

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Surgical Disciplines



WORKING PROGRAM OF THE ACADEMIC DISCIPLINE

OBSTETRICS AND GYNECOLOGY

WITH AN IN-DEPTH STUDY OF GENETIC DISORDERS

COURSE 5

Branch of knowledge 22 "Healthcare"

Specialty 222 "Medicine"

Developer	Zaborovskyi V. I.
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Description of the academic discipline

Naming of the indicator	Characteristics of the discipline	
Name of the discipline	Obstetrics and Gynecology	
Area of expertise	22 "healthcare"	
Specialization	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Higher education level	Master's Degree	
Discipline status		
Course of study	5th	
Academic year	2020-2021	
Semester numbers:	Full-time form	
	9th, 10th	
Total number of ECTS credits/hours	4 credits (3.0 / 1.0) / 120 hours	
Course structure:		
• lectures	10 (8/2)	
• practical exercises	60 (46/14)	
• hours of independent work of students	50 (30/20)	
Percentage of audience load	58,3 %	
Language of instruction	english	
Interim control form (if any)	Certification for the 9th semester	
Final control form	Exam – 10th semester	

2. Purpose, objectives, and planned learning outcomes

The working curriculum is developed taking into account the principles of evidence-based medicine and based on the standards of medical care in obstetrics and gynecology, approved by the orders of the Ministry of Health of Ukraine.

Goal teaching obstetrics and gynecology includes: students' acquisition of knowledge from physiological and pathological obstetrics, conservative and operative gynecology, mastering the general principles of managing pregnancy, childbirth and the postpartum period, the ability to analyze the obstetric situation and surgical risks of a gynecological patient, use basic and additional research methods, and demonstrate skills in accordance with the educational and professional program (AKI).

The aim of an in-depth study of genetic disorders in obstetrics The aim of the study is to develop a clinical principle of early diagnosis, timely detection and adequate treatment of genetic diseases, pathological signs and phenomena of hereditary anomalies, as well as to develop ways

to prevent hereditary diseases and the impact of negative environmental factors on human heredity.

The main objectives of studying the discipline are:

- Interpret the clinical anatomy of the female genital organs and the physiology of the reproductive system.
- Make a preliminary diagnosis of major gynecological diseases, plan examinations and patient management tactics.
- To determine the etiological and pathogenetic factors of major diseases of the female reproductive system.
- Identify factors affecting family planning and develop measures aimed at rational family planning.
- Plan tactics for managing pregnancy, physiological labor, and the postpartum period.
- Make a preliminary diagnosis of complications of pregnancy, childbirth, and the postpartum period.
- Perform necessary medical manipulations.
- Plan and provide emergency care for urgent conditions in obstetrics and gynecology.

Prerequisites for studying the discipline (interdisciplinary relations).

Interdisciplinary connections: obstetrics and gynecology as an academic discipline is based on the knowledge acquired by students in the study of medical biology, normal and pathological anatomy, topographic anatomy, normal and pathological physiology of the reproductive system of women, histology and embryology, Microbiology, pharmacology, clinical genetics, internal professional and infectious diseases, surgical diseases, hygiene, social medicine, organization and Economics of health and integrates these disciplines.

Expected learning outcomes. As a result of studying the discipline, students, according to the requirements of the educational and professional program, must::

To know:

- modern standards of care in emergency obstetric and gynecological pathology;
- family planning issues.
- the course of physiological and pathological pregnancy, childbirth and the postpartum period;

- structure and function of DNA and RNA;
- genome, DNA polymorphism, mitosis, telomerases, meiosis, transcription and translation, genes, gene expression;
- the role of heredity in human pathology, methods of medical genetics;
- monogenic diseases;
- chromosomal diseases, types of chromosomal abnormalities;
- mitochondrial diseases;
- diseases with a hereditary predisposition.

be able to:

- conduct gynecological research, collect material for cytological, histological and bacteriological research and be able to interpret them;
- establish a diagnosis of the disease, conduct differential diagnosis, therapy, prevention and rehabilitation of obstetric and gynecological patients;
- collect and evaluate obstetric and gynecological medical history;
- conduct external and internal obstetric examinations, assess the condition of the fetus and newborn;
- provide emergency care for obstetric and gynecological pathology;
- identify ecogenetic pathological reactions;
- recognize a person's hereditary pathology;
- program family surveys when planning pregnancy.
- conduct medical and genetic counseling and prenatal diagnostics;
- perform the functions of a geneticist;

COMPETENCIES

The developed work program corresponds to the ***educational and professional program (OPP)***. and is focused on the formation of ***competencies***:

General competencies	ZK1. The ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
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	<p>ZK2. Ability to apply knowledge in practical situations.</p> <p>ZK3. Knowledge and understanding of the subject area and understanding of professional activity.</p> <p>ZK4. Ability to adapt and act in a new situation.</p> <p>ZK5. Ability to make an informed decision; work in a team; interpersonal skills.</p> <p>ZK6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language.</p> <p>ZK7. Skills in using information and communication technologies.</p> <p>ZK8. Certainty and perseverance in relation to the tasks set and responsibilities assumed.</p> <p>ZK9. Ability to act socially responsibly and consciously.</p> <p>ZK10. Striving to preserve the environment.</p>
<p>Professional competencies</p>	<p>FC1. Patient interviewing skills.</p> <p>FC2. Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.</p> <p>FC3. Ability to establish a preliminary and clinical diagnosis of the disease.</p> <p>FC4. Ability to determine the necessary mode of work and rest in the treatment of diseases.</p> <p>FC5. Ability to determine the nature of nutrition in the treatment of diseases.</p> <p>FC6. Ability to determine the principles and nature of treatment of diseases.</p> <p>FC7. Ability to diagnose emergency conditions.</p> <p>FC8. Ability to determine the tactics of providing emergency medical care.</p> <p>FC9. Skills in providing emergency medical care.</p> <p>FC11. Skills in performing medical manipulations.</p> <p>FC12. Ability to determine the management tactics of physiological pregnancy, physiological childbirth, and the postpartum period.</p> <p>FC13. Family planning counseling skills.</p>

	<p>FC15. Ability to plan and implement preventive and anti-epidemic measures for infectious diseases.</p> <p>FC16. Ability to determine the management tactics of persons subject to medical supervision.</p> <p>FC18. Ability to maintain medical records.</p>
Programmatic learning outcomes	
PRN1	Know how to analyze, synthesize, and continue learning. Be able to analyze information, make informed decisions, and engage in modern knowledge development. Make appropriate connections to achieve your goals. Be responsible for timely acquisition of up-to-date knowledge.
PRN2	Have specialized conceptual knowledge acquired in the course of training. Be able to solve complex tasks and problems that arise in professional activities. Clear and unambiguous presentation of your own conclusions, knowledge and explanations that justify them, to specialists and non-specialists. Be responsible for making decisions in challenging environments
PRN3	Have deep knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integrating knowledge. Ability to effectively form a communication strategy in professional activities. Be responsible for professional development, the ability to continue professional training with a high level of autonomy.
PRN6	Have perfect knowledge of the state language and basic knowledge of a foreign language. Be able to apply knowledge of the state language, both orally and in writing, and be able to communicate in a foreign language. Use it in professional and business communication and when preparing documents in the state language. Use a foreign language in your professional activities. Be responsible for fluency in the state language, for the development of professional knowledge.
PRN7	Have deep knowledge in the field of information and communication technologies used in professional activities. Be able to use information and communication technologies in the professional field, which requires updating and integrating knowledge. Use information and communication technologies in professional activities. Be responsible for the development of professional knowledge and skills.
PRN8	Know your responsibilities and ways to complete your tasks. Be able to define goals and objectives be persistent and conscientious in the performance of duties. Establish interpersonal connections to effectively perform tasks and responsibilities. Be responsible for high-quality performance of assigned tasks.
PRN11	<p>Collect data on patient complaints, medical history, life history (including professional history), in the settings of a health care facility, its division, or at the patient's home, using the results of an interview with the patient, according to the standard patient survey scheme. Under any circumstances (in a healthcare institution, department, at the patient's home, etc.), using knowledge about the person, their organs and systems, according to certain algorithms:</p> <p>collect information about the general state of the patient (consciousness, constitution) and appearance (examination of the skin, subcutaneous fat layer, palpation of the lymph nodes, thyroid and mammary glands);</p> <p>evaluate the child's psychomotor and physical development;</p>

	<p>examine the state of the cardiovascular system (examination and palpation of the heart and surface vessels, determination of the percutaneous boundaries of the heart and vessels, auscultation of the heart and vessels);</p> <p>examine the condition of the respiratory system (examination of the chest and upper legs). chest palpation, percussion and lung auscultation);</p> <p>examine the condition of the abdominal organs (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreas, kidneys, pelvic organs, finger examination of the rectum);</p> <p>examine the musculoskeletal system (examination and palpation);</p> <p>examine the state of the nervous system;</p> <p>examine the state of the genitourinary system;</p> <p>evaluate the state of intrauterine development of the fetus according to the calculation of fetal mass and heartbeat auscultation.</p>
PRN12	<p>knowledge about a person, his organs and systems, based on the results of his division, using a standard procedure, using evaluate information about the diagnosis in the context of a health care facility, laboratory and instrumental studies (according to list 4).</p>
PRN13	<p>In the context of a health care facility, its subdivision, and among the attached population:</p> <p>Be able to identify and record the leading clinical symptom or syndrome (according to list 1) by making an informed decision, using preliminary data from the patient's medical history, data from the patient's physical examination, knowledge about the person, his organs and systems, by adhering to the relevant ethical and legal standards.</p> <p>Be able to establish the most probable or syndromic diagnosis of the disease (according to list 2) by making an informed decision, using comparison with standards, using preliminary data from the patient's medical history and examination data , based on the leading clinical symptom or syndrome, using knowledge about the person, his organs and systems, by adhering to the relevant ethical and legal standards.</p>
PRN14	<p>In the context of a healthcare institution or its subdivision:</p> <ul style="list-style-type: none"> • Assign a laboratory and / or instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, by adhering to the relevant ethical and legal standards.

	<ul style="list-style-type: none"> • Perform differential diagnosis of diseases (according to list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndrome diagnosis, data from laboratory and instrumental examination of the patient, knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms. • Establish a preliminary clinical diagnosis (according to list 2) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, data from laboratory and instrumental examination of the patient, conclusions of differential diagnosis, knowledge about the person, his organs, etc. system, adhering to the relevant ethical and legal standards.
PRN15	diseases (according to list 2), in the conditions of a health care facility, at home in determine the necessary work and rest regime during the treatment of the patient and at the stages of medical evacuation, including in the field, based on a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to appropriate ethical and legal standards, by making an informed decision according to existing algorithms and standard schemes.
PRN16	standards, by making an informed decision on existing organs and systems, adhering to the relevant ethical and legal principles of clinical diagnosis, using knowledge about the person, his stages of medical evacuation, including in the field on the basis of Determine the necessary therapeutic nutrition in the treatment of the disease (according to list 2), in a health care facility, at the patient's home, and according to algorithms and standard schemes.
PRN17	standards, by making an informed decision on existing organs and systems, adhering to the relevant ethical and legal principles of clinical diagnosis, using knowledge about the person, his stages of medical evacuation, including in the field on the basis of:(according to list 2), in a health care facility, at the patient's home, and Determine the nature of treatment (conservative, operative) of the disease using algorithms and standard schemes. To determine the principles of treatment of the disease (according to the list 2), in terms of health, at the home of the patient and on the stages of medical evacuation, including the field, based on preliminary clinical diagnosis using knowledge of the man, his organs and systems, adhering to the relevant ethical and legal norms by making an informed decision on existing algorithms and standard schemes.
PRN18	decisions and assessments of a person's condition, under any circumstances (at home, on the street, etc.)To establish the diagnosis (list 3) by making an informed health care division), including in emergency situations, in the field, in terms of lack of information and limited time, using the standard techniques of physical examination and possible history, knowledge about a person, his organs and systems, adhering to the relevant ethical and legal standards.
PRN19	Determine the tactics of providing emergency medical care, in all circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal standards, by making an informed decision, based on the diagnosis of an emergency condition (according to list 3) in a limited time using standard schemes.
PRN20	(3) in conditions of limited time, in accordance with a certain tactic, an informed decision, based on the diagnosis of an urgent condition (with appropriate ethical and legal standards, by making decisions using knowledge about the person, his organs and systems, observingProvide emergency medical care, under all circumstances, using standard schemes.

PRN22	Perform medical manipulations (according to list 5) in a medical institution, at home or at work based on a preliminary clinical diagnosis and/or indicators of the patient's condition, using knowledge about the person, his organs and systems, adhering to appropriate ethical and legal standards, by making an informed decision and using standard methods.
PRN23	<p>In the conditions of a medical institution, based on anamnestic data, general examination, bimanual, external and internal obstetric examination of a pregnant woman and a woman in labor, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, using a standard procedure:</p> <ul style="list-style-type: none"> • assess the general condition of a pregnant woman, a woman in labor, and a woman in labor; • determine the duration of pregnancy; • determine the expected delivery time and fetal weight; • determine and evaluate the size of the female pelvis; • determine and evaluate the topography of the fetus in the uterus • determine the tactics of pregnancy management; • determine and evaluate the condition of the fetus during pregnancy; • determine labor management tactics; • assess the general condition of the newborn; • assess the condition of the litter; • determine the state of uterine involution; • prescribe rational feeding to pregnant women, children of the first year of life with developmental delay, premature babies; • evaluate the condition of lochia and lactation.
PRN24	<p>general examination and gynecological examination of a woman, usingIn a medical facility setting, based on anamnestic data, knowledge of a woman's reproductive organs, adhering to appropriate ethical and legal standards, by making an informed decision, using a standard procedure:</p> <ul style="list-style-type: none"> • evaluate the patient and medical criteria for the acceptability of the contraceptive method; • determine the patient's examination plan before choosing a method of contraception;

	<ul style="list-style-type: none">• conduct family planning counseling;• to select a modern method of contraception for various categories of the population.
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3. Academic discipline program

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The program of the discipline consists of 2 blocks:

Block 1: Physiological and pathological course of pregnancy, childbirth, and the postpartum period.

Block 2: Genetic disorders in obstetrics and gynecology.

BLOCK 1.

PHYSIOLOGICAL AND PATHOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH AND THE POSTPARTUM PERIOD

SECTIONS:

- 1. PHYSIOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH, AND THE POSTPARTUM PERIOD.**
- 2. PATHOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH, AND THE POSTPARTUM PERIOD.**

SECTION 1. PHYSIOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH AND THE POSTPARTUM PERIOD

Specific goals:

1. Interpret the clinical anatomy and physiology of the female genital organs and the female pelvis.
2. Perform examinations of pregnant women, women in labor and puerpera, primary examination and toilet of the newborn.
3. Plan tactics for managing pregnancy, physiological labor, and the postpartum period.
4. Provide advice on the method of lactation amenorrhea.

Topic 1. Female pelvis. The fetus as an object of childbirth.

Pelvis from an anatomical and obstetric point of view. Pelvic floor. Structure of the fetal head. Dimensions of the fetal head and trunk. Signs of fullness and maturity of the fetus. Pelvic measurement and evaluation.

Topic 2. Physiology of pregnancy. Methods of examination of pregnant women.

Perinatal fetal protection.

Fertilization and development of the fetal egg. Placenta, its structure and function. Critical periods of embryo and fetal development. Influence of harmful factors on the embryo and fetus. Physiological changes in a woman's body during pregnancy. Hygiene and nutrition of pregnant women. Methods of examination of pregnant women: diagnosis of early and late pregnancy. Topography of the fetus in the uterus. Management of physiological pregnancy. Gravidogram. Laboratory diagnostics of HIV infection. Counseling in the context of HIV infection. The concept of counseling and its ethical principles. Consulting skills. Determination of prenatal leave and date of delivery.

Topic 3. Physiology of childbirth. Pain relief of childbirth.

Harbingers of childbirth, preliminary early period. Determining the onset of labor. Biological readiness of the body for childbirth, Bishop's scale. Biomechanisms of labor in anterior and posterior types of occipital presentation. Regulation of labor activity. Clinical course of labor. Delivery management. Partogram. Assessment of the newborn on the Apgar scale. Primary toilet of the newborn, compliance with the heat chain. Modern methods of labor anesthesia: medical and medicated.

Topic 4. Physiology of the postpartum period.

Physiology of the newborn period.

Changes in the mother's body, genitals, and mammary glands. Clinic and management of the postpartum period. The concept of breastfeeding. Postpartum contraception: the method of lactation amenorrhea (MLA).

Anatomical and physiological features of the neonatal period. Newborn care. Benefits of sharing a mother and child.

SECTION 2. PATHOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH AND THE POSTPARTUM PERIOD.

Specific goals:

1. Make a preliminary diagnosis and plan tactics for managing a complicated pregnancy.
2. Plan and provide obstetric care for complicated pregnancy.
3. Make a preliminary diagnosis and make a differential diagnosis for various types of obstetric pathology during childbirth.
4. Plan management tactics for the pathology of labor and the postpartum period.
5. Plan preventive measures for different types of obstetric pathology.
6. Plan and provide emergency care for midwifery emergencies.
7. Perform necessary medical manipulations.

Topic 5. Abnormalities in the development of the fetal egg. Multiple pregnancies.

Anomalies of post-fetal elements of the fetal egg/placenta, fetal membranes and umbilical cord. Bubble shooter. Polyhydramnios and hypohydramnios: causes, diagnosis, management of pregnancy, consequences for the fetus and newborn. Hereditary and congenital diseases of the fetus. Diagnostics. Indications for medical and genetic counseling.

Multiple pregnancy: classification, diagnosis, features of the course and management of multiple pregnancy. Childbirth during multiple pregnancies.

Topic 6. Placental dysfunction. Fetal distress. Delayed fetal development.

Placental dysfunction, fetal distress, fetal developmental delay: risk factors, classification, diagnosis, pregnancy management tactics, prevention.

Methods of fetal diagnosis: non-invasive-ultrasound, CTG, fetal biophysical profile, Doppler imaging, MRI; invasive-amniocentesis, cordocentesis, chorionic biopsy. Biochemical methods of research at different stages of pregnancy.

Topic 7. Izoantigen incompatibility of maternal and fetal blood.

Immunological incompatibility of maternal and fetal blood (Rhesus conflict, ABO incompatibility, isoleukocytic, etc.). Pathogenesis, diagnosis, management tactics, treatment, and prevention.

Topic 8. Early gestosis. Hypertensive disorders during pregnancy.

Preeclampsia. Eclampsia.

Early gestosis: classification, clinic, diagnosis, treatment. Hypertensive disorders during pregnancy. Preeclampsia: pathogenesis, classification, diagnosis, clinic, treatment, tactics, prevention. Eclampsia: clinic, diagnosis, complications, emergency care, management tactics. Rare forms of gestosis.

Topic 9. Miscarriage of pregnancy.

Causes of spontaneous termination of pregnancy at various times. Classification, clinic, diagnosis, treatment and prevention of spontaneous abortion. Істмікоцервікальна недостаточність. The threat of preterm birth: diagnosis, treatment, obstetric tactics. Prevention of miscarriage of pregnancy. Preterm birth: obstetric management and prevention.

Topic 10. Narrow pelvis. Anomalies of fetal position and presentation.

Delivery with incorrect position and pelvic presentation of the fetus.

Anomalies of the bone pelvis. Classification and diagnostics. Diagnostics of synclitic and asynclitic head insertion. Clinically narrow pelvis. Features of labor management.

Classification of pelvic peredlezhany. Diagnosis and management of pregnancy. Incorrect fetal position: classification, diagnosis, and management of pregnancy. Extensor presentation of the fetal head: classification, diagnosis. Correction of incorrect positions and pelvic prostration during pregnancy.

Delivery with incorrect fetal position and pelvic overdoses, management tactics. Biomechanism of labor and manual aid for pelvic overdoses.

Topic 11. Abnormalities of uterine contractile activity.

Classification, risk factors, pathogenesis of various types of labor anomalies. Modern methods of diagnosis and treatment of labor disorders. Prevention of labor disorders. Perinatal consequences. Fetal distress in childbirth: diagnosis, management tactics.

**Topic 12. Obstetric bleeding during the second half of pregnancy,
during childbirth and the postpartum period. Intensive care and resuscitation
for bleeding in obstetrics.**

Obstetric bleeding. Placental previa: etiology, pathogenesis, classification, clinic, diagnosis, features of the course, management of pregnancy and childbirth. Premature detachment of the normally located placenta: etiology, clinic, diagnosis, features of pregnancy and childbirth management. Cuveler's uterus. Violation of placental abruption processes. Uterine bleeding in the postnatal and early postpartum period. Hypotonic bleeding. Coagulopathic bleeding (amniotic fluid embolism and other causes). Hemorrhagic shock, terminal conditions in obstetrics. Disseminated intravascular coagulation syndrome. Intensive care and resuscitation for bleeding in obstetrics.

Topic 13. Operative obstetrics. Birth injuries.

General concepts of surgical interventions in obstetrics: early and late pregnancy termination operations. Operations to prepare the birth canal (perino- and episiotomy, amniotomy). Obstetric forceps, vacuum extraction of the fetus, cesarean section: indications. Surgical interventions in the postnatal and postpartum period. Manual separation of the placenta, isolation of the placenta: the technique of carrying out. Manual and instrumental examination of the uterus after childbirth. Indications for nadpichvovoy amputation, uterine extirpation, ligation of internal iliac arteries.

Traumatic injuries of the vulva, vagina, and perineum. Rupture of the cervix. Uterine rupture: classification, mechanism of occurrence. Clinical picture of uterine rupture: threatening, what has begun and has already taken place. Features of uterine rupture with scarring. Diagnosis, treatment, and prevention. Eversion of the uterus. Differences and ruptures of the pelvic joints. Postpartum fistulas. Etiology, treatment, and prevention.

Topic 14. Postpartum septic diseases.

Postpartum septic diseases: postpartum septic wound, postpartum metroendometritis, metrorflebitis, mastitis, postpartum peritonitis, peritonitis after cesarean section. Obstetric sepsis: classification, etiology, pathogenesis, diagnosis, modern principles of treatment, prevention. Septic shock, emergency care. Methods of lactation suppression.

Topic 15. Supervision of pregnant women and women in labor, preparation of educational history of childbirth. Protection of the educational history of childbirth.

Examination of a pregnant woman, a woman in labor, and a woman in labor under the supervision of a teacher. Participation in delivery. Basic consulting, including consulting on

MSLA. Medical ethics and deontology. Working with medical documentation. Protection of the educational history of childbirth.

BLOCK 2.

GENETIC DISORDERS IN OBSTETRICS AND GYNECOLOGY

SECTIONS:

- 3. HEREDITY AND PATHOLOGY IN OBSTETRICS AND GYNECOLOGY.**
- 4. METHODS OF MEDICAL GENETICS IN OBSTETRICS AND GYNECOLOGY.**
- 5. PROPAEDEUTICS OF HEREDITARY PATHOLOGY IN OBSTETRICS AND GYNECOLOGY.**

SECTION 3. HEREDITY AND PATHOLOGY IN OBSTETRICS AND GYNECOLOGY.

Specific goals:

- Know the frequency of congenital and hereditary pathologies in different periods of ontogenesis.
- Know the proportion of congenital and hereditary pathologies in the structure of morbidity and mortality.
- To learn the genetic aspects of fetal growth and development, especially the embryonic and fetal periods of intrauterine development.
- Know the etiology, pathogenesis, and classification of congenital malformations.
- Explain the genetic basis of homeostasis.
- Know the classification of hereditary pathology.
- Explain the features of the pathogenesis of hereditary diseases in connection with the nature of damage to genetic structures.
- Learn the content, concept, and effects of chromosomal and genomic imprinting.

–To illustrate with examples the clinical polymorphism and the modifying effect of the genotype on the manifestation of a pathological mutation.

–Know the lethal effects of mutations (their significance in perinatal, early childhood, and infant mortality, their association with infertility, and spontaneous abortion).

– To illustrate with examples the geographical and population differences in the frequency of inherited diseases.

Topic 1. Subject and tasks of medical genetics in the family planning service. The role of heredity in obstetric and gynecological pathology.

The role of medical and genetic knowledge in the practical work of an obstetrician-gynecologist. Mutations as etiological factors. Genomic, chromosomal, and gene mutations. Monogenic and epigenetic diseases. Ecogenetic diseases and diseases with hereditary predisposition. Chromosomal diseases. Diseases of somatic cells. Causes of mutations. Physical, chemical, and biological mutagens. Spontaneous and induced mutagenesis (methods for studying, accounting for, and controlling the mutagenic effects of anthropogenic environmental factors).

Heredity and pathogenesis. Genetic control of pathological processes. Features of the pathogenesis of hereditary diseases in connection with the nature of damage to genetic structures. Specific features of the pathogenesis of chromosomal diseases, general patterns. Phenocytogenetic correlations. General mechanisms of pathogenesis of monogenic hereditary diseases. Pathogenesis of diseases with a hereditary predisposition and risk factors associated with mendel-smelling signs or markers. Chromosomal and genomic imprinting (content, concept, effects). Heredity and clinical picture. Clinical polymorphism and modifying effect of genotype on the manifestation of pathological mutation. Genetic aspects of polymorphism of hereditary pathology. Heredity and consequences of diseases. Lethal effects of mutations (their significance in perinatal and early childhood mortality, association with infertility, spontaneous miscarriage). Hereditary pathological reactions to various medications. Non-specific effects of pathological mutations and chronicling of diseases. Genetic factors and recovery.

SECTION 4. METHODS OF MEDICAL GENETICS IN OBSTETRICS AND GYNECOLOGY

Specific goals:

–Know the principles and stages of conducting a clinical and genealogical examination.

–Know the criteria for different types of inheritance.

–To propose schemes of pedigrees of autosomal dominant, autosomal recessive, X-linked, and mitochondrial types of inheritance.

- Interpret cardiograms in normal and pathological conditions.
- Know the methods of chromosome staining.
- Know the types of disorders in the chromosome set: structural, numerical.
- Determine indications for cytogenetic and molecular cytogenetic studies.
- To interpret the concept of odnobatka disomiya and chromosomal polymorphism. -
Learn the principles of organizing screening programs.
- Learn basic research methods for suspected hereditary metabolic diseases (STORAGE).
- To illustrate with examples the importance of biochemical studies in clarifying the diagnosis of cancer.
- Explain indications for tandem mass spectrometry (MS).
- To offer schemes and algorithm of examination of patients with suspected STORAGE of amino acids, carbohydrates, connective tissue, organic aciduria.
- Explain the PCR method as a basic method of molecular diagnostics.
- Know basic molecular research methods.

Topic 2. Clinical and genealogical method. Cytogenetic methods. Molecular and genetic methods. Biochemical methods.

Stages of clinical and genealogical examination. Basic concepts: pedigree, proband, pedigree legend, symbols. Methods of collecting genealogical information and its features in various types of pathology.

The importance of the clinical and genealogical method in the clinical practice of an obstetrician-gynecologist for clarifying the nature of the disease, assessing clinical manifestations, differential diagnosis of hereditary forms of pathology, studying the genetic heterogeneity of diseases, assessing the risk of new cases of diseases in the family, predicting the disease and life.

Criteria for different types of inheritance: autosomal dominant, autosomal recessive, X-linked dominant, X-linked recessive, holandric, mitochondrial. The nature of pedigrees, sex ratio, segregation of pathological features in families. Dependence of the nature of the pedigree on the frequency of genes in the population. Recessive pathology and consanguinity. The concept of "sporadic case", possible causes of "sporadic cases" in the family, de novo mutations. Феномен антиципації.

Genealogical analysis for multifactorial diseases: dependence of repeat risk values on the sex of the affected individual, the number of affected relatives, the degree of kinship with the proband, and the specific weight of diseases.

Scope of cytogenetic methods: diagnosis of hereditary pathology, study of the mutation process, study of normal chromosome polymorphism. Variants of cytogenetic research methods. The concept of karyotype. Modern methods of chromosome research: prometaphase analysis, fluorescent hybridization in situ, autoradiographic studies, chromosome-specific and region-specific molecular probes.

Significance of the cytogenetic method in the clinical practice of an obstetrician-gynecologist: diagnosis of chromosomal diseases, diagnosis of a number of mendelian diseases associated with chromosome instability, diagnosis of oncological diseases and certain forms of leukemia, assessment of mutagenic effects of drugs, monitoring of the effects of damaged environmental factors.

Universality of DNA diagnostic methods and their possible use. Characteristics of the main methodological approaches (DNA isolation, DNA restriction, blot hybridization, sequencing). PCR (polymerase chain reaction) method, RFLP (restriction fragment length polymorphism) method. Possibilities of molecular genetic methods in the diagnosis of hereditary diseases. Prenatal and preclinical diagnostics of diseases and diagnostics of heterozygous conditions. Indications for the use of molecular genetic methods and their limitations. The latest methods for identifying mutations are the DNA chip method. RFLP method for determining polymorphic sites. The importance of biochemical methods in the diagnosis of hereditary metabolic diseases.

Levels of biochemical diagnostics: primary gene product, cellular level, metabolites in biological fluids. Prospective diagnostics: qualitative and quantitative methods.

A list of the main methods and their brief characteristics (qualitative tests with urine, paper and thin-layer chromatography of amino acids and carbohydrates in urine and blood, electrophoresis, Guthrie microbiological inhibitory test, fluorometry, etc.). View programs for mass diagnostics of hereditary diseases and heterozygous conditions. Confirmatory diagnostics. Quantitative determination of enzymes and metabolites. Modern methods: automatic analysis of amino acids, liquid and gas chromatography, mass spectrometry, radioimmunochemical and enzyme-linked immunosorbent assays.

Indications for biochemical research for the diagnosis of hereditary diseases.

SECTION 5. PROPAEDEUTICS OF HEREDITARY PATHOLOGY IN OBSTETRICS AND GYNECOLOGY.

Specific goals:

- Explain the genetic heterogeneity of clinically similar forms of diseases.

- To illustrate with examples hereditary diseases with late manifestation. - Know the classification of malformations.

- Explain the consistency of the nature of disorders with the stages of ontogenesis (gamete -, embryo -, fetopathy.)

–Explain the pleiotropic nature of gene action and the multiple nature of damage in hereditary pathology. - Know morphogenetic variants and their significance in the diagnosis of hereditary syndromes and congenital conditions.

–Explain the concept of syndrome, association, deformity, dysplasia.

Topic 3. Semiotics of hereditary diseases. Morpho-genetic variants of development. Features of manifestations of hereditary diseases.

Semiotics of hereditary diseases. Pleiotropism of gene action and multiple lesion patterns in hereditary pathology. Primary and secondary pleiotropy in the obstetric and gynecological clinic of hereditary diseases. Clinical aspect of pleiotropy related to the differential diagnosis of syndromic and non-syndromic pathology.

Features of clinical gynecological examination of patients, contribute to the diagnosis of congenital and hereditary pathology. Features of the phenotype, specificity of the spectrum of morphogenetic variants of development in hereditary pathology. Anthropometry in the diagnosis of hereditary diseases.

Morpho-genetic variants of development (microanomalias, micro-signs, signs of dysembryogenesis), their genesis, postnatal modification. General and specific morpho-genetic variants: significance in the diagnosis of hereditary syndromes and congenital conditions.

Malformations: primary and secondary. Isolated, systemic and multiple congenital malformations. Etiological heterogeneity of PVR. The concept of syndrome, association, deformity, dysplasia.

Family as an object of medical and genetic observation: the need for a family approach. Clinical significance of the phenomena of incomplete penetrance and variational expressiveness in the structure of causes of clinical diversity of etiologically uniform forms of hereditary pathology. Genetic heterogeneity of clinically similar forms of diseases.

Features of manifestations of hereditary diseases. Late-onset hereditary diseases. Progressive nature of the flow. Lesion of various organs and systems: polysystemic lesion. Resistance to therapy in some forms. Consistency of the nature of disorders with the stages of ontogenesis: gameto -, embryo - and fetopathy.

***Topic 4. General characteristics of monogenic pathology
in obstetrics and gynecology.***

Clinic and genetics of individual forms of monogenic and epigenetic diseases. Rare forms are also common. Prevalence among different populations. General issues of etiology and pathogenesis of monogenic diseases. Types of gene mutations. A variety of manifestations of gene mutations at the clinical, biochemical, and molecular-genetic levels. Effects of pre- and postnatal implementation of mutant genes.

Mechanisms of pathogenesis of monogenic diseases: specificity of mutations, multiplicity of metabolic pathways, multiplicity of protein functions. Genetic heterogeneity of clinically similar forms of diseases. Aspects of heterogeneity: polialelism, polilocusness (clinical examples).

Clinical polymorphism of an etiologically unified form of the disease: variational expressiveness. Clinical diversity as a result of the interaction of the hereditary constitution and modifying environmental factors. The concept of imprinting at the gene level. The concept of gene-, phenomenon- and normocopy.

Classification of monogenic diseases: etiological (genetic), organ-system pathogenetic. Monogenic syndromes of multiple congenital malformations. Common signs. Clinical examples. Ehlers-Danlos syndrome, Marfan syndrome, Adrenogenital syndrome. Cystic fibrosis. Hypothyroidism. Hereditary kidney diseases. Hereditary diseases of the skeleton. Phacomatosis: general characteristics, classification. Clinic, genetics, diagnosis of neurofibromatosis, tuberous sclerosis. Prevention of neoplasia development. Tactics of management of patients with phacomatosis. Oncogenetic syndromes (CS). Definition of the concept. Etiology and classification. Hereditary forms of neoplasia. Mechanism of development of CSO, features of tumor growth. Ways of prevention and management of patients with OGS.

Epigenetic diseases.

Topic 5. Chromosomal diseases in obstetrics and gynecology.

Clinic of the main forms of chromosomal diseases.

Etiology and cytogenetics of chromosomal diseases. Classification of chromosomal diseases. Chromosomal aberrations and genomic mutations. Partial trisomies and monosomies. Complete and mosaic forms. Однобатьківські дисомії. Chromosomal imprinting. Age of parents and frequency of chromosomal diseases in children.

Pathogenesis of chromosomal diseases. Dependence of the severity of the clinical picture on the chromosomal imbalance, the amount of eu- and heterochromatin involved in the process. Mechanisms of developmental disorders and malformations in chromosomal diseases: non-divergence in meiosis, violation of oogenesis, decondensation of chromosomes in oocytes. Lethal effects of chromosomal and genomic mutations (spontaneous abortion, stillbirth, early infant mortality).

Malformations, involvement of various systems in the pathological process, craniofacial dysmorphism, delayed psychomotor development, mental retardation, endocrinopathies. Progressive flow.

Features of clinical manifestations of individual syndromes: Down, Patau, Edwards, trisomy 8, trisomy 22, "cat's cry", Wolf-Hirschhorn, Shereshevsky-Turner, Klinefelter, trisomy X, polysomy Y. Population frequency. Features of pregnancy in chromosomal syndromes. Oncogenetic character of chromosomal pathology.

Possibilities of therapy and rehabilitation of patients. Prenatal diagnosis of chromosomal diseases.

Topic 6. General characteristics of mitochondrial pathology in obstetrics and gynecology. Clinic, diagnosis, and treatment.

General characteristics of mitochondrial pathology. Classification of mitochondrial diseases. Mitochondrial inheritance. Mitochondrial diseases caused by mutations in mitochondrial DNA.

Diseases caused by mitochondrial DNA deletions. Diseases caused by point mutations of mitochondrial DNA. Clinic, genetics, diagnosis, therapy of MEHRF and MELAS syndromes. Pathology associated with defects in mygenomic communication, syndromes of multiple mitochondrial DNA deletions, mitochondrial DNA deletion syndrome.

Mitochondrial diseases caused by nuclear DNA mutations. Diseases associated with defects in the respiratory chain .Diseases associated with impaired metabolism of lactic and pyruvic acids.

Diseases caused by defects in beta-oxidation of fatty acids. Fermentopathies of the Krebs cycle. Enzymopathies of the carnitine cycle and the enzymes that are involved in its metabolism.

General principles of diagnosis and treatment of mitochondrial pathology.

Topic 7. General characteristics of multifactorial diseases in obstetrics and gynecology. Determination of genetic predisposition. Preventive measures.

The role of hereditary and environmental factors in the occurrence of common pathology of non-infectious etiology. General characteristics of multifactorial diseases: high frequency in the population; the nature of gender and age differences; features of the distribution of predisposition genes and the prevalence of diseases in families.

The concept of propensity. Genetic polymorphism of populations. Interaction of genetic predisposition and specific environmental conditions in the development of diseases. Specific mechanisms of realization of hereditary predisposition. Monogenically determined predisposition: ecogenetic pathology, pharmacogenetic reactions, occupational diseases. Gender propensity as a result of interaction of non-allelic genes.

Genetics of multifactorial diseases: terminology, concept and content. Genealogical, bliznyukov and population-statistical methods in clinical and genetic analysis of multifactorial diseases.

Features of collecting, verifying, and interpreting information. Dependence of the risk of developing multifactorial diseases on the degree of kinship with the proband, the severity of its condition, the gender of the proband, the population frequency, the nature of work and living conditions. Tables of empirical risk. Markers of predisposition. High-risk factors. Congenital malformations of multifactorial origin.

Topic 8. Fundamentals of ecological genetics, pharmacogenetics.

The role of the environment in human evolution. Ecogenetic diseases. Etiology and pathogenesis. Classification. Nosological forms with various provoking factors (medicines, food, climate). Occupational diseases as ecogenetic in the case of low doses. Assessment of professional aptitude from an ecogenetic point of view. Hereditary factors of predisposition to infectious diseases. Subsiding of depopulation pathologic reactions to various medications.

Topic 9. Methods and ways of prevention of hereditary ailments in obstetrics and gynecology. Medical and genetic counseling. Prenatal diagnostics.

Ethnic, geographical, and social factors that determine differences in the prevalence of hereditary pathology. Genetic and demographic processes and the prevalence of hereditary diseases. Types of prevention of hereditary diseases: primary, secondary and tertiary prevention.

Prevention levels: pregametic, prezigotic, prenatal and postnatal. Ways to implement preventive measures: penetrance and expressiveness management; embryo and fetal elimination; family planning and childbearing; environmental protection. Forms of preventive measures: medical and genetic counseling, prenatal diagnostics; mass screening programs; "genetic" medical examinations of the population (registers); environmental protection and control of mutagenicity of environmental factors. Medical and genetic counseling (MGK) as a type of specialized medical care for the population. CIM as a medical opinion. Objectives of the CIM and indications for referral of patients and their families to the CIM. Prospective and retrospective consulting. Genetic risk, degrees of risk. The concept of theoretical and empirical risk. Principles of genetic risk assessment in monogenic, chromosomal and multifactorial pathologies. Methodology for conducting the CIM.

Calculating genetic risk; communicating information to patients; helping families make decisions. Deontological and ethical issues of the CIM. Interaction of doctors in the CIM. Organization of medical and genetic services in Ukraine. History of the development of prenatal diagnostics. Prenatal diagnostics as a method of prevention. General indications for prenatal diagnosis. Noninvasive methods of prenatal diagnosis. Ultrasound examination: principles, indications, timing, effectiveness of diagnostics of various fetal diseases, assessment of the state of the placenta, fetal sac. Determination of the level of biochemical markers (AFP, chorionic gonadotropin, etc.) in the blood serum of pregnant women as a screening for the detection of PVR and fetal chromosomal diseases. Invasive methods. Methods of obtaining fetal material: chorionic and placental biopsy, amnio- and cordocentesis. Indications, timing, contraindications, and possible complications. Diagnostics of certain nosological forms. Deontological and ethical issues that arise during prenatal diagnostics. Просіючі програми. The essence of programs. Principles of selection of nosological forms to be examined for preclinical diagnostics. Characteristics of the main diagnostic programs for phenylketonuria, congenital hypothyroidism, and adrenogenital syndrome. Diagnosis of heterozygous conditions in high genetic risk groups. Deontological issues of requesting programs.

4. STRUCTURE OF THE ACADEMIC DISCIPLINE

Topic	Lectures	Pract	Ind	I.w.s.
BLOCK 1				
"PHYSIOLOGICAL AND PATHOLOGICAL COURSE OF PREGNANCY, CHILDBIRTH AND THE POSTPARTUM PERIOD"				
Physiological course of pregnancy, childbirth, and the postpartum period				
1. Subject Line Female pelvis. The fetus as an object of childbirth.		2		2
2 Subject. Physiology of pregnancy. Methods of examination of pregnant women. Perinatal fetal protection.	2	2		2

3 Subject. Physiology of childbirth. Pain relief of childbirth.		2		2
4 Subject. Physiology of the postpartum period. Physiology of the newborn period.		2		2
Pathological course of pregnancy, childbirth, and the postpartum period				
5 Subject. Abnormalities in the development of the fetal egg. Multiple pregnancies.		2		2
6. Subject Line Placental dysfunction. Fetal distress. Delayed fetal development.	2	2		2
7. Subject Line Izoantigen incompatibility of maternal and fetal blood.		2		2
8 Subject. Early gestosis. Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia.	2	2		2
9 Subject. Miscarriage of pregnancy.		2		2
Topic 10. Narrow pelvis. Anomalies of fetal position and presentation. Delivery with incorrect position and pelvic presentation of the fetus.		2		2
Topic 11. Abnormalities of uterine contractile activity.		2		2
. Topic 12 Obstetric bleeding during the second half of pregnancy, during childbirth and the postpartum period. Intensive care and resuscitation for bleeding in obstetrics.	2	6		2
Topic 13. Operative obstetrics. Birth injuries.		6		2
Topic 14. Postpartum septic diseases.		6		2
15 Subject. Supervision of pregnant women and women in labor, preparation of educational history of childbirth. Protection of the educational history of childbirth.		4		2
Final control work # 1		2		
Together	8	46		30
BLOCK 2.				
"GENETIC DISORDERS IN OBSTETRICS AND GYNECOLOGY"				
Heredity and pathology in obstetrics and gynecology				
Topic 1. Subject and tasks of medical genetics in the family planning service. The role of heredity in obstetric and gynecological pathology.	2			2
Methods of medical genetics in obstetrics and gynecology				
Topic 2. Clinical and genealogical method. Cytogenetic methods. Molecular and genetic methods. Biochemical methods.		2		2
Propaedeutics of hereditary pathology in obstetrics and gynecology				
Topic 3. Semiotics of hereditary diseases. Morpho-genetic variants of development. Features of manifestations of hereditary diseases.		2		2

Topic 4. General characteristics of monogenic pathology in obstetrics and gynecology.		2		2
Topic 5. Chromosomal diseases in obstetrics and gynecology. Clinic of the main forms of chromosomal diseases.		2		2
Topic 6. General characteristics of mitochondrial pathology in obstetrics and gynecology. Clinic, diagnosis, and treatment.		2		2
Topic 7. General characteristics of multifactorial diseases in obstetrics and gynecology. Determination of genetic predisposition. Preventive measures.				2
Topic 8. Fundamentals of ecological genetics and pharmacogenetics.		2		2
Topic 9. The level and ways of preventing hereditary ailments in obstetrics and gynecology. Medical and genetic counseling. Prenatal diagnostics.				2
Final control work # 2		2		2
Together	2	14		20
Total: ECTS credits – 4.0 hours – 120; of which:	10	60		50

THEMATIC PLAN OF LECTURES

№ n/a	Topic	Number of hours
1.	Physiology of pregnancy and childbirth. Methods of examination of pregnant women. Perinatal fetal protection.	2
2.	Placental dysfunction. Fetal distress. Delayed fetal development.	2
3.	Early gestosis. Hypertensive disorders during pregnancy. Preeclampsia. Eclampsia.	2
4.	Obstetric bleeding in the second half of pregnancy, during childbirth and the postpartum period. Intensive care and resuscitation for bleeding in obstetrics.	2
5.	General characteristics of genetic disorders in obstetrics and gynecology clinics. Levels and ways of prevention of hereditary diseases diseases. Medical and genetic counseling. Prenatal diagnostics.	2
	Total	10

THEMATIC PLAN OF PRACTICAL EXERCISES

№ n/a	Topic	Number of hours
1.	Female pelvis. The fetus as an object of childbirth.	2
2.	Physiology of pregnancy. Methods of examination of pregnant women. Perinatal fetal protection.	2

3.	Physiology of childbirth. Pain relief of childbirth.	2
4.	Physiology of the postpartum period. Physiology of the newborn period.	2
5.	Abnormalities in the development of the fetal egg. Multiple pregnancies.	2
6.	Placental dysfunction. Fetal distress. Delayed fetal development.	2
7.	Izoantigen incompatibility of maternal and fetal blood. Early gestosis. Hypertensive disorders during pregnancy.	2
8.	Preeclampsia. Eclampsia.	2
9.	Miscarriage of pregnancy.	2
10.	Narrow pelvis. Anomalies of fetal position and presentation. Delivery with incorrect position and pelvic presentation of the fetus.	2
11.	Abnormalities of uterine contractile activity.	2
12.	Obstetric bleeding during the second half of pregnancy.	2
13.	Obstetric bleeding during childbirth and the postpartum period.	2
14.	Intensive care and resuscitation for bleeding in obstetrics.	2
15.	Operative obstetrics. Birth injuries.	2
16.	Operative obstetrics. Birth injuries.	2
17.	Operative obstetrics. Birth injuries.	2
18.	Postpartum septic diseases.	2
19.	Postpartum septic diseases	2
20.	Postpartum septic diseases	2
21.	Supervision of pregnant women and women in labor, preparation of educational history of childbirth.	2
22.	Protection of the educational history of childbirth.	2
23.	Final control work #1	2
	Together	46
24.	Hereditiy and pathogenesis. Genetic control of pathological processes. Features of the pathogenesis of hereditary diseases in connection with the nature of damage to genetic structures. Stages of clinical and genealogical examination. Basic concepts: pedigree, proband, pedigree legend, symbols. Methods of collecting genealogical information and its features in various types of pathology.	2
25.	Semiotics of hereditary diseases. Morpho-genetic variants of development. Features of manifestations of hereditary diseases.	2
26.	Clinic and genetics of individual forms of monogenic and epigenetic diseases	2
27.	Etiology and cytogenetics of chromosomal diseases. Classification of chromosomal diseases. Chromosomal aberrations and genomic mutations.	2
28.	General characteristics of mitochondrial pathology. Classification of mitochondrial diseases. Mitochondrial inheritance. Mitochondrial diseases caused by mutations in mitochondrial DNA.	2
29.	The role of hereditary and environmental factors in the occurrence of common pathology of non-infectious etiology. General characteristics of multifactorial diseases	2
30.	Final control work # 2	2
	Together	14
	Total	60

Methodological recommendations for preparing students for practical classes.

Videos.

Multimedia presentations.

Croc-2 test databases.

Situational tasks.

Clinical tests.

THEMATIC PLAN FOR STUDENTS ' INDEPENDENT WORK

№ n/a	Types of SRS	Number of hours	Types of control
1.	Preparation for practical classes and lectures, supervision of pregnant women and women in labor, preparation of educational history of childbirth.	46	Current monitoring
2.	Preparation for the defense of the educational history of childbirth and final control of knowledge	4	Final knowledge control
	Total hours	50	

LIST OF PRACTICAL SKILLS FOR ULTIMATE KNOWLEDGE CONTROL

1. Collect and evaluate anamnesis of general and specific functions of the female body.
2. Conduct an external obstetric examination of the pregnant woman (Leopold's techniques, fetal heartbeat auscultation, pelviometry).
3. Set the gestational age, expected delivery time, and fetal weight.
4. Conduct an internal obstetric examination, measurement of the diagonal conjugate (on fantomi).
5. To evaluate the results of fetal and placental health studies (CTG, ultrasound, BPP, umbilical cord vascular Dopplerometry) and determine the tactics of pregnancy management depending on the results obtained.
6. Identify early signs of gestosis, use simple screening methods to diagnose gestosis, evaluate the results of laboratory examinations, determine management tactics for gestosis, and provide emergency care for an attack of eclampsia.
7. Provide obstetric care during physiological labor (on the simulator or on fantomi). Management of the postpartum period.

8. Assess the condition of the newborn on the Apgar scale, conduct a primary toilet of the newborn.
9. Determine diagnostic criteria for narrow pelvis (perform pelviometry). Establish a diagnosis of clinically narrow pelvis (on fantomi).
10. Evaluate the nature of labor activity. Draw up a scheme for medical correction of labor anomalies.
11. Estimate the amount of blood loss. Develop an algorithm for providing emergency care for obstetric bleeding.
12. Develop an algorithm for emergency care in hemorrhagic shock.
13. Develop an algorithm for providing emergency care for septic shock.
14. Examine patients and their relatives and identify congenital and hereditary pathologies;
15. Determine the clinical features of hereditary pathology and the status of patients;
16. Evaluate the diagnostic and prognostic value of symptoms that appear and morphogenetic variants (developmental microanomaly);
17. Correctly collect a genetic history, make a pedigree, determine the type of inheritance;
18. Diagnose the most common forms of hereditary pathology.

EXAMPLES OF TEST TASKS

A 22-year-old woman complains of nausea, vomiting 1 time a day, drowsiness, delayed menstruation for 2 months. Bimanual examination: the uterus is enlarged to the size of a woman's fist, softened, especially in the isthmus, painless. Appendages are not palpable. Discharge is slimy, milky in color. What is the most likely diagnosis?

- A. Pregnancy 8 weeks
- B. Uterine fibroids
- C. Ectopic pregnancy
- D. Violation of the menstrual cycle
- E. Endometriosis of the uterus

During the vaginal examination, the fetal head is determined, which fills the posterior surface of the pubic joint and the sacral cavity, palpations are available in the lower edge of the pubic joint, the spine of the sciatic bones, and the sacro-kuprikov joint.

In what plane of the small pelvis is the fetal head located?

- A. In the plane of the narrow part of the pelvic cavity

- B. In the plane of the broad part of the pelvic cavity
- C. Above the pelvic entrance
- D. In the plane of the pelvic entrance
- E. In the plane of the pelvic outlet

A woman with her first pregnancy was hospitalized with complaints of headaches. I didn't attend a women's consultation. The gestation period is 35-36 weeks. Blood pressure - 180/120 mm Hg on the right, 140/90 mm Hg on the left, edema of the lower and upper extremities. In the urine: protein 3.97 g / l, hyaline and granular cylinders. What is the most likely diagnosis?

- A. Severe preeclampsia
- B. HELLP-syndrome
- C. Moderate preeclampsia
- D. Mild preeclampsia
- E. Combined gestosis

26 years old, gave birth 7 months ago, during the last 2 weeks I have been worried about nausea, vomiting in the morning, drowsiness. Breast-feeding, no menstruation. I didn't prevent pregnancy.

Which of the methods should be used to clarify the diagnosis?

- A. Ultrasound examination
- B. Ro-graph of pelvic organs
- C. Palpation of the mammary glands and leakage of colostrum
- D. Two-handed vaginal examination
- E. Mirror research

Ultrasound examinations in prenatal diagnostics reveal such a pathology:

- . A Marfan Syndrome
- . B Anencephaly
- . C Spinal hernia
- . D Phenylketonuria

E. Hydrocephalus

What are the main indications for determining the karyotype of the fetus?

- . A Previous child had autosomal trisomy
- . B One of the mosaic parents
- . C One of the parents is a carrier of structural rearrangement of chromosomes
- . D Late mother's age
- . E Your child was healthy

Which of these methods can be recommended to a pregnant woman to prevent the birth of children with a neural tube defect?

- A. Determination of alpha-fetoprotein in maternal blood serum at the 16th week of pregnancy
- B. Chorion biopsy
- C. Dynamic ultrasound examination
- D. Determination of alpha-fetoprotein in maternal serum in dynamics
- E. Determination of alpha-fetoprotein in amniotic fluid with an increased content of it in the maternal serum

LIST OF QUESTIONS TO PREPARE STUDENTS FOR THE CURRENT AND FUTURE ACADEMIC YEAR.

FINAL MODULAR CONTROL

**Block 1. Physiological and pathological course of pregnancy,
childbirth and the postpartum period.**

1. Organization of obstetric and gynecological care in the city and in rural areas. Issues of maternal and child health protection in the current legislation of Ukraine.
2. Structure and operating principles of the maternity hospital. Key performance indicators of an obstetric hospital.
3. The role of antenatal clinics in the prevention of pregnancy and childbirth complications, perinatal fetal care, and prevention, diagnosis, and treatment of gynecological diseases.
4. The role of the family doctor in the prevention of perinatal diseases and mortality.
5. Organization of family planning services: structure, tasks.
6. Medical and genetic counseling.
7. External and internal genitalia of a woman.
8. Blood-free liver and lymphatic systems of the female genital organs.
9. Physiology of female genital organs.
10. The structure of the female pelvis. Pelvis from an obstetric point of view. Pelvic floor.
11. The fetus as an object of labor (dimensions of the fetal head, sutures, fontanelles).
12. Signs of fullness and maturity of the fetus.
13. The structure of germ cells. Капацитація. Fertilization and development of the fetal egg. Implantation.
14. Placenta, its structure and functions.
15. Critical periods of embryo and fetal development.
16. Influence of harmful factors on the embryo and fetus.
17. Physiological changes in a woman's body during pregnancy.
18. Hygiene and nutrition of pregnant women.
19. Methods of examination of pregnant women. External and internal obstetric examination of pregnant women.
20. Topography of the fetus in the uterus.
21. Determination of early and late pregnancy periods.
22. Determination of prenatal leave and date of delivery.
23. Management of physiological pregnancy. Gravidogram.
24. Psychoprophylactic preparation for childbirth.
25. Harbingers of childbirth: prelim early period.
26. Determination of the degree of maturity of the cervix. Bishop's scale.
27. Biomechanism of labor in anterior and posterior types of occipital presentation.
28. Causes of labor onset. Regulation of labor activity. Methods of registration of labor activity. Monitoring during childbirth.
29. Periods of labor. Their duration in first- and second-born patients.
30. The period of opening of the cervix during childbirth. Clinic, maintenance. Partogram.
31. The period of expulsion of the fetus. Clinic, maintenance.
32. Subsequent period. Signs of placental abruption. Clinic, management of the postnatal period (active management, waiting tactics of management).
33. Conservative methods of placenta extraction.
34. Determining the integrity of the placenta. The concept of physiological and pathological blood loss.
35. Assessment of the newborn on the Apgar scale.
36. Primary toilet of a newborn. Compliance with the heat chain.
37. Psychoprophylactic pain relief of childbirth. Medical anesthesia of childbirth.
38. Clinic and management of the postpartum period.
39. Changes in the mother's body, genitals, and mammary glands.

40. The concept of breastfeeding.
41. Postpartum contraception. Method of lactation amenorrhea.
42. Anatomical and physiological features of the neonatal period.
43. Newborn care.
44. Benefits of sharing a mother and child.
45. Classification of pelvic presentation. Causes of occurrence.
46. Diagnosis and management of pregnancy in pelvic overdoses.
47. Incorrect fetal positions: classification, diagnosis, and management of pregnancy.
48. Extensor presentation of the fetal head: classification, diagnosis.
49. Correction of incorrect positions and pelvic prostration during pregnancy.
50. Embryonic and fetal periods of development. Blastopathies, embryopathies, and fetopathies. Diagnosis of fetal malformations in different periods of pregnancy.
51. Anomalies of post-fetal elements of the fetal egg (placenta, fetal membranes and umbilical cord). Bubble shooter.
52. Bagatotovoddy and low water content. Features of pregnancy and childbirth.
53. Hereditary and congenital diseases of the fetus. The role of medical and genetic consultation in their diagnosis.
54. Multiple pregnancies: classification, diagnosis.
55. Features of the course and management of multiple pregnancies. Prevention of complications.
56. Placental dysfunction: classification, diagnosis, treatment.
57. Fetal distress: risk factors, classification, diagnosis, pregnancy management tactics, prevention.
58. Delayed fetal development: risk factors, classification, diagnosis, management of pregnancy, prevention.
59. Methods of diagnosis of fetal condition: non-invasive-ultrasound, CTG, fetal biophysical profile, Dopplerometry, MRI; invasive-amniocentesis, cordocentesis.
60. Cytogenetic and biochemical studies at different stages of pregnancy.
61. Immunological incompatibility of maternal and fetal blood (Rh-conflict, ABO incompatibility, iz-leukocyte incompatibility, etc.).
62. Pathogenesis of immunological conflict, modern system of diagnosis and treatment.
63. Management of pregnancy and determination of the optimal delivery time for Rh-immunization.
64. Профілактика імоноконфліктної вагітності.
65. Early gestosis. Птіалізм, рвота. Pathogenesis. Clinic, diagnosis and treatment of early gestosis.
66. Hypertensive disorders during pregnancy, classification.
67. Preeclampsia, pathogenesis: classification, diagnosis, clinic, treatment, management tactics, prevention.
68. Eclampsia: clinic, diagnosis, complications, emergency care, management tactics.
69. Rare forms of gestosis.
70. Causes of spontaneous termination of pregnancy at various times. Classification, clinic, diagnosis, treatment and prevention.
71. The threat of preterm birth: diagnosis, treatment, obstetric tactics.
72. Isthmic-cervical insufficiency (etiology, clinic, diagnosis, treatment).
73. Prevention of miscarriage of pregnancy.
74. Concepts of anatomical and clinical narrow pelvis.

75. Classification of anatomically narrow pelvis by shape and degree of narrowing. Diagnostics.
76. Features of the course and management of labor in narrow pelvises.
77. Diagnosis of synclitic and asynclitic insertion of the fetal head.
78. Childbirth with incorrect positions and pelvic overdoses.
79. Biomechanism of labor in pelvic overdoses.
80. Manual aid for pelvic overdoses.
81. Childbirth during multiple pregnancies.
82. Anomalies of labor activity. Classification. Risk factors.
83. Pathogenesis of various types of labor anomalies.
84. Weakness of labor activity. Clinic, diagnosis and treatment of primary and secondary labor weakness.
85. Labor activity is discocoordinated. Clinic, diagnosis and treatment.
86. Excessive labor activity. Clinic, diagnosis and treatment.
87. Prevention of labor disorders. Perinatal consequences.
88. Fetal distress in childbirth: diagnosis, management tactics.
89. Placenta previa. Etiology, pathogenesis, classification, clinic and diagnosis.
90. Features of the course and management of pregnancy and childbirth with placenta previa. Obstetric tactics.
91. Premature detachment of the normally located placenta. Etiology, clinic, and diagnosis. Obstetric tactics. Cuveler's uterus.
92. Violation of placental abruption processes. Uterine bleeding in the postnatal period.
93. Uterine bleeding in the early postpartum period. Hypotonic bleeding.
94. Coagulopathic bleeding (amniotic fluid embolism and other causes).
95. Hemorrhagic shock. Terminal conditions in obstetrics.
96. Disseminated intravascular coagulation syndrome.
97. Intensive care and resuscitation for bleeding in obstetrics.
98. General information about obstetric operations. Indications, conditions, and contraindications. Preparation. Surveys. Tools.
99. Early and late termination of pregnancy operations.
100. Operations that prepare the birth canal (perineo- and episiotomy, amniotomy).
101. Obstetric forceps. Vacuum extraction of the fetus. Indications, conditions, and contraindications.
102. Surgical interventions in the postnatal and postpartum period.
103. Manual separation of the placenta, isolation of the placenta: the technique of carrying out.
104. Caesarean section in modern obstetrics. Indications and contraindications for a caesarean section. Options for caesarean section.
105. Surgical methods for stopping uterine bleeding in obstetrics. Ligation of uterine veins and ovarian vessels. Supravaginal amputation of the uterus. Extirpation of the uterus. Ligation of internal iliac arteries: indications.
106. Traumatic injuries of the vulva, vagina, and perineum.
107. Ruptures of the cervix during childbirth.
108. Uterine ruptures during pregnancy and childbirth: classification, mechanisms of occurrence.

109. Clinical picture of uterine rupture: threatening, what has begun and has already taken place.
110. Features of uterine ruptures along the scar: diagnosis, treatment, prevention.
111. Eversion of the uterus. Causes of occurrence. Doctor's tactics.
112. Differences and ruptures of the pelvic joints in childbirth.
113. Postpartum fistulas: etiology, treatment, prevention.
114. The main clinical forms of postpartum septic diseases. Classification, etiology and pathogenesis.
115. Clinic, diagnostics, modern principles of postpartum cancer treatment metroendometritis, metrorrhagia, mastitis.
116. Clinic, diagnosis, modern principles of treatment of postpartum peritonitis, peritonitis after cesarean section.
117. Obstetric sepsis. Classification, clinic, diagnostics, modern principles treatment.
118. Septic shock. Emergency care.
119. Methods of prevention of septic postpartum complications. Methods inhibition of lactation.

Block 2. Genetic disorders in obstetrics and gynecology.

1. Subject and tasks of medical genetics.
2. The importance of genetics for medicine.
3. Frequency of congenital and hereditary pathologies in different periods of ontogenesis.
4. The specific weight of congenital and hereditary pathologies in the structure of morbidity and mortality.
5. Variability of hereditary traits as the basis of pathology.
6. The role of heredity and environment in the development of pathology.
7. Classification of hereditary pathology.
8. The role of paraclinical research methods in the diagnosis of congenital and hereditary pathology.
9. Cytogenetic and molecular cytogenetic methods. Indications for the procedure
10. Cytogenetic studies.
11. Clinical and genealogical method.
12. Methodology for compiling a pedigree.
13. Types of inheritance.
14. Mitochondrial inheritance.
15. Biochemical methods. Indications for conducting research.
16. Molecular and genetic methods. Indications and capabilities of the method.
17. Semiotics of hereditary diseases.
18. Features of clinical manifestations of congenital and hereditary pathology.
19. General principles of clinical diagnosis of congenital and hereditary pathology.
20. Features of examination and physical examination of the patient and his family members.
21. Congenital malformations. Congenital morpho-genetic variants.
22. Syndromological approach in the diagnosis of congenital and hereditary pathology.
23. Monogenic diseases. Definition of the concept. Etiology and classification.
24. General patterns of pathogenesis of monogenic pathology.
25. The main features of the clinical picture of monogenic pathology.
26. Clinical polymorphism of monogenic pathology and its causes.
27. Genetic heterogeneity of monogenic diseases.

28. Clinic, genetics and diagnosis of neurofibromatosis.
29. Clinic, genetics and diagnosis of congenital hypothyroidism.
30. Clinic, genetics and diagnostics of phenylketonuria.
31. Clinic, genetics and diagnosis of cystic fibrosis.
32. Clinic, genetics and diagnosis of Marfan syndrome.
33. Clinic, genetics and diagnosis of homocystinuria.
34. Clinic, genetics and diagnosis of adrenogenital syndrome.
35. Clinic, genetics and diagnosis of Ehlers-Danlos syndrome.
36. Clinic, genetics and diagnostics of oncogenetic syndromes.
37. Genomic imprinting. Definition of the concept.
38. Diseases of genomic imprinting. Etiology, pathogenesis, clinical forms.
39. Chromosomal diseases. Definition of the concept. Etiology and classification.
40. Effects of chromosomal abnormalities in ontogenesis.
41. Pathogenesis of chromosomal diseases.
42. General characteristics of chromosomal diseases.
43. Clinical and genetic characteristics of Patau syndrome.
44. Clinical and genetic characteristics of Edwards syndrome.
45. Clinical and genetic characteristics of Down syndrome.
46. Clinical and genetic characteristics of trisomy 22.
47. Clinical and genetic characteristics of Shereshevsky-Turner syndrome.
48. Clinical and genetic characteristics of sexomes behind sex chromosomes.
49. Clinical and genetic characteristics of partial aneuploidy syndromes.
50. Clinical and genetic characteristics of microcytogenetic syndromes.
51. Factors of increased risk of having children with chromosomal diseases.
52. General characteristics of mitochondrial pathology.
53. Classification of mitochondrial diseases.
54. Mitochondrial inheritance.
55. General principles of diagnosis and treatment of mitochondrial pathology.
56. Mitochondrial diseases caused by mutations in mitochondrial DNA.
57. Clinic, genetics, diagnosis, and therapy of Kearns-Sayre syndrome.
58. Clinic, genetics, diagnosis, and therapy of MELAS syndrome.
59. Clinic, genetics, diagnosis, and therapy of MERRF syndrome.
60. Clinic, genetics, diagnosis, and therapy of Leber syndrome.
61. Clinic, genetics, diagnosis, and therapy of Pearson's syndrome.
62. Mitochondrial diseases caused by nuclear DNA mutations.
63. Diseases with a hereditary predisposition. Definition of the concept. General characteristics.
64. Monogenic and polygenic forms of diseases with hereditary predisposition.
65. Mechanisms of development of diseases with hereditary predisposition.
66. The significance of hereditary predisposition in general human pathology.
67. Hereditary pathological reactions to external factors.
68. Prevention of congenital and hereditary diseases. Types of prevention.
69. Genetic bases of prevention of congenital, hereditary and multifactorial pathology.
70. Levels of prevention.
71. Issues of family planning and preconception prevention.
72. Environmental protection as a component of prevention.
73. Medical and genetic counseling (MGK).
74. Functions of a geneticist in CIM.

75. Effectiveness of the CIM.
76. Prenatal diagnosis (PD). General questions. Indications. Dates of the event.
77. Mass and selective ultrasound screening of pregnant women.
78. Non-invasive methods of PD. Methods. Indications. Dates of the event. Features of the method.
79. Invasive methods of PD. Methods. Indications. Dates of the event. Features of the method. Contraindications. Possible complications.
80. Preclinical diagnostics and preventive treatment.
81. Screening programs. Mass and selective screening programs.
82. Genetic monitoring of congenital and hereditary pathologies.

"0" version of the exam ticket

Petro Mohila Black Sea National University

Educational and qualification level-Master's degree

Branch of knowledge: 22 Healthcare

specialty 222 Medicine

Academic discipline - **OBSTETRICS AND GYNECOLOGY**

Option # 0

1. Embryonic and fetal periods of development. Blastopathies, embryopathies, and fetopathies. Diagnosis of fetal malformations in different periods of pregnancy. – **the maximum number of points is 20.**
2. Eclampsia: clinic, diagnosis, complications, emergency care, management tactics.– **the maximum number of points is 20.**
3. Obstetric forceps. Vacuum extraction of the fetus. Indications, conditions, and contraindications.– **the maximum number of points is 20.**
4. Prevention of congenital and hereditary diseases. Types of prevention. – **the maximum number of points is 20.**

Head of the Department prof. Tarasenko O. M.

Examiner

6. Evaluation criteria and diagnostic tools for learning outcomes

Control methods

- Survey (testing of theoretical knowledge and practical skills).
- Test control.
- Mastering manual techniques.
- Writing a review of scientific literature (essays), performing individual tasks, and defending them.

Current control. Testing in practical classes of theoretical knowledge and development of practical skills, as well as the results of independent work of students. They are supervised by teachers according to the specific purpose of the curriculum. Assessment of the level of students' training is carried out by interviewing students, solving and analyzing situational problems and test tasks, interpreting the results of clinical-instrumental and clinical-laboratory studies, and monitoring the assimilation of practical skills.

Intermediate control. Checking the possibility of using students' theoretical knowledge and practical skills on all the topics studied, as well as the results of independent work of students for clinical and diagnostic analysis. Performed at the last lesson by topic by passing practical skills, solving situational problems and testing.

Final attestation – exam, it is held upon completion of the study of all topics of the discipline according to the schedule of the examination session.

ASSESSMENT OF STUDENT PERFORMANCE

Evaluation of learning outcomes

Control methods:

- oral control;
- written control;
- test control;
- programmable control;

- practical verification;
- self-monitoring;
- self-assessment.

Types of control:

- preliminary (source);
- current;
- intermediate;
- final control work (RCC);
- certification for the 9th semester;
- final control.

RPC is conducted after completing the study of all topics of the block in the last lesson. Students who have attended all classroom training sessions provided for in the curriculum for the discipline are allowed to participate in the RPC. When studying the discipline, they scored at least the minimum number of points. Students who have missed classes for good or no good reason are allowed to work out their academic debt until a certain period of time. The form of conducting RCC is standardized and includes control of theoretical and practical training, in particular, computer test control, practical skills (bimanual research, examination in mirrors, etc.), assessment of writing and defending a medical history. The RCC result is evaluated on a multi-point scale (the university's 200-point scale, which corresponds to the ECTS scale). The maximum number of RPC points is 80 in the first block, and 40 in the second block. The minimum number of RPC points for which the control is considered completed is 50 points in the first block and 30 points in the second.

According to the results of the control, the student is certified in the 9th semester.

The final control is conducted in the form of an exam, which is recommended for academic disciplines, which is a component of the integrated test exams EDKI and "Step-2". Only students who have both RCC scores in the discipline are allowed to take the exam.

Distribution of points awarded to students

In the first block, a positive rating for each practical lesson can be from 3.2 to 5.5 points. A score below 3.2 points means "unsatisfactory", classes are not counted and are subject to testing in accordance with the established procedure. A student can get a maximum of 80 points per semester on the RPC. The RPC is considered valid if the student scores at least 50 points.

In the second block, a positive score for each practical lesson can be from 6.7 to 13.3 points. A score below 6.7 points means "unsatisfactory", classes are not counted and are subject to testing in accordance with the established procedure. A student can get a maximum of 40 points per semester on the RPC. The RPC is considered valid if the student scores at least 30 points.

A student can get a maximum of 80 points on the exam (see the distribution of points on the exam - see the example of an exam ticket above). The exam is considered completed if the student has received at least 50 points.

Criteria for evaluating students ' knowledge

When assessing the assimilation of each topic, the student is given a score according to the formula: the minimum number of points of the current assessment, divided by the number of practical classes, not including the last lesson (reserved for RPC): **in the first block** - 70: 22=3.2 (minimum), 120: 22=5.5 (maximum), **in the second block** - 40:6=6.7 (minimum), 80:6=13.3 (maximum). The accepted assessment criteria for the discipline are used. At the same time, all types of work provided for in the guidelines for studying topics are taken into account.

The student receives:

– "excellent" – the student has at least 90% of the knowledge on the topic both during the survey and the test control. Well-versed in subject terminology. Clearly formulates the answers to the questions asked. Practical work is carried out in full.

– "good" – the student has at least 75-99% knowledge, makes minor mistakes, which he corrects by answering questions. During the completion of test tasks, it meets 75% of the questions. The practical work was completed in full, minor errors are allowed.

– "satisfactory" – the student has at least 60-74% knowledge of the topic, and answers at least 60% of the questions during testing. The answers are not accurate enough, and leading questions do not correct them. The practical work was not completed in full.

– "unsatisfactory" – the student did not master the required minimum knowledge on the topic of the lesson and testing within 59%. Unable to answer leading questions, uses inaccurate language. Test control tasks were completed by less than 59%. He doesn't have any practical skills.

Assessment of student performance

Type of activity (task)	Maximum number of points
Block 1	
Practical classes from 1st to 22nd	5.5 for each of the 22 classes
Together	120
RCC-1 (practical lesson 23)	80
Total for block 1	200
Block 2	
Practical classes from 24th to 29th	13.3 for each of the 6 classes
Together	80
RCC-2 (practical lesson 30)	40
Total for block 2	120
Exam	80
Together for Block 2 and the exam	200

7. Recommended sources of information

Main

1. Obstetrics and Gynecology (in 2 books): textbook (ed. Grishchenko V. I., Shcherbiny M. A.) // Kniga I Obushcherstvo. - K.: Meditsina, 2011. - 422 p.; Kniga II Ginekologiya. - K. Meditsina, 2011. - 375 p.
2. Midwifery: a textbook (edited by N. M. Ventskivsky, G. Kol.Степанкивської, В.П.Лакатоша). Moscow: VSV Meditsina Publ., 2012, 648 p. (in Russian)
3. Gynaecology: a textbook (edited by N. M. Ventskivsky, G. Kol.Stepankivskoi, M. Is. Yarotsky). Moscow: VSV Meditsina Publ., 2012, 352 p.
4. Zaporozhan V. M., Chaika V. K., Markin L. B. [In Russian]. Obstetrics and Gynecology (in 4 volumes): national textbook: 2013
5. Obstetrics: textbook in English (editby I. B. Vintskivska). - K.: Medicine,2008. -334 p.
6. Gynecology: a textbook in English (editby I. B. Vintskivska). - K.: Medicine,2010. -160 p.
7. Buzhievskaya T. I. Osnovy meditsinskoy genetiki [Fundamentals of medical genetics]. Kiev: Zdorovye Publ., 2001, 135 p. (in Russian)
8. Grechanina A. Ya., Bogatyreva G. V., Belovol O. M. Clinic and genetics of hereditary diseases accompanied by gastrointestinal and general abdominal symptoms. - Ternopil, TSMU, 2008. - 216 p.
9. Grechanina Yu. B., Zhadanov S. I., Gusar V. A. Mitochondrial diseases: problems of diagnosis, treatment and prevention. Kharkiv, KhNMU Publ., 2008, 71 p. (in Russian)
- 10.Kozlova S. Y., Semanova E., Demikova Y. S., Blinnikova A. E. Hereditary syndromes and medical and genetic counseling. Spravochnik [Handbook], Meditsina Publ., 2012.
- 11.Meditsinskaya genetika: Uchebnik [Medical Genetics: Textbook]. AMS of Ukraine, Professor A. Ya. Grechanina, Professor G. V. Bogatyreva, Professor A. P. Volosovets. Kiev: Meditsina Publ., 2007, 536 p. (in Russian)
- 12.Meshchishin I. F. Features of metabolism in children. Chernovtsy Publ., 2003, 108 p. (in Russian)
- 13.Hereditary disorders of neuropsychiatric development in children: A guide for doctors / pod
- 14.edited by P. A. Temin and L. S. Kazantseva, Moscow: Meditsina Publ., 2001, 432 p. (in Russian)
- 15.8. Peshka V. P., Meshchishin I. F., Peshka V. V. Osnovy meditsinskoy genetiki [Fundamentals of medical genetics]. Chernovtsy, 2000, 248 p. (in Russian)
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- 17.Sorokman T. V., Peshka V. P., Lastochka I. V., Volosovets A. P. Clinical genetics. Chernovtsy Publ., 2006, 450 p. (in Russian)
- 18.Essential Medical Genetics / M. Connor & M/ Ferguson-Smith Ed., 5th ed. – “Blackwell Science Ltd”. – 1997. – 236 p.
- 19.Georg F. Hoffmann, Johannes Zschocke. Vademecum Metabolicum, 2015.

Additional information

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2. Zaporozhan V. M., Tsegelsky M. G. Gynecological pathology: atlas, textbook. - Odessa:Odessa Medical University,2002
3. Zaporizhan V. M. Operative gynecology: a textbook. - Odessa:Odessa Medical University,2006, 292 p. (in Russian)
4. Clinical aspects of modern perinatology: a training manual (ed. Vdovichenko Yu. P.). - K., 2005.
5. Medved V. I. Selected lectures on extragenital pathology of pregnant women. - K., 2010. - 239 p.
6. Methods of contraception according to the periods of life: a textbook. - K., 2013. - 255 p.
7. Urgent conditions in obstetrics: a textbook (Ventskiivsky N. M., Kaminsky V. V., Grishchenko V. I. et al.). - K.: Golden Gate, 2010. -246 p.
8. Norvitz Errol G., Shorge John O. Visual obstetrics and Gynecology (translated from English).- M.: GEOTAR-MED, 2003. -141 p.
9. Pathologic obstetrics: a textbook (Ventskiivsky N. M., Kaminsky V. V., Grishchenko V. V. et al.). - K.: Chaika-Vsubshennaya, 2009. -300 p.
- 10.Pashchenko S. M., Reznichenko G. I., Voloshin M. A. Diagnostics and treatment of patients with dyshormonal diseases of the mammary glands: Zaporozhye:Prosvita,2011. - 152 p.
- 11.Sovremennyye aspekty planirovaniya semey: uchebnoe posobie [Modern aspects of family planning].
- 12.Gurkin Yu. A., L. By. Markin, E. By. Yakovleva Street. Children's gynecology-reference book, 2004. - 480 p.
- 13.Bokhman Ya. V. Guide to oncogynecology, St. Petersburg: Foliant Publ., 2002, 542 p.
- 14.Dubossarskaya S. M., Dubossarskaya Yu. A. Reproductive endocrinology: an educational and methodical manual. - D.:Lira LTD,2008. -416 p.
- 15.Tatarchuk T. F., Solsky Ya. P. Endocrine Gynecology, 2003
- 16.Essential Antenatal, Perinatal and Postpartum Care. WHO EIGO, Sorephadep, 2003
- 17.Предпаны, Childbirth, Postpartum and Newborn Care: A guide for essential practice. WHO, Geneva,2006
- 18.Current "Clinical protocols" approved by the order of the Ministry of Health of Ukraine on Obstetrics and Gynecology.
- 19.Medical genetics. Textbook for students of higher medical (pharmaceutical) educational institutions III-IV / Edited by Grechanina A. Ya., Bogatyreva G. V., Volosovets A. P.: K., 2007-535s.
- 20.Artamonov G. G. Rare diseases in pediatrics. Diagnostic algorithms, Moscow: GEOTAR-Media. - 2012. - 128 p.
- 21.Baranov A. A., Borovik T. E., Ladodo K. S., Bushueva T. V., Grechanina A. Ya., Maslova A. I., Kuzenkova L. M., Chumakova O. V., Studenikin V. M., Dzvonnkova N. G., Timofeeva A. G., Kon I. Ya., Novikov P. V., Zdibskaya A. P., Grechanina Yu. B., Lebedinets I. A. Hereditary disorders of amino acid metabolism. Moscow-Kharkiv, 2013, 126 p.
- 22.Barashnev Yu. Y., Bakharev V. A., Novikov P. V.. Diagnostics and treatment of congenital and hereditary diseases in children, Moscow, "Triada-X", 2009.
- 23.Bochkov N. P. Klinicheskaya genetika [Clinical genetics]. Textbook, Moscow: Meditsina Publ., 2010.
- 24.Vorsanova S. G., Yurov Y. Yu., Solov'ev I. V., Yurov Yu. B.. Heterochromatin regions of human chromosomes: Clinical and biological aspects, Moscow: Medpraktika-M Publishing House, 2011, 300 p.

25. Genomics to medicine. Scientific publication/ ed. Academician of the Russian Academy of Medical Sciences V. Y. Ivanov and Academician of the Russian Academy of Sciences L. L. Kiselev. - Moscow: Iccabademkniga, 2010. - 392 p.: ill.
26. Grechanina E. Ya. "Molecular medicine: reality and prospects". Kharkiv, 2010. - 120 p.
27. Grechanina E. Ya., Grechanina Yu. B., Goldfarb Y. G. Chromosomal polymorphism and metabolic disorders: causal relationships. - Ultrasound perinatal diagnostics. 2014, No. 17, pp. 3-43.
28. Grechanina E. Ya., Dobrodetskaya A. L., Stepanets A. P. et al. Hereditary metabolic disorders. - Ultrasound perinatal diagnostics. 2013, No. 16, pp. 3-41.
29. Grechanina E. Ya., Zhadan Y. A., Zdybskaya E. P.. Evaluation of data from ultrasound examination of newborns with intrauterine infections. - Ultrasound perinatal diagnostics. -2013. - No. 16. - pp. 145-149.
30. Grechanina E. Ya., Matalon G., Grechanina Yu. B., Novikova I. V., Gusar V. A., Holmes B., Zhux S., Eds P. L., Tyring S.. "Search for phenotypic and genotypic relationships in folate cycle defects beyond conventional genetics". Ultrasound perinatal diagnostics. 2012, No. 25, pp. 5-33.
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35. Grechanina A. Ya. Modern concepts of hereditary connective tissue diseases. - Ultrasound perinatal diagnostics. 2014, No. 17, pp. 58-61.
36. Grechanina A. Ya., Moiseenko G. A. Metabolicheskie bolezni [Metabolic diseases]. 2014, No. 18, pp. 108-126.
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