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(FGBOU VO SSMU of the Ministry of Health of the Russian Federation)

Department of Internal Medicine No. 3

GUIDELINES FOR PERFORMING INDEPENDENT (EXTRACURRICULAR) WORK) WORKS

on clinical THERAPY

on the topic " Features of the work of the district therapist with patients of different
population groups»

the main professional educational programs of higher education – bachelor's degree
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Methodological recommendations are intended for extracurricular independent work of students of 5,6 courses (9,10,11,12 semesters) of the Faculty of Medicine

FGBOU VO SOGMA of the Ministry of Health of the Russian Federation

on the discipline " Polyclinic therapy»

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This methodological development is devoted to the peculiarities of the work of the district therapist with patients of different population groups: adolescents, elderly patients, pregnant women with somatic pathology

Methodological development includes the following tasks:

- I. Introduction to the purpose and objectives of the practical lesson
- II. Restoration of basic knowledge, control of the initial level
- III. Study of the literature on the topic of the lesson, the main provisions of the topic
- IV. Introduction to the practical lesson plan

Task I

This lesson aims to improve the theoretical knowledge and practical skills when working with patients of different population groups in the polyclinic of students of the 6th year of the Faculty of Medicine

Target tasks:

The student should know:

- * The role and tasks of the district therapist in monitoring the health of adolescents
- * Features of the course and treatment of somatic diseases in the elderly and senile age
- * Features of somatic pathology in pregnancy

The student must be able to:

- In a limited time, conduct a qualitative examination of the patient, determine the diagnosis and prescribe treatment, taking into account the peculiarities of working with different groups of patients

Task II.

The list of questions to check the initial level of knowledge:

1. Physiological features of adolescence, norm and pathology.
2. Age gradation
3. Changes in the cardiovascular system in elderly patients
4. Somatic health of a pregnant woman

Task III

Literature on the topic of the lesson:

1. Polyclinic therapy: A textbook for students. Higher. Educational institutions / B. Ya. Bart, V. F. Benevskaya, S. S. Solovyov, etc. ; Edited by B. Ya. Barta. - M.: Publishing Center "Academy", 2005 – - 544 p.
2. Handbook of the district therapist. - M.: Eksmo, 2007 – - 896 p.
3. Handbook of diagnosis and treatment of diseases in the elderly /Ed..The butler,, L..B..Lazebnika. - M.: OOO "Publishing House New Wave":: ZAO "Publishing House ONYX" 2000. - 543 p.

OSNOVNSEPOLOWENIITEMS

The role and tasks of the district therapist for monitoring the health of adolescents.

Adolescents represent the closest reproductive, intellectual, economic, social and cultural reserve of society.

Adolescence, according to WHO experts, covers the period of life from 10 to 17 years inclusive. In our country, age periodization based on social principles has become widespread: pre – school age – up to 3 years, preschool - 3 – 7(6) years, school (junior – 7 – 10 years, middle – 11-14 years), adolescent – 15-17 years inclusive.

At the adolescent stage, the formation of morphological, physiological and mental functions that significantly distinguish a teenager from children and adults is completed. This period in the process of maturation of the body is a turning point. There is an intensive growth and increase in body size, growth and differentiation of organs and tissues.

One of the most important features of adolescence is the activity of the endocrine system. These are the central glands (hypothalamus and pituitary gland) and peripheral (thyroid, adrenal cortex, testes in boys and ovaries in girls). The production of pituitary growth hormone increases from the age of 10, reaching a maximum level by 12-14 years. It is with these that the maximum growth jump in adolescents is associated. Further, the production of this hormone gradually decreases, which is associated with an increase in the activity of sex hormones. At the adolescent stage, due to accelerated development, the normal intra-secretory activity of the thyroid gland, which doubles its mass during this period, is of great importance. The increased need for thyroid hormones in adolescence often leads to an increase in its size, the development of juvenile struma (especially in girls).

The activity of the heart and blood vessels in adolescence also has its own characteristics. During this period, there is an intense growth of the heart in length and width. The volume of cavities increases. The growth of the arterial system lags behind the growth rate of the heart. Features of the growth and development of the heart are largely determined by the gender and age of adolescents. The rapid increase in heart volume in girls, which is observed in 10-15 years, ends earlier than in boys (16 years). In young men, the growth of the heart is less rapid and continues until the age of 17-18. With age, the heart rate decreases, amounting to 68-75 per minute in 15-18 years against 80-85 in 8-11 years and 75-80 in 12-14 years. The level of blood pressure is in a certain dependence on age, gender, indicators of physical development, etc. The onset of puberty is a powerful factor affecting blood pressure levels.

In adolescence, the development of the respiratory system continues. Due to the intensive development of the chest, respiratory muscles, the growth of zones and segments of the lungs, the volume, pulmonary ventilation, and vital capacity of the lungs significantly increase. BDD by 17-18 years corresponds to that in adults, sexual differences in the type of breathing are established: in boys – abdominal, in girls – thoracic. This age is characterized by low resistance to hypoxia.

In adolescence, the structural and functional development of the digestive system is completed. The peculiarities of the digestive system in adolescents cause its high

vulnerability with prolonged emotional and physical stress, violation of the diet, work, and rest, which contributes to an increase in the frequency of gastrointestinal pathology.

The nervous system, functioning in an indissoluble connection with the endocrine system, differs significantly from adults in adolescence. The peculiarities of the nervous system of adolescents lead to the peculiarity of motor and mental activity. Motor skills of adolescents can be characterized by impetuous movements, increased motor activity, a tendency to overcome obstacles in the absence of sufficient caution in assessing their strength and capabilities. Adolescents are characterized by increased emotional excitability, reactivity, manifested in mental instability, sudden mood changes, transitions from exaltation to depression and back, an increase in general excitement and a weakening of all types of inhibition. This age period is considered critical, presenting special difficulties for both the teenager and the caregivers.

The main problems of adolescence are recognized by WHO experts: socio-economic deprivation, unemployment or underemployment, alcohol abuse, drug addiction, smoking, accidents, suicide, sexual problems, mental disorders, mental retardation.

In our country, a number of other social and medical problems are added to them: poor quality and diet, abnormalities in growth and development, disorders of the function and diseases of the musculoskeletal system (posture disorders, flat feet, scoliosis, etc.), iron deficiency anemia, depression, dental diseases, gynecological problems, etc.

In the Russian Federation, monitoring of adolescents is carried out in the adolescent office of the polyclinic, which is usually organized as part of the therapeutic department. For 25,000 people, the rate of a teenage GP is 0.25 (1,500 teenagers) and the rate of a nurse is 1.0. In order to improve the dispensary monitoring of adolescents in a number of republics and regions of the Russian Federation at large multidisciplinary hospitals, adolescent departments or independent medical and preventive institutions-polyclinics, working on the principle of a multidisciplinary dispensary, which monitor all adolescents – sick, healthy.

Features of the course and treatment of somatic diseases in the elderly and senile age.

In the structure of the population of developed countries, the share of elderly and senile people is constantly increasing. The number of requests for medical care among the elderly is twice as high as in the population on average. Currently, about half of the patients who go to a therapist in a polyclinic are elderly and senile people.

According to the WHO classification, the age group of older persons is as follows:

- ☐ 60 to 74 years old-elderly
- ☐ 75 to 89-senile

□ 90 years and older-centenarians

In today's developed society, longevity becomes the norm of life

Aging and the accumulation of diseases are parallel processes. Aging is considered as a destructive process that develops as a result of the increasing damaging effects of exogenous and endogenous factors with age, leading to a lack of physiological functions of the body. Aging is associated with changes occurring at all levels of organized living matter-molecular, subcellular, cellular, systemic, and whole organism.

There are different types of aging according to the rate of onset: natural, premature and delayed. Changes in neurohumoral regulation are of leading importance in the mechanism of aging of the body. Many of the main manifestations of aging – changes in the psyche, emotional sphere, muscle performance, coordination of movements, reproductive ability, changes in the reactions of the main vegetative systems of the body (blood circulation, respiration, etc.), shifts in the level of hormonal regulation are a direct consequence of neurohumoral control.

From a physiological point of view, aging is the depletion of the adaptive capabilities of the body. Age-related changes begin after the age of 20 and gradually progress, but their speed and severity differ both in different organs and tissues of one person and in different people, and nutrition, environment and habits affect them no less than heredity.

The modern elderly patient is a clinical and psychological phenomenon in terms of the presence and combination of various pathologies occurring against the background of involutional changes.

The main features of elderly and senile patients are:

- * The presence of involutional functional and morphological changes on the part of various organs and systems
- * Frequent presence of two or more diseases in the same patient (polymorbidity)
- * Mainly chronic course of diseases
- * Atypical clinical manifestations of diseases
- * The presence of "senile" diseases
- * Change in socio-psychological status

Changes in the structure and metabolism of tissues that occur as the body ages inevitably affect the function of a number of organs and systems to some extent. It is known that with age, there is a narrowing of the vital capacity of the lungs, bronchial patency, cardiac output, glomerular filtration. In the elderly, elimination processes are limited. It tends to increase the ESR.

As you age, there is a relative increase in the mass of fat and a decrease in the mass of muscle tissue, including a decrease in the mass of the respiratory muscles (diaphragm), which can be one of the factors for the development of respiratory failure and a decrease in the vital capacity of the lungs with age.

These and a number of other age-related involutional changes on the part of various organs and systems can be mistakenly regarded as a manifestation of a certain pathology.

The morphological and functional changes of organs and tissues occurring with age (decrease in hormonal activity, decrease in bone mass, clouding of the lens, deposition of amyloid in the heart, blood vessels, osteoporosis, benign prostatic hyperplasia, senile dementia, etc.) are interpreted as manifestations of age-related physiology and are the basis of the so-called "senile diseases", which are observed along with diseases occurring in all age groups (arterial hypertension, peptic ulcer disease, pneumonia, etc.).

In the process of aging, changes in the digestive system are noted. Due to atrophy of the esophageal mucosa with a decrease in the number of secretory cells, a decrease in the number of muscle cells, a decrease in the tone of the walls and sphincters develops (hypomotor dyskinesia) and in some cases – esophagospasm.

As a result of the reduction in the area of the capillary bed, a tendency to hypoxia develops. There is atrophy of the nervous system, degeneration of nerve fibers. In the composition of gastric juice, the content of acidic components decreases. There is an external secretory insufficiency of the pancreas. Due to a violation of the concentration function of the gallbladder, the lithogenic properties of bile increase.

With increasing age, the weight of the liver decreases, steatosis is observed, a decrease in its glycogen-forming, antitoxic function and a decrease in the activity of microsomal oxidation.

In the intestine, parietal digestion and absorption of food components are disrupted, and the motor function of the large intestine is weakened.

Elderly and senile patients are characterized by polymorbidity, i.e. the presence of two or more diseases in most of them. In conditions of polymorbidity, a complex interweaving of many symptoms occurs, their usual diagnostic value may decrease, and at the same time, various manifestations of diseases potentiate each other, increasing clinical symptoms (moderate anemia in an elderly patient with concomitant coronary heart disease may weigh down the functional class of angina or cause clinical manifestations of heart failure). Due to polymorbidity, individual symptoms may correspond to not one, but many diseases. In addition, the development of a disease often causes the elderly to decompensate concomitant pathology (decompensation of diabetes mellitus with pneumonia or injuries, etc.). An equally important clinical problem of geriatrics is the difficulty of diagnosis due to the peculiarities of the course of the disease in the elderly. Often, such acute diseases as pneumonia, pyelonephritis, appendicitis, sepsis, abscesses

of various localization occur with erased manifestations or manifest various nonspecific symptoms. As a result, the main symptoms of these diseases in elderly patients are not pain and fever, but agitation, anxiety, confusion or weakness.

One of the features of the period of old age and senility, both in relatively healthy and sick people, is the onset of socio-psychological maladaptation. The change in the social status of an elderly person is associated with various factors, including retirement, the loss of close relatives and friends, limited mobility, difficulties in self-service, and the deterioration of the economic situation. All this violates the usual life stereotypes, requires the mobilization of their own physical and mental reserves, which are significantly reduced at this age. The inability to adapt to constantly changing socio-economic conditions and independently cope with everyday worries leads to dependence on other members of society, which causes many old people to feel inferiority, powerlessness, and hopelessness of further existence. As a result, disorders such as anxiety, depression, and hypochondriacal syndromes may develop. These violations are often transient and disappear after the elimination of adverse factors, but in some cases they require medical intervention

The degree of adaptation of an old person to his new social status is determined to a large extent by the state of his somatic and mental health.

The elderly often suffer from diseases that require long-term treatment and constant care:

- * Arterial hypertension,
- * CHD and heart failure
- * Depression
- Diabetes mellitus
- * Dementia
- * Osteoarthritis
- * Prostate diseases
- * Urinary incontinence
- * Polyneuropathy
- Ataxia
- * Intermittent claudication
- * Trophic ulcers of the lower legs and other diseases

The manifestations of diseases in the elderly are often atypical. Violations of one system can contribute to the manifestation of other hidden disorders. Regardless of the nature of

the underlying disease, the elderly are dominated by stereotypical manifestations in the form of confusion, behavior changes, depression, urinary incontinence, episodes of loss of consciousness, falls, general decline in activity, refusal to eat.

Due to the lack of compensatory mechanisms, diseases in the elderly usually manifest themselves in earlier stages. Some signs that are regarded as pathological in the young are detected in the elderly, without causing a painful condition (bacteriuria, extrasystoles, impaired glucose tolerance, decreased vibration sensitivity of the fingers, involuntary contractions of the bladder).

The peculiarities of the course of diseases in the elderly cause difficulties in diagnosis. For example, a number of acute diseases occur with erased manifestations or manifest various nonspecific symptoms. At the same time, the usual local signs of organ damage may be absent.

EXAM

At the first treatment, a detailed medical history is collected, a thorough physical examination and the necessary tests are carried out. In the future, such a survey is periodically repeated.

Anamnesis

When collecting anamnesis, pay attention to the patient's ability to communicate, evaluate his mental status, speech, vision, hearing, and mood. During the survey, specify the following:

Complaints about the main systems: respiratory system, CCC, gastrointestinal tract, musculoskeletal system, nervous system

- * Past illnesses and treatment, circumstances of hospitalizations

- * Immunization

- * Medications taken, including over-the-counter medications

- Power features

- Alcohol consumption, smoking

- * Mental status, including signs of depression.

- * The need for outside care, the ability to move independently.

- * Housing conditions

- * Number and composition of the family, family conflicts

Physical examination

Complaints and anamnesis can tell the doctor what to pay attention to during a physical examination. It must necessarily include the determination of weight, the determination of weight and orthostatic changes in blood pressure. In addition, it is necessary to check the vision and hearing; if the hearing is reduced, first of all, you should remove the sulfur from the external auditory canal. The oral cavity and teeth are examined. The neck (especially the area of the thyroid gland) is examined and palpated. Respiratory organs, cardiovascular system are examined, blood pressure, heart rate, pulse and other physical data are measured.

TREATMENT OF ELDERLY AND SENILE PATIENTS

The developed standards of treatment are dangerous to automatically transfer to the elderly; it requires extremely careful selection of the type and dose of medicines(drugs), control over their intake.

The treatment of elderly and senile patients is based on modern ideas about the features of pharmacokinetics, pharmacodynamics, distribution and elimination of drugs in persons of this category.

Changes in pharmacokinetics and pharmacodynamics in the elderly.

The absorption of drugs from the gastrointestinal tract with increasing age changes under the influence of a number of physiological characteristics of the elderly and senile age: reducing the level of gastric acid, blood flow through the mesenteric arteries, reducing the area of the suction surface, inhibiting the mechanisms of active transport, the general tendency to reduce absorption. These features can lead to a decrease in the concentration of drugs administered orally in the blood. Since the absorption of drugs is associated with their dissociation, under conditions of increasing the pH of the intraluminal contents, drugs with acidic properties will be absorbed less, and with alkaline properties – more completely. On the other hand, a decrease in the motor activity of the gastrointestinal tract causes a more complete absorption. As a result, in elderly patients, it is difficult to accurately predict the level of orally taken drugs in the blood serum.

In the process of aging, the amount of fat in the body increases relatively, and the water content decreases. This contributes to an increase in the concentration of water-soluble drugs in the blood serum when taking them in standard doses (since the volume of their distribution decreases) and a decrease in the concentration of fat-soluble drugs in the tissues (since their volume of distribution increases).

In elderly patients, there is often a decrease in the level of serum albumin, so that many substances transported by proteins in the bloodstream become more active and pose a greater risk of developing toxic effects.

In addition, at this age, in most cases, the activity of microsomal liver enzymes involved in the oxidation of drugs decreases, the activity of hydrolysis, on the contrary, increases. In this regard, many drugs have a longer half-life and slower clearance.

With age, the reserve functions of nervous processes decrease and cognitive function may decrease.

Given the above, the elderly are highly likely to develop adverse reactions; it is recommended to select treatment for them with lower doses and strive to prescribe the necessary minimum of drugs with the lowest frequency of administration during the day.

Distribution. In the elderly, the minute heart rate decreases and, thus, the blood supply to the most important elimination organs – the liver and kidneys-decreases. In parallel, there is a decrease in the amount of water in the body, muscle atrophy, an increase in adipose tissue, and a decrease in the concentration of albumins in the plasma. At the same time, disease, nutrition, and physical activity have a more pronounced effect on distribution than age.

Elimination. An elderly person from a pharmacokinetic point of view in most cases should be considered as a person with renal insufficiency, because renal elimination decreases with age. The drug should be dosed carefully. Due to limited tubular reverse resorption, the elderly are prone to increased sodium loss. They feel less thirsty, so they are more prone to dehydration and impaired excretion. The concentration of creatinine in the plasma depends on the muscle mass and therefore it decreases in the elderly.

Hepatic elimination decreases with age, but genetic factors, the environment, and existing or past illnesses seem to have a more pronounced effect than calendar age.

In the management of elderly and senile patients, the practical doctor faces the following questions: who should be treated? where to treat? who and when to start? how to treat it?

Most of the problems associated with the diagnosis, treatment and rehabilitation of the elderly have to be solved by a general practitioner, who in this regard should have a broad general clinical training, be able to solve many related, interdisciplinary issues. Constant, professional contact and constructive interaction of the therapist with narrow specialists is not excluded, since joint management of the patient in specific situations should contribute to the professional enrichment of each of the doctors and bring maximum benefit to the patient.

Taking into account current trends in geriatrics, the main emphasis in the organization of medical and preventive care for elderly and senile patients should be placed on out-of-hospital forms of patient management, mainly in polyclinics, at home, in day hospitals, etc. Placing an elderly patient in a hospital in itself is a stressful situation for him, since it violates the established life stereotypes. There are often situations when patients in the first days begin to refuse food, are poorly oriented in the surrounding environment, some

have episodes of confusion, urinary incontinence, unexplained falls. Another hospital problem among elderly and senile patients is nosocomial infections. Unfortunately, due to poorly developed out-of-hospital forms of medical and social care for the elderly in our country, hospitalization of late-aged patients is carried out mainly for social reasons.

A serious problem in geriatric practice is the decision to prescribe treatment. The most important thing when making a decision is to focus on the assessment of the degree of influence of the identified pathology on physical activity, socio-psychological adaptation and other indicators of the quality of life. A cautious and balanced approach to prescribing medications to the elderly is justified by the high risk of developing drug complications. When explaining and justifying the need for drug treatment, the most effective arguments for the patient are the arguments regarding drug complications, which can disrupt the patient's condition to a much greater extent than the underlying disease.

When managing an elderly patient, the doctor should set realistic goals for himself. The main strategic goal of geriatrics is to preserve and improve the quality of life of the patient. Current trends – "treat, not always cure".

The main problems of drug therapy in the elderly and senile age:

- ☐ The need to prescribe more than one drug
- ☐ The need for frequent long-term use of medications

Нарушение Violation of pharmacodynamics and pharmacokinetics of drugs

Insufficient or incorrect implementation of the prescribed medication regimen.

The combined use of several drugs can both enhance and weaken their pharmacological effect.

Pharmacokinetic disorders are associated with age-related changes in various organs and systems, existing geriatric pathology. There is evidence of changes in the sensitivity of the receptors in the elderly.

For timely detection of side effects of drug therapy, it is necessary to focus on the changes detected by the doctor, information received from the patient himself, his relatives about the quality of life of the patient.

Currently, due to the destruction of the institution of the traditional multi-generational family, the role of various forms of medical and social assistance to the elderly is significantly increasing. It is important not only to provide sympathy or specific assistance to the elderly, but also to create a special geriatrically adapted environment in society, psychological support, restoration of rights, and provision of a decent place and participation in society. When communicating with an elderly patient, the doctor should

show genuine interest, attention, avoid unnecessary jokes and explain in detail the meaning of each of his recommendations.

FEATURES OF DRUG THERAPY DURING PREGNANCY AND LACTATION

The result of the action of drugs on the fetus can be miscarriages, prematurity, postponement, malformations, death of the fetus and newborn, intrauterine hypotrophy, hemorrhagic syndrome, respiratory depression and cardiac activity, cardiac arrhythmia, neurological disorders, acute renal failure, impaired thyroid function, adrenal glands, tumors in the long term.

Medical indications for termination of pregnancy are indicated in Order No. 736 of December 3, 2007 and provide, in general, for performing an artificial abortion within a period of up to 22 weeks for the reason of:

Ухудш Deterioration of the health status and threat to the life of a woman in the event of continued pregnancy

Выявления Detection of fetal abnormalities or detection of non-viability of the fetus through prenatal diagnosis.

The main medical indications for termination of pregnancy include active forms of tuberculosis, HIV infection, syphilis, rubella, cancer, leukemia, congenital heart defects, physiological immaturity of a woman. Absolute indications for abortion are severe forms of heart failure, hypertension, diabetes mellitus, organic lesions of the myocardium and heart valves, as well as if the woman, the father of the child or one of the children has a severe hereditary disease.

Indications for abortion include chronic degenerative and inflammatory changes in the kidneys, bilateral nephrolithiasis, and chronic liver damage with impaired liver function.

It is not recommended to carry a pregnancy if the pregnant woman has thyrotoxicosis, malignant anemia, retinitis, optic neuritis, severe corneal disease, significant deformity of the pelvic bones.

Relative recommendations for termination of pregnancy are: severe course of chronic lung diseases, non-specific ulcerative colitis, malignant breast diseases, some mental illnesses.

For abortion for medical reasons, the patient's consent to the specified intervention is required.

If the disease is not in the list of indications, and it threatens the health and life of the woman and child, the decision is made by a commission by an obstetrician-gynecologist, a doctor-specialist in this field and the head of the relevant department.

Extragenital diseases in pregnant women are one of the main causes of serious complications during pregnancy and childbirth, as well as diseases of the fetus and newborn.

Medical supervision of pregnant women is carried out by a general practitioner together with an obstetrician-gynecologist, pediatrician and other "narrow" specialists in the conditions of the obstetric-therapeutic-pediatric section.

The intrauterine fetus needs an ever-increasing amount of oxygen, proteins, fats, carbohydrates, salts, vitamins and other substances during development. The mother's blood receives the final products of fetal metabolism, which are excreted by the excretory organs of the pregnant woman. The body of a pregnant woman performs additional work that requires strengthening or restructuring the activities of the most important systems and organs. Under these conditions, numerous and complex physiological changes occur in the body of a woman during pregnancy.

In pregnant women, the excitability of the brain and spinal cord changes. The excitability of the cerebral cortex decreases until the first month of pregnancy, and then remains elevated until the end of pregnancy. The excitability of the underlying parts of the central nervous system and uterus during pregnancy is reduced.

During pregnancy, there are changes in the autonomic nervous system (at the beginning of pregnancy, there is an increase in the tone of the vagus nerve), in connection with which there are often changes in taste and smell, nausea, increased saliva, constipation, a tendency to dizziness, drowsiness, unbalanced mood. There is an increase in the excitability of the peripheral nerves, sometimes there are neuralgic pains in the sacrum and lower back, cramps in the calf muscles.

From the very beginning of pregnancy, the yellow body develops in the ovary, the hormone of which (progesterone) creates the conditions for the proper development of pregnancy. The yellow body in the second half of pregnancy undergoes reverse development and its function is performed by the placenta. The placenta produces estrogenic hormones: estriol, estrone, estradiol.

During pregnancy, the pituitary gland significantly increases the production of gonadotropins, especially luteinizing and prolactin. These hormones enhance the development and endocrine function of the corpus luteum and, together with estrogens and progesterone, contribute to the preparation of the mammary glands for lactation. Increases the production of TSH and ACTH, the somatotrophic hormone. Formed in the hypothalamus, oxytocin accumulates in the posterior pituitary gland and contributes to the contractile activity of the uterus at the end of pregnancy and during childbirth. ADH also accumulates in the posterior pituitary lobe.

In the first months of pregnancy, there is a slight increase in thyroid function, and in the second half – a decrease.

The parathyroid glands, which affect calcium metabolism, function during pregnancy with great tension. Sometimes, during pregnancy, there is a tendency to convulsions and spasms, associated with a decrease in the amount of calcium salts in the body due to the weakening of the parathyroid glands.

The metabolism during pregnancy changes significantly. In the second half of pregnancy, assimilation processes significantly increase. The number of metabolic products to be eliminated from the body increases.

The basic metabolism and oxygen consumption during pregnancy increase. The increase in oxygen demand is compensated by increasing the respiratory rate, pulmonary ventilation, and bronchial patency.

During pregnancy, there is an accumulation of protein substances in the body of a woman. The blood of a pregnant woman receives proteins formed in the body of the fetus (fetoproteins), as well as in the placenta and fetal membranes. When consuming a large amount of protein food, there is an accumulation of products of incomplete protein breakdown, which are harmful to the body.

In the blood of pregnant women, the amount of neutral fat, cholesterol, phospholipids and other lipids is increased. In the case of a violation of the nutrition of a pregnant woman, especially with excessive fat intake, the process of their breakdown may change. In such cases, harmful acidic products of incomplete fat combustion accumulate in the body of a pregnant woman.

During pregnancy, there is a delay of calcium salts in the body due to their expenditure on the construction of the fetal skeleton.

From the mother to the fetus passes iron, which is an integral part of hemoglobin. With insufficient iron intake from food, anemia occurs in a pregnant woman, and development is disrupted in the fetus.

The accumulation of inorganic substances in the body of a pregnant woman affects water metabolism, during pregnancy, a tendency to water retention in the body develops. With a pathological course (late toxicosis), the release of fluid slows down, the accumulation of water and chlorides increases and edema occurs.

The need of the body of a pregnant woman for vitamins is increased due to the need to supply them to the fetus. With insufficient administration of vitamins with food, pregnant women have a pathological condition-hypovitaminosis. The course of pregnancy is disturbed.

By the end of pregnancy, a woman's weight increases by 10-12 kg.

During pregnancy, increased demands are made in the cardiovascular system due to the increase in the vascular network of the uterus, an increase in blood mass, and the emergence of a new placental circle of blood circulation.

There is a physiological hypertrophy of the left ventricle, an increase in the functional capacity of the heart, an increase in the MO of the heart, a slight increase in vascular tone and an increase in the pulse rate. In connection with the high standing of the diaphragm in the last months of pregnancy, the heart is located more horizontally and closer to the chest, its borders expand and the cardiac impulse moves outward. Inflections of large vessels can cause the appearance of unclear vascular noises. These changes are functional and will disappear completely after delivery.

Blood pressure in the first half of pregnancy does not change or decreases slightly. In the second half, there is a tendency to hypertension. A rise in systolic blood pressure above 12-130 mm Hg and a decrease to 100 mm Hg or less indicate the occurrence of pregnancy complications.

Heart rate in the second half of pregnancy increases by 10-25 beats per minute from the 24th week.

During pregnancy, hematopoiesis increases, the number of red blood cells, hemoglobin, blood plasma and BCC increases. Most healthy pregnant women often have a small leukocytosis (due to neutrophils). ESR during pregnancy increases to 20-30 mm per hour.

During pregnancy, the activity of the lungs increases. Sometimes there is congestion in the larynx and bronchial mucosa. This increases the sensitivity of the body of pregnant women to the flu and other common infectious diseases.

Many women in the first 2-3 months of pregnancy experience nausea, often vomiting, especially in the morning. Changes in taste and olfactory sensations, attraction to certain products and sometimes to unusual substances. Due to changes in metabolism and the need to neutralize the metabolic products of not only the mother, but also the fetus, the load on the liver during pregnancy increases. In healthy women, during the physiological course of pregnancy, the liver copes with an increased load.

During pregnancy, the kidneys function with great tension, removing the metabolic products of the woman and the growing fetus from the body. In the last months of pregnancy, traces of protein may appear in the urine. This indicates toxicosis of pregnant women.

During pregnancy, serous impregnation and loosening of the articular ligaments, cartilage and synovial membranes of the pubic and sacroiliac joints occur. These physiological changes occur under the influence of relaxin formed in the placenta. Changes in the posture of the pregnant woman. Conclusions about the use of drugs during pregnancy

The main principle is to limit the prescribing of medicines to pregnant women. Along with the dangers to the developing child, there may be undesirable effects on the mother's health. For example, after prolonged use of salicylates, there is an increase in the number of anemia, bleeding and other complications in childbirth. If drug therapy is necessary during pregnancy, you should avoid taking medications that harm the fetus. In any case, it is recommended to limit the intake of absolutely necessary medications and use first of all drugs that have been tested for a long time.

Principles of drug therapy during lactation.

For the use of medicines during lactation, the same recommendations apply as during pregnancy, i.e. they can be used only in cases where it is impossible to do without it. It is recommended not only to refuse medicines, but also to reduce the load of foreign substances in general, if drug therapy is not a vital event for a nursing mother, since no one can be sure that the undesirable consequences will not manifest later.

The transition of the drug substance to milk is facilitated by the good solubility of the drug in fats, a small molecular weight, an alkaline reaction, a low degree of ionization and a low level of binding to the mother's proteins. Not all substances contained in milk are absorbed in the baby's intestines.

Difficulties in feeding may be due to the fact that the drug changes the taste of milk. The content of most drugs in milk is significantly lower than the therapeutic doses for the child. However, with prolonged use of the drug by the mother, these insignificant concentrations may increase as a result of an increase in the half-life of the substance in infants, and the child may develop appropriate symptoms.

In some cases, it is advisable to take a break from feeding after taking the drug.

The main medicines or methods of their use during lactation that pose a danger to the child include:

- ☐ Cytostatics
- ☐ Radionuclides

Combination therapy with many psychotherapeutic drugs or antiepileptics

Й Iodine-containing contrast agents and expectorants, as well as disinfection of large areas of the body surface with iodine-containing compounds

If it is necessary to conduct this type of therapy in each specific case, the question of whether it is advisable to interrupt breastfeeding for a while or to completely abandon it should be decided.

IY. Introduction to the practical lesson plan