that people use to cope with uncertainty and anxiety. Relatives of a child are those people who are forced to trust specialists. This means that the specialist needs to understand their needs and characteristics.

If you notice an inefficiency of communication, pay attention to the level at which the disorder occurred: emotional (sudden manifestation of negative emotions), cognitive (denial, difficulty in understanding, search for other options) or behavioral (discrepancy in words and actions of a person).

Emotional support for the patient is the acceptance by his relatives, colleagues, medical staff, patients, recognition of his personal, human value and significance, regardless of what qualities he possesses, whether he is sick or healthy; the patient is accepted as he is, despite the fact that he may differ from others.

It is also necessary to help the patient and his relatives believe in a positive result.

When working with a family, it is necessary to take into account the influence of a sick family member on the whole family, as well as the degree of influence of the family environment on the patient. In case of illness of one family member, a health worker working with this family is obliged to monitor the health and vital activity of the whole family. He observes how the family affects the manifestations of the disease. This is one of the main principles of family medicine: the disease is considered not by itself, but in connection with the function of the whole family.

It is always necessary to be interested in the attitude of other family members to the patient, close relatives of the patient, their occupations, work, study, even in their absence during the visit.

A sick person, being left alone with his problems, feels completely separated. It is necessary to make it clear to the patient that he is not alone in his grief. It is necessary to give advice to loved ones, to pay as much attention and care to the patient as possible. It is also possible to help the patient psychologically overcome his illness by offering him an exciting activity.

Family - serves as the main and sometimes the only source of social support for the patient.

When communicating with an incurable patient and his family members, the doctor will need:

- Be able to control and correctly express your own emotions;
- Do not conflict with the patient and his family, even in cases where consciously correct information or proposal comes from the doctor;
- Regularly attend classes, trainings and consultations of a psychologist.

Tasks for the study of theoretical material:

- Make a dictionary of basic concepts on the topic

1. Practical work (tasks) to be performed:

1. A patient from the street in serious condition, untidy-dressed, dirty, without documents, turned to the emergency department of the hospital. The doctor refused to examine and provide assistance, citing the patient's antisocial condition and lack of documents. Evaluate the actions of the doctor:
 - A. The doctor is right.
 - V. The doctor had to call the police to transfer the patient to a special reception.
 - C. Everyone has the right to medical assistance.
 - D. The physician must provide assistance after establishing the patient's identity.
 - E. The doctor should provide assistance only to residents at the place of registration.
2. During the holidays, the doctor hid his attitude to medicine and did not help the patient with a heart attack, arguing that he was on vacation. Evaluate the actions of the doctor:
 - A. Everyone has the right to rest.
 - A. Everyone has the right to medical care.
 - C. The doctor is obliged to provide assistance at any time.
 - D. The doctor did the right thing.
 - E. The doctor is criminally liable for the failure to provide medical assistance.
3. The patient refuses to conduct the necessary examination and treatment, explaining this to his religion. The doctor makes every effort to explain to the patient the need for examination and fulfill his professional duty. Evaluate the actions of the doctor:
 - A. The doctor must fulfill his professional duties.

- B. The patient has the right to refuse medical assistance.
 - C. The doctor must convince the patient's relatives of the need for his treatment.
 - D. The doctor may prescribe treatment to the patient without examination.
 - E. The patient has no right to refuse examination and treatment.
4. The intern of the surgical department constantly competes with colleagues, tries to prove at any cost that he is the best, seeks to attend all operations, be sure to get permission to assist, alternate with the curator, asks many questions at meetings. What type of behavior did he choose?
- A. Fixtures.
 - C. Compromise.
 - E. Cooperation.
 - B. Competitions.
 - D. Avoidance.
5. At the reception in the clinic, the patient did not like the appearance of the doctor: a dirty crumpled gown, the absence of a hat, sloppy trimmed nails. The patient refused to consult a doctor. Your opinion:
- A. The patient is right, the appearance of the doctor is of great importance.
 - A. If the doctor is a good specialist, the appearance does not matter.
 - C. If the patient needs the help of a doctor, then his appearance does not matter
 - D. A tactful patient will pretend not to pay attention to the appearance of the doctor.
 - E. All answers are possible

Test tasks for self-control:

1. Definition of palliative care.
2. Palliative patient
3. Tasks and content of the hospice
4. Palliative patient rights
5. Basic principles of palliative care.
6. Fundamentals of a multidisciplinary approach in working with dissenting patients.
7. Deontological and psychological aspects of communication with dissenting patients.
8. Deontological aspects of communication with relatives of an incurable patient
9. Tasks and content of the hospice
10. Palliative patient rights

Individual tasks for applicants for higher education on the topic:

- Develop an individual plan to help a palliative patient
- Write out a recipe in the form of number 3
- Develop an anesthetic therapy regimen for a palliative patient

List of recommended literature (main, additional, electronic information resources):

4. Actual issues of palliative and hospice care in the practice of a family doctor: a textbook for interns and doctors - students of institutions (faculties) of postgraduate education / Y.V. Voronenko [et al.]; ed. Yu.V. Voronenko and others. ; National. honey. acad. Postgraduate diploma. education them. P.L. Shupika Ministry of Health of Ukraine, Institute of Family. medicine of the Ministry of Health of Ukraine. - Kyiv : Zaslavsky O.Yu., 2017. - 206 p.
5. Communication skills in pediatric palliative care. Manual for specialists working with children with incurable diseases / O. O. Riga, A. Y. Penkov. - H. : Ji-Em-Pi Water Spectrum, 2017. — 44 p.

6. Order of the Ministry of Health of Ukraine dated 04.06. 2020 No 1308 On improving the organization of palliative care in Ukraine
http://search.ligazakon.ua/l_doc2.nsf/link1/RE34892.html
7. Order of the Ministry of Health of Ukraine dated 04.03.2022 No409 On the provision of palliative care and substitution supportive therapy to patients under martial law.
8. Palliative and hospice care:textbook ed. V.Y. Voronenko, Yu.I. Gubsky. – Vinnytsia: New Book, 2017. – 392 p.
9. Palliative and hospice care for patients with tuberculosis: a textbook (university IV r. a.) / Y.I. Feshchenko, V.M. Kniazevich, O.M. Raznatovska, H.A. Gritsova. – Kyiv: Medicine, 2017. – 128 p.
10. Riga O.O., Penkov A.Yu., Konovalova N.M. Principles of palliative care for children. Manual for children's palliative care trainers. – Kharkiv: 2017. – 97 p.
11. WHO electronic resource <https://www.who.int/health-topics/palliative-care>