ISBN: 978-93-86327-21-7

DEVELOPMENT OF A PHYSICAL ACTIVITY PROGRAM USING TRADITIONAL MEDICINE METHODS FOR POSTMENOPAUSAL WOMEN WITH ARTERIAL HYPERTENSION

Authors:

Akhmedova D. Sh
Safarov A.J.

Published by
Novateur Publication
466, Sadashiv Peth, M.S.India-411030
novateurpublication.org

"DEVELOPMENT OF A PHYSICAL ACTIVITY PROGRAM USING TRADITIONAL MEDICINE METHODS FOR POSTMENOPAUSAL WOMEN WITH ARTERIAL HYPERTENSION"

Monograph

Akhmedova D.Sh[1] Safarov A.J[2]

[1]https://orcid.org/0000-0001-8466-314 https://orcid.org/0000-0001-8466-314

[2] https://orcid.org/0000-0001-6124-6803

1. Assistant department of Rehabilitology , traditional folk medicine and physical education , Tashkent medical academy E-mail: d. Akhmedova 74@ mail. ru . Phone+998909972513

2. Assistant department of Rehabilitology , traditional folk medicine and physical education , Tashkent medical academy E-mail: safarovabdurasid72@gmail.com. Phone+998972442811

AG - Arterial hypertension

AB - Arterial pressure

BA – Bronchial asthma

VNT - Vegetative nervous system

GM – Gymnastic training

ShJT - Healing physical education

DMV – Decimeter wave therapy

UVB - short-wave ultraviolet radiation

MI - Myocardial infarction

MA - Atrial fibrillation

CNS - Central Nervous System

NE – Shortness of breath

NM - Breathing exercises

SYuE - Chronic heart failure

SMV Centimeter wave therapy

SVG – Chronic viral hepatitis

SLG – Chronic lobular hepatitis

UBN - Ultraviolet light

UTT - Ultrasound therapy

Ultra high frequency therapy (UVCh)

FS - Functional class

ICD-10 - International Classification of Diseases

EKG - Electrocardiography

EChT - Erythrocyte sedimentation rate

IHD - Ischemic heart diseases

YuN - Heart defect

Congenital heart defect

ORI - Acute rheumatic fever

ARVI – acute respiratory viral infections

INTRODUCTION

CONCEPT OF REHABILITATION

ITS DUTIES, PRINCIPLES AND MEANS

Rehabilitation is the restoration of health, functional status and work capacity that have been impaired as a result of diseases, injuries or physical, chemical and social factors. The goal of rehabilitation is to effectively and early return sick and disabled people to household and work processes, to society; restoration of personal characteristics of a person. The World Health Organization (WHO) defines rehabilitation as follows: "Rehabilitation is a set of activities aimed at helping people with functional impairments as a result of illness, injury and birth defects to get used to new conditions of life in the society in which they live." The term rehabilitation is derived from the Latin word habilis - "ability", rehabilis - "restoration of ability".

Rehabilitation is a process aimed at providing comprehensive assistance to patients and disabled persons in order to achieve maximum physical, mental, professional, social and economic fulfillment in this disease.

Thus, rehabilitation is considered as a complex socio-medical problem, which can be divided into several types or aspects: medical, physical, mental, vocational and socio-economic.

The first and main direction of rehabilitation is medical and physical, aimed at restoring the patient's health to the maximum extent of the disturbed physiological functions of the body with the complex use of various means, and when it is impossible to achieve this - the development of compensatory and substitute adaptation.

The mental aspect of rehabilitation is aimed at correcting the mental state of the patient, and forming his attitude to treatment, doctor's recommendations, and rehabilitation measures. It is important to create conditions for the mental adaptation of the patient to the life situation changed due to the disease.

Vocational aspect of rehabilitation includes questions such as placement of patients in jobs, vocational training and retraining, determination of work capacity.

Socio-economic rehabilitation consists in returning economic independence and social fulfillment to the victim. These tasks are solved not only by medical institutions, but also by social welfare bodies.

Patient and team, patient and family, mutual relations, issues of benefit provision are considered.

The patient and his family members are given information and advice on social adaptation, they are trained. The patient is taught self-care, the use of rehabilitation techniques. Social psychological and psychological rehabilitation is carried out (psychotherapy, psychocorrection, psychological consultation).

Tasks of medical rehabilitation

The main task of medical rehabilitation is to fully restore the functional capabilities of various body systems and locomotor apparatus, as well as to develop compensatory skills for everyday life and working conditions.

Special tasks of rehabilitation include:

- restoration of the patient's household capabilities, that is, movement, self-service and performing uncomplicated household chores;

-restoration of work capacity, i.e. restoration of professional skills lost by the disabled person using and developing the functional capabilities of the mobility apparatus;

- prevention of pathological processes leading to temporary or permanent loss of working capacity, i.e. implementation of secondary preventive measures.

The goal of rehabilitation is to fully restore the body's lost capabilities, but if this is not possible, then the task is to partially restore or compensate for the damaged or lost function and, in any case, to slow down the progression of the disease. To achieve them, complex therapeutic and restorative means are used, among which physical exercises, natural factors, various types of massage, training on simulators, as well as orthopedic devices, occupational therapy, mental therapy, and autotraining are the most rehabilitative means.

Understanding physical rehabilitation

Physical rehabilitation is a component of medical, social and professional rehabilitation, a system of activities aimed at restoring or compensating a person's physical capabilities and intellectual abilities, improving the functional state of the body, improving physical quality, using physical education tools and methods, sports elements, massage, physiotherapy and natural factors. .

Physical rehabilitation is a component of medical and social-labor rehabilitation using physical education tools and methods, massage and physical factors.

Principles of medical and physical rehabilitation

The basic principles of rehabilitation include:

- early initiation of rehabilitation activities (RT);
- comprehensive use of necessary RT;
- individualization of the rehabilitation program;
- gradual rehabilitation;
- continuous and continuous rehabilitation at all stages;
- social targeting of RT;
- use of rehabilitation efficiency control methods.

The main manifestations of age-related changes in women are:

Climacteric syndrome - with vascular (hot flashes, increased heart rate, increased blood pressure) and psycho-emotional (mood fluctuations, decreased performance: sleep disturbances) manifestations. Urinary disorders (frequent repeated urination, predominance of nighttime urination, urinary incontinence during physical activity) change (thinning) of the vaginal mucosa with the appearance of dryness, itching, frequent inflammation, severe discomfort or the inability to be sexually active development of menopausal metabolic syndrome (sharp weight gain, increased blood pressure, impaired glucose tolerance)

osteopenia and osteoporosis Treatment methods used. The main treatment option for age-related changes is properly selected hormone replacement therapy, but not always and not all patients can tolerate it. Indications for the use of physical factors to treat age-related changes are:

Intolerance to hormone therapy.
Inadequate response to hormonal therapy.
Contraindications for the use of standard methods of treatment, most often for taking hormones due to diseases of the liver, kidneys, and blood coagulation disorders.
Severe side effects from prescribed drug therapy for the treatment of urinary incontinence.
Reducing the dosage of medications and hormonal drugs when combined with physical factors.

Women's reluctance to use hormone therapy.

The Center uses both general (having a sedative, hypotensive, normalizing effect on the body as a whole) and local (on individual areas of the body with a central sedative, hypotensive effect) physical influences:

General dry carbon dioxide bath. General indifferent or warm therapeutic bath: iodine-bromine, sodium chloride, pearl, oxygen, pine.Dosed physical activity. Psychotherapy (individual and group). Electropulse effects on the head, collar zone, reflex zones: Electrosleep, Endonasal galvanization, Cervicofacial galvanization, Galvanization of the collar zone. Exposure to electromagnetic fields: Low-frequency magnetic therapy, Infitatherapy,

Color therapy using blue and green light. Laser therapy and magnetic laser therapy on biologically active points.

Steps to determine the rehabilitation program

Determining the rehabilitation measures - it is said to select rehabilitation measures and technical means so that the patient can restore the lost function or

perform self-service, social and professional tasks. For this, it is necessary to carry out rehabilitation - expert diagnostics: a complete examination of a patient or a disabled person is the basis for how to create a rehabilitation program. Examination includes: collection of complaints and anamnesis, conducting clinical and instrumental examinations.

The purpose of these examinations is not only to determine the damage to organs and systems, but also to find out how physical defects affect the patient's life and his functional capabilities.

In order to recommend restorative treatment, it is necessary to correctly assess a number of indicators of the patient's condition. Special diagnostics are used for this purpose. They are divided into the following types:

- medical diagnosis - conducted by a doctor and consists of the following, i.e. survey, analysis, examination, palpation, percussion, auscultation, as well as clinical methods, results of laboratory tests.

- functional diagnosis - examination of the functional state of the system and organs is carried out with the help of instrumental methods (ECG, phonocardiography, spirography, electromyography, etc.), with various functional tests.

- motodiagnostics - plays an important role in rehabilitation, that is, the patient's movement capabilities are determined, various tests and muscle testing are used to determine the ability to perform household and work activities.

- psychodiagnostics - the clinical study of memory is strengthened by experimental-psychological tests conducted by a psychologist . A psychologist determines the level and structure of changes in mental function, changes in memory, attention, and thinking.

Types and conditions of rehabilitation programs.

Inpatient program - is carried out in special rehabilitation departments. This program is conducted for patients who need constant monitoring by a medical professional.

Day inpatient program - in which the patient lives at home, comes to the clinic for treatment and rehabilitation.

Outpatient program - It is carried out in restorative therapy departments in polyclinics. The patient is in the outpatient clinic only during rehabilitation procedures, such as therapeutic sleep or physical exercises, and is under the supervision of a rehabilitation doctor and instructor.

Home program - All treatment and rehabilitation procedures are performed at home. This program has many advantages. Program of

rehabilitation centers - where patients participate in rehabilitation programs, receive the necessary treatment. Rehabilitation specialists provide the patient and his family members with the necessary information, advice on choosing a rehabilitation program and conducting it under different conditions.

The main manifestations of age-related changes in women are:

climacteric syndrome - with vascular (hot flashes, increased heart rate, increased blood pressure) and psycho-emotional (mood fluctuations, decreased performance: sleep disturbances) manifestations.

urinary disorders (frequent repeated urination, predominance of nighttime urination, urinary incontinence during physical activity)

change (thinning) of the vaginal mucosa with the appearance of dryness, itching, frequent inflammation, severe discomfort or the disability to be sexually active

development of menopausal metabolic syndrome (sharp weight gain, increased blood pressure, impaired glucose tolerance)

osteopenia and osteoporosis

Treatment methods used

The main treatment option for age-related changes is properly selected hormone replacement therapy, but not always and not all patients can tolerate it. Indications for the use of physical factors to treat age-related changes are:

Intolerance to hormone therapy

Inadequate response to hormonal therapy

Contraindications for the use of standard methods of treatment, most often for taking hormones due to diseases of the liver, kidneys, and blood coagulation disorders

Severe side effects from prescribed drug therapy for the treatment of urinary incontinence

Reducing the dosage of medications and hormonal drugs when combined with physical factors

Women's reluctance to use hormone therapy

The Center uses both general (having a sedative, hypotensive, normalizing effect on the body as a whole) and local (on individual areas of the body with a central sedative, hypotensive effect) physical influences:

General dry carbon dioxide bath

General indifferent or warm therapeutic bath: iodine-bromine, sodium chloride, pearl, oxygen, pine. Dosed physical activity.Psychotherapy (individual and group).Electropulse effects on the head, collar zone, reflex zones: Electrosleep,

Endonasal galvanization, Cervicofacial galvanization, Galvanization of the collar zone, Exposure to electromagnetic fields: Low-frequency magnetic therapy, Infitatherapy, color therapy using blue and green light, Laser therapy and magnetic laser therapy on biologically active points

Rehabilitation treatment usually begins in an inpatient setting and then continues at home. Such treatment should be started while the patient is in bed. Lying in the right position, turning the body in bed, passive movement of the joints, breathing exercises - serve to prevent complications such as muscle atrophy, bedsores, zotiljam. The patient should always be physically active, as this will strengthen his health. During restorative treatment, it is necessary to pay attention to the mental state of the patient along with the physical state, because patients with impaired or lost physical activity may experience fear, panic, and depression. Therefore, it is necessary to create a psychologically comfortable atmosphere around the patient.

The rehabilitation program includes the following three directions:

The healer is a healer program

Functional training events

Actions to actively restore functions

Principles of rehabilitation .

etiopathogenetic and syndromic treatment based on and together take to go

• individual approach to each patient ;

• t urly in stages rehabilitation measures - measures according to the course otkazi sh, drive measures _ _ medical of rehabilitation each one stage intensity increase , physical factors of ignition with pharmacological preparations suitable arrival

• from pathology strictly look dynamically carrying out stages of medical rehabilitation ;

• various tools and methods in the medical rehabilitation program in a complex and sequential manner apply _

Rehabilitation program it is necessary to monitor its effectiveness dynamically, in this regard , the level of recovery can be assessed on a four - point scale: full recovery; partial recovery; unchanged from the initial state; deterioration.

The International Labor Office offers the following scale:

1. Restoration of functional ability to one degree or another.

1.1. Full recovery.

1.2. Partial recovery.

1.3. Absence of compensation and recovery in limited recovery of function.

1.4. In the absence of recovery, its replacement (orthopedic or surgical).

2. Restoration of adaptation to daily and professional life.

2.1. Educating preparation for work and household activities.

2.2. Labor treatment.

3. Involvement in the labor process - determining the ability to work, retraining.

4. Providing dispensary services to those undergoing rehabilitation.

Studying the immediate and long-term results of rehabilitation measures allows to conduct the rehabilitation process in a planned and efficient manner, defines the main tasks for each stage, and allows to choose a suitable and effective set of tools to achieve a positive result.

FUNDAMENTALS OF PHYSIOTHERAPY

Physiotherapy (from the Greek physis nature + therapeia treatment; synonyms: physical therapy, physical therapy, physiatry) is a branch of medicine that studies the physiological and therapeutic effects of natural and artificial physical factors and the use of physical factors for treatment and prevention. Physiotherapy is divided into general and clinical or special departments: general physiotherapy studies the mechanism and specificity of the effect of physical factors on the human body in normal and pathological conditions. Clinical or special physiotherapy studies the principles of using and applying physical factors according to their specific effects in the complex treatment of various diseases. Physiotherapy study subject into 2 large groups divided into: natural and artificial physical factors.

The object of study of physiotherapy is a person - it studies the effects of physical factors for the purpose of treatment, prevention and rehabilitation

Physiotherapy goals carrying out training and health activities for the prevention of diseases, treatment of diseases at different stages, prevention of complications and consequences ,maximally restore the working capacity of patients. Advantages and considerations of physiotherapeutic methods worthy parties, physical method as a means of treatment is convenient for everyone, even at home. Physiotherapy methods are much cheaper. It is more effective than other treatments. Physiotherapeutic methods can be used in the elderly and children, because their use does not feel painful, but has a pleasant effect.

- ✓ unlike medicines and other means of treatment, physiotherapeutic methods are used not only as a means of treatment, but also for the prevention of various diseases, health and fitness of the body.
- ✓ physical factors actively affect all systems of the organism . Therefore, even if there are several types of physiotherapeutic devices, it is possible to effectively treat various diseases by knowing how to use them.
- ✓ physical factors are physiological means of treatment, which have a gentle effect on the body, do not cause pain, and gradually cause a compensatory-adaptive reaction. It can be explained as follows: physical factors are external influences necessary and specific to the human organism, with which a person is born, lives and develops.
- ✓ the healing effect of physical factors is preserved for a certain period, often for a long time (up to 2 months).
- ✓ The most important quality of physical factors is that it does not cause secondary negative effects. It should be taken into account that the body quickly gets used to drugs and they certainly have secondary negative effects, and it should also be taken into account that the physiotherapeutic

method is also used in the treatment of various complications caused by drugs. Another advantage is that physical factors increase the sensitivity of the body to various drugs, which leads to a reduction in the dose of the drug by several times and a small amount of therapeutic effect. Treatment with physiotherapeutic methods also has a positive effect on the emotional sphere of the human psyche, which helps to overcome the disease faster. Quickly eliminating pain syndrome, restoring sleep, restoring and increasing the ability to work, similar actions are very useful and necessary for the body.

- ✓ In phsiotherapy the followings are distinguished:
- ✓ Electrical treatment (galvanization, medicated electrophoresis
    - pulse electrotherapy , high frequency electrotherapy) .
- ✓ Magnetotherapy
- ✓ Franklinization. Aeroionotherapy, Aerophytotherapy
- ✓ Inhalation therapy
- ✓ Light therapy (rays in the optical range).
- ✓ Water treatment (hydro- and balneotherapy) .
- ✓ Heat treatment (clay , ozokerite, sand , peat, naphthalene) .

Cryotherapy

- ✓ Treatment with mechanical impact (ultra sound) .
- ✓ Climate treatment (aero- , thalasso- , helio-, speleotherapy ,phytotherapy)
- ✓ Sanatorium - spa treatment .
- ✓ Healing physical factors _ rational application 6 _ to the principle compliance to do mean holds :

1. In physiotherapy - etiopathogenetic and symptomatic treatment togetherness principle

- Each healer of the factor private properties and them the patient organism certain functions effect to do is based on

2. Physical factors with individual approach to treatment principle .

- S.I. Botkin's from the main clinical thesis come comes out , that is, " Illness." not _ the patient treatment need " . Physiotherapy in this cure in ordering the following in consideration get required :

- Patient's age , sex and constitution ; _ _
- Accompanying diseases that there is ;
- It is known a physical factors against individual use instructions that there is ;

- organism reactivity and adaptive compensatory mechanisms development degree;
- organism main reactions biorhythmic activity;
- It is known that there are physical factors against individual use of instructions.
- Physical factors with optimal treatment principle .
- one the disease in treatment to a non - uniform therapeutic effect using physical factors that have ignition factor indicators and him apply method optimal to be need pathological of the process features and phase maximum level suitable coming need. To physiotherapy against it is necessary to take into account the instructions :
- General : the disease and his situation mean holds in which physiotherapeutic cure in general is not ordered
- User : everyone sure of the factor features with depends .
- strongly opposes physiotherapy instructions.

Predicting the development of oncological diseases, tumors and dangerous tumors.
Systemic diseases of the blood.

Bleeding or bleeding tendency.
Active form of tuberculosis.
Levels of cardiovascular insufficiency higher than 2nd degree.
General serious condition of the patient.
Increased body temperature (37.5 degrees and higher).
Acute cachexia.
Acute and infectious diseases.
Organic diseases of the nervous system.
Aneurysm of large blood vessels (aorta).
Intensification of the inflammatory process.
Inability to bear the physical factor.

- 5. Physical factors and dynamic treatment with principles.
- Physiotherapy of the patient diary to the situation suitable must come;
- memory treatment during the physical factor parameters constant making corrections to stand demand does.
- Physical factors complex treatment with principle .
- Complex treatment in two different forms done is increased : together and in combination .
- gender in treatment pathological to the oven one of time in itself one several physical factors with effect is displayed .
- combination physical factors in treatment known time intervals with don't go on the way or one one replace is used .
- Physiotherapy in this treatment in ordering of course suitable agreement factor in consideration get is necessary .

- - one of the day in itself the following treatments order recommendation does not :
- - whole in the body common answer the reaction caller (2 baths)
- - one reflexogenic 2 treatments per zone and from him over , electrophoresis, galvanization, UV, heat with effect show
- - physiological features with one to one near has been treatments order to the goal according to not to one don't look against effect pointers heater and cooling , stimulating and calming factors . When UV is prescribed, electrophoresis, novocaine, dimedrol, infrared radiation, heat treatments, massage should not be prescribed to the same area. It is not appropriate to carry out 2 local procedures in a row to enhance the effect of each other (inductotherapy, infrared radiation and drug electrophoresis, heat treatment and massage).
- - it is impossible to apply both physical factors and X-rays to a certain place.
- - if it is necessary to carry out similar procedures at the same time, they are carried out alternately.
- - if complex treatments are carried out in one day, first the one affecting a specific place, then the general treatment, only the time between them should not be less than 2 hours.
- When treating a specific patient, the doctor should recommend such physical factors that he should take into account that they affect not only the etiological agent of this disease, but also actively interfere in its pathogenesis. Some therapeutic physical factors, for example, ultraviolet rays, etc., can affect only the etiological agent, and many others - the

pathogenesis and the main symptoms of the disease. In the acute period of the disease, it is necessary to try to influence the etiological agent. In subacute and chronic inflammatory diseases, physiotherapeutic procedures should be aimed at resolving the pathological process, liquidating its remnants, and normalizing the impaired functions of various organs and systems.

- General recommendations for receiving physiotherapy treatments.
- The effectiveness of treatment with the physiotherapeutic method depends on the correct and rational treatment, the method, and the technique of performing procedures. It is necessary to observe the following rules: Under the influence of physical factors, the sensory organs of the body receive a pleasant impression, the patient believes that the effect of the treatment will give a positive result, and they must be under constant control.It is necessary to have an understanding of the factors affecting the body's sensitivity and to always remember them. Physiotherapy procedures are not used in cases of acute myocardial infarction, tonsillitis, and infectious diseases. In cases of nervousness, physical and mental overstrain, alcohol consumption, various drugs (ganglioblockers), and psycho-neurological drugs affecting the blood vessels. Antibiotics, sulfonamide drugs, and blood products increase sensitivity to UV; even skin burns are possible; or vice versa, patients receiving insulin and calcium preparations are less sensitive to UV. Depending on the age of a person, the body's reaction may change. A child's body is more sensitive; adults and the elderly cannot bear heavy treatments, so the treatment time

and strength are reduced by 1/3.During the treatment and after taking it, unpleasant conditions should not be felt.

- Sometimes, if the specific characteristics of the organism are not taken into account and the method of use is not followed, there may be pathological reactions in one place or in general. Common reaction symptoms are mood disorders, headaches, pain around the heart, sleep disturbances, appetite disturbances, decreased mobility, fatigue, etc. A reaction in a certain place is an increase in inflammatory processes in the place of a pathological change, an increase in pain, the activation of dormant infections, etc.If these reactions pass in a short period of time, treatments can be used, but it is necessary to increase the interval between treatments and reduce excess pressure. An effective result can be obtained only when one course of treatment is taken in full; systematically taken treatments do not give the expected result. Physical factors are used in a complex manner to improve the effectiveness of the treatment of many diseases. Only 2 or 3 procedures should be included in the complex; only one of them should be common; and the time interval should be from 1 to 3 hours. First, a treatment is given to a certain designated place, and then, after 1 hour, a general treatment is carried out. Sometimes, in the case of chronic diseases, after a certain period of time, the course of physiotherapeutic treatment is used again. Physical factors are used only at a certain age.It is necessary to take into account the variability that occurs in the body under the influence of procedures. It is necessary to take into account the habituation of the organism to the same type of reversible effects. Changing the speed and timing of the procedures

increases their effectiveness and duration of action. For women, it is necessary to take into account the menstrual cycle; the optimal time is 5-7 days after the start of menstruation.It is necessary to take into account the time of treatment; it is not possible on an empty stomach or immediately after eating, preferably 1–1.5 hours after eating. Refreshing treatments are not performed in the afternoon, before sleep. Scientists are working on the theory of accounting for daily biorhythms. For example, if balneotherapy is carried out correctly at the right time, its effectiveness increases by 15-20%.Physical factors are not used on the days when X-rays and duodenal examinations are carried out for diagnosis.

- Due to the wide range of physical factors and their multi-faceted impact on the body, there is no disease without the use of physiotherapy methods at a certain stage of treatment. In general, the components of an organism's exposure will be specific or non-specific.
- Non-specific reactions are reactions of a general nature, in which blood circulation and oxidation-reduction reactions increase, the work of many systems of the body is activated. Physical factors that affect the body in large doses and volumes manifest these reactions.
- For example: in the past, physical factors were not used in case of chronic coronary insufficiency of the heart and impaired cerebral blood circulation, but now electrosleep, electrophoresis with various drug solutions and TE are recommended even in 1-2 FS angina pectoris, even in 3-4 FC (stable, stable) angina pectoris, carbonate dioxyde-steam baths are recommended.

- Many such examples can be cited. Thus, the use of physical factors is expanding as new methods of treatment are promoted.
- Physical therapy is one of the main curative complex methods of medical rehabilitation, and is a set of measures aimed at the condition of the patient's body caused by hypodynamia, stimulation of internal reserves, prevention and treatment of the disease.
- The tasks of physical education:
- - prevention of hypokinesia in patients and increase of physical activity;
- - restoration of broken functions (in organs and systems);
- - improving the patient's health and adaptation to physical exertion;
- The main principles of healing physical education:
- - use of proven pathogenetic treatment in treatment;
- - conducting general and special physical training;
- - active use of treatment (Therapeutic exercises-TE);
- - the use of complex methods of TE in treatment ;
- - in the rehabilitation process active participation of the patient provide ;
- TE is a natural biological method, based on it, the basic biological of the organism attention is paid to the function - muscle movement. Movement stabilizes the processes of growth, development and formation of the organism, helps in the creation and improvement of higher mental and emotional spheres, activates the activity of vital organs and systems, strengthens and develops them, helps to increase general tone.
- TE is a non - specific treatment method being , then physical exercises are non - specific performs the role of a shooter . Neurojormonal mechanisms activation , physiological functions in order put with in front

of TE patient to the organism systematic effect shows . With that together different physical exercises for body shows that in alo system and in members pathological Views are different when you die catch it is necessary

- TE is pathogenetic cure method . Systematic physical exercises influences the organism's reactivity effect showing it common and local appearance changes .
- TE is active functional therapy method . Permanent dosed Exercises are patient - specific systems and whole organism stimulates , increases going physical to downloads adjusts , end reading the patient functional adaptationi 's development take will come
- TE is a booster treatment method . Medical rehabilitation finishing touches , as well old age q is used during the period .
- TE say restorative treatment method . Complex patients in the treatment of TE with medication cure and various physical therapy methods with efficient.
- Systematically done physical exercises whole in the body and injured functional reserves in the system increase. The patient is systematically and carefully trained in physical exercises, which are used in cases of general body fatigue, pathological absorption of processes, and broken function recovery.In TE, he is mummy, and don't shut up exercises are different. General training strengthens the patient's body and affects recovery. It uses a variety of general strengthening and development exercises.Special exercises are aimed at restoring the function of a limb lost as a result of disease or trauma. In this, various physical exercises are

used that directly affect the trauma area or normalize functional disorders (for example, breathing exercises in pleural adhesions, exercises for joints in polyarthritis, etc.).

- General characteristics of physical education
- Physiotherapy is a treatment method used for the purpose of rapid and complete recovery of health, treatment, and prevention of disease.Physical therapy is not only a treatment-preventive direction but also a curative-educational process that allows the patient to perform physical exercises under his understanding, to improve the hygienic condition, and to properly train the body against external factors based on "planned exercise.".of TE, the object is a person who will die and study the functional condition of my body. In this case, TE's different types and methods are used.
- General instructions for TE.
- - her or his complications when the body becomes weak as a result ;
- - in dynamics of the patient condition while improving (the patient himself good pain syndrome frequency and intensity decrease , clinical - laboratory of inspections improvement).
- General contraindications to TE:
- - the patient condition extreme weight or mental disorders ;
- - acute illness or the climax get during (heart blood vessel failure - sinus tachycardia when the heart rate is more than 100 and bradycardia (when the heart rate is less than 50) , paroxysmal and cardiac arrhythmia, extrasystole , coronary circulation deterioration , AV block II - III level , hypertension A B 220/120 mm . higher than and in other severe cases);

- - frequently observed hyper and hypotonic crises , thromboembolism and bleeding inclination ;
- - anemia : 2.5-3 million erythrocytes . decrease to , EEC 20 –25 transition , expressed leukocytosis ;
- Clinical-physiological aspects of therapeutic physical education basics
- I.M. Sechenov, I.P. Pavlov, N.E. N.E. Vvedensk, and A.A. Ukhtomsk are physical with their doctrine of nervousness in internal organs through the effect of exercises. They proved that the function is a change through the theory of motor-visceral reflexes. According to it, the proprioceptive afferentation of the moving analyzer is observed and legitimately affects the internal organs. Proprioception adapts the autonomic system to the needs of the muscles of the musculoskeletal system through CNS. Motion analyzers in higher autonomic centers in different ways (pyramidal, extrapyramidal, network formation, etc.) This relationship is functional or morphological disruption motor visceral imbalance and motor, as well as vegetative and pathological in the process that causes the condition to develop.Physical exercise therapist The effect is based on the training process. Due to the high plasticity of the CNS, it is possible to create new functional systems and restore the body's responses based on training.
- Effect mechanisms of healing physical education:
- 1. Neuro-reflective-humoral effect
- Physical exercises are non-specific stimulators of nerve receptors. They act on nerve receptors and go to the CNS through a centripetal pathway. There, passing through the hypophysis-hypothalamus system and affecting the reticular formation and various centers located under the

cortex, the impulses return to the pathological center through the centrifugal nerve paths and lead to the following: blood and lymph circulation improve; The process of metabolism is activated; separation of biologically active substances increases; regeneration and reparation processes are improved; tissue trophism improves. As a result of such effects, pain subsides and remains, inflammatory conditions decrease, and a and a spasmolytic effect occurs.

- 2. Compensatory (supplementary) effect:
- pathological changes in the body are replaced, and the aggravation of the pathological process is prevented. For example, in diseases of the respiratory organs, exercises are given to the muscles involved in the breathing process, that is, the diaphragm, intercostal space, shoulder girdle, and back muscles. Exercises for the pre-abdominal muscle press in diseases of the digestive organs, exercises for the intermediate and anal sphincter in diseases of the pelvic floor organs, etc.
- 3. Trophic effect:
- Due to the effect of physical training tools, vessels expand, blood circulation improves, and metabolism improves. As a result, the trophic or nutritional status of the injured area improves. The trophic function is performed by various sections of the CNS, including the cerebral cortex and the hypothalamus. The information coming from the proprioceptors in the musculoskeletal system has a high trophic effect on all organs, including the cells of the nervous system.

- There is sympathetic innervation of muscle receptors (according to L.A. Orbeli). Efferent impulses from receptors through these nerves have a trophic effect and, on this basis, control its excitability.
- One of the mechanisms of physiological control of tissue metabolism is the trophic reflex. The trophic function is performed by various sections of the CNS, including the cortex of the large hemispheres of the CNS and the hypothalamus.
- It is known that for the implementation of any nerve movement, from simple reflex movement to complex movement, the metabolism depends on the degree of change, especially if the locomotor apparatus works as an executive effector mechanism.
- Information from proprioceptors has a high trophic effect on all organs, including cells of the nervous system.
- Functional plasticity and adaptation of proprioceptors—the daily needs of the body are provided by a special reflex mechanism. There is sympathetic innervation of muscle receptors. Efferent impulses sent to the receptors through these nerves have a trophic effect on them, controlling their excitability. In turn, the functional activity of proprioceptors determines the intensity of reflex and trophic effects on various systems of the body.
- The trophic effect of physical exercise is manifested by a decrease in muscle stiffness in osteochondrosis syndrome of the spine, scoliosis, and other diseases of the musculoskeletal system. For example, in spinal osteochondrosis, muscle strain occurs firstly due to a decrease in blood supply to the muscles involved in the pathological process and secondly

due to increased compression of nerve roots and blood vessels that pass through the intervertebral foramen, aggravating the clinical symptoms of the disease. Physical exercises aimed at relaxing certain muscle groups lead to improvements in microcirculation in them and a reduction in the compression levels of nerve vessels. All this ensures the prevention of increasing regenerative dystrophic processes in the muscles and tissues around the spine.

- Thus, using viscero-visceral and motor-visceral connections, physical exercises can be selected so that their trophic effect affects a specific organism or branch.
- 4. Tonus (stimulating) effect.
- Motor-viseral reflex stimulation. Prioritizing afferent receptors as a result of the increase in impulse, move the analyzer in the name of the central neurons x cell metabolic process accelerates, as a result CNS of the musculoskeletal system muscles, internal organs, and whole trophic effect on the organism increases. The patient emotional to positive affects .
- Therapeutic physical education means include:
- 1. Physical exercises
- 2. Natural factors of nature
- 3. Healing massage
- 4. Labor treatment
- Physical exercises are divided into the following (see classification):
- 1. Gymnastic exercises
- 2. Practical sports exercises
- 3. Games

- 4.Signs of menopause
- Menopause in women at the initial stage may occur without any symptoms, or there may be a large list of symptoms. At different times of menopause, the signs may have distinctive features.The initial manifestations of menopause include:

Temperature fluctuation

High level of sweating
Frequent goosebumps
Headache
High heart rate
Pressure fluctuation
Stress, excessive irritability
Sleep disturbance
Inattentive state
Memory impairment
Decreased quality of sex life
In the list of signs that occur 1.5 years after the last menstruation:
Lack of moisture in the mucous membrane
Painful sensations during sex
Painful sensations in the muscles
Inability to hold urine
Peeling of the skin

3-5 years after the last menstruation, signs of the late type appear (complicating processes):
Elastic artery disease
Increased amount of unhealthy fats in the blood
Increased likelihood of diabetes
High blood pressure syndrome
Deterioration of the visual and auditory systems
Disease affecting tissue
Types of menopause
There are three types of menopause:
Mild – accompanied by infrequent attacks of low intensity
Medium–characterized by abundant arrivals and the presence of other signs
Severe – accompanied by very frequent visits and other active manifestations, the condition during this period worsens, the level of activity decreases

The type of menopause can only be determined by a specialist using a specific table based on the woman's complaints.

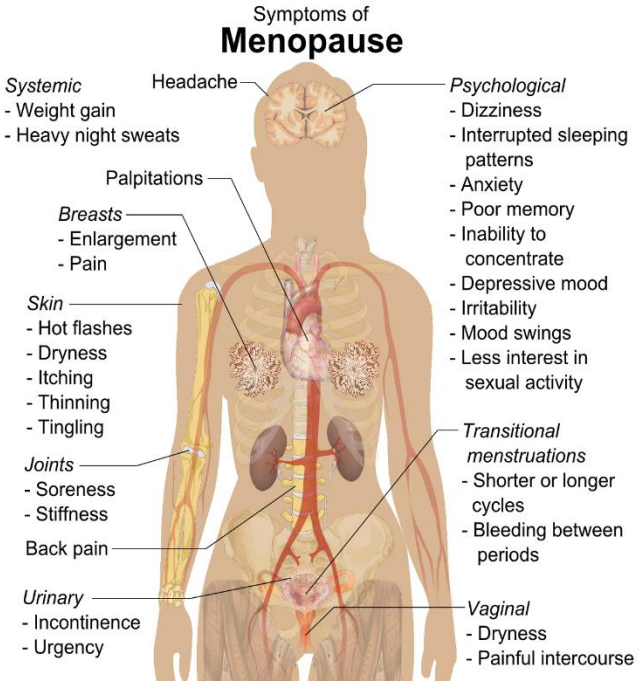
■

Contraindications to HRT:
Presence of malignant neoplasms
Blood from the vagina (not during menstruation)
Serious liver pathologies
Migraine
Complicating processes of diabetes mellitus

To identify possible limitations for the determination of HRT, a specialist consultation and a full diagnostic complex are needed.

During menopause, therapy should only be complex and contain therapeutic methods to reduce the impact of hormonal deficiency on other systems. The use of HRT requires regular examination by a gynecologist.

What changes happen during menopause?



During the transition to menopause and beyond, your levels of the hormone estrogen begin to decline, disrupting your usual cyclical patterns of estrogen and progesterone. Declining estrogen levels can negatively affect your metabolism, potentially leading to weight gain.

These changes may also affect your cholesterol levels and your digestion of carbohydrates. Many women experience symptoms such as hot flashes and sleep problems during this transition period. Additionally, hormonal changes lead to decreased bone density, which research from Trusted Source indicates can increase your risk of fractures. However, making changes in your diet may help relieve menopause symptoms and promote optimal health during this phase of life.

Menopause is the time that marks the end of your menstrual cycles. It's diagnosed after you've gone 12 months without a menstrual period. Menopause can happen in your 40s or 50s, but the average age is 51 in the United States. Menopause is a natural biological process. But the physical symptoms, such as hot flashes, and emotional symptoms of menopause may disrupt your sleep,

lower your energy or affect your emotional health. There are many effective treatments available, from lifestyle adjustments to hormone therapy.

Foods to eat

There is evidence that certain foods may help relieve some symptoms of menopause, such as hot flashes, sleep problems, and low bone density.

Dairy products. The decline in estrogen levels during menopause can increase your risk of fractures. Dairy products, such as milk, yogurt, and cheese, contain calcium, phosphorus, potassium, magnesium, and vitamins D and K — all of which are essential for bone health. In a 2017 study of nearly 750 women in postmenopause, those who ate more dairy and animal protein had significantly higher bone density than those who ate less. Dairy may also help improve sleep. A 2023 review Trusted Source notes that the amino acid tryptophan, which is found in dairy products, helps people fall asleep and stay asleep.

Furthermore, some evidence links dairy consumption to a decreased risk of premature menopause (menopause that happens before age 45). In another 2017 studyTrusted Source, researchers found that women with the highest intakes of vitamin D and calcium had a 17% lower risk of early menopause. Cheese and fortified milk are rich in these nutrients.

Healthy fats

Healthy fats, such as omega-3 fatty acids, may benefit women going through menopause. According to a 2020 review, higher omega-3 fatty acid levels are

associated with better health among women in postmenopause. Additionally, women in postmenopause who have diabetes or coronary heart disease tend to have lower omega-3 levels than women without those conditions. Foods high in omega-3 fatty acids include fatty fish (such as mackerel, salmon, and anchovies) and seeds (such as flaxseed, chia seeds, and hemp seeds).

Whole grains are high in nutrients, including fiber and B vitamins such as thiamine, niacin, riboflavin, and pantothenic acid. A diet high in whole grains has been linked to a reduced risk of heart disease, cancer, and premature death. Additionally, according to a 2021 review, women who eat more whole grains, vegetables, and unprocessed foods tend to have less severe menopausal symptoms than those who eat fewer of those foods. Some examples of whole grain foods are brown rice, whole wheat bread, barley, quinoa, oats, Khorasan wheat (Kamut), and rye. Look for “whole grain” listed as the first ingredient on the label when evaluating which packaged foods contain primarily whole grains.

Fruits and vegetables

Fruits and vegetables are packed with vitamins and minerals, fiber, and antioxidants. A 2020 study found that women who ate more fruits and vegetables had fewer menopausal symptoms for women who ate less of those foods. Dark berries may be especially beneficial among women going through menopause. In a small 8-week study of 60 women in postmenopause, participants who consumed 25 grams of freeze-dried strawberry powder per day had lower blood pressure than those in a control group, who did not consume the powder.

However, it's generally recommended to "eat the rainbow" of fruits and vegetables in order to get all the necessary vitamins and minerals.Phytoestrogen-containing foods Phytoestrogens are compounds in foods that act as weak estrogens in your body. While there has been some controversy around including these in your diet, the most recent research suggests that they may benefit postmenopausal health, particularly by improving bone health and lowering cardiovascular risk. However, more research is needed to better understand the connection. Foods that naturally contain phytoestrogens include soybeans, chickpeas, peanuts, flaxseed, barley, grapes, berries, plums, and green and black tea.

Quality protein

The decline in estrogen from menopause is linked to decreased muscle mass and bone strength. For this reason, women going through menopause should eat more protein. GuidelinesTrusted Source recommends 1–2 grams of protein per kilogram of body weight. In a 2018 study of 131 women in postmenopause, those who took 5 grams of collagen peptides daily had significantly better bone mineral density than those who took a placebo powder. Collagen is the most abundant protein in your body. In a large 2017 study of adults over 50, eating dairy protein was linked to an 8% lower risk of hip fracture, and eating plant protein was linked to a 12% reduction. Foods high in protein include eggs, meat, fish, legumes, and dairy products. Additionally, you can add protein powders to smoothies or baked goods.

Foods to avoid

Limiting certain foods may help reduce some of the symptoms linked to menopause, such as hot flashes, weight gain, and sleep problems. Some of the

most important foods and drinks to limit are: highly processed foods such as candy, potato chips, and fried foods food and drinks with added sugar such as soda, energy drinks, and baked goods alcohol, caffeine, high salt foods such as soups, deli meats, and pretzels. The bottom line Menopause is linked to changes in metabolism, reduced bone density, and increased risk of heart disease. Additionally, many women going through menopause experience unpleasant symptoms such as hot flashes and sleep problems. A whole-food diet high in fruits, vegetables, whole grains, high quality protein, and dairy products may reduce menopause symptoms. Consuming phytoestrogens and healthy fats, such as omega-3 fatty acids from fish, may also help. You may want to limit your consumption of added sugars, processed high- carb foods, alcohol, caffeine, and high- sodium foods as well. These dietary changes might help make this important transition in your life easier**.**

Physical exercises

In order to achieve the intended goal of physical exercise, it is necessary to take into account the following factors:

- individual characteristics of participants (age, gender, health, physical development and level of physical fitness).

- Features of Islamic exercises (difficulty, novelty, specialization, technical characteristics).

- external factors (working conditions, study, household conditions, rest, specific conditions of movement activity, weather conditions, quality of elementary and equipment, hygiene of training places).

Special exercises - selectively affect one or another part of the musculoskeletal system, for example, in the case of flat feet or traumatic damage to the sole of the foot or spinal deformities, to one or another joint when movement is limited. Exercises for the body are considered to be a general booster for a healthy person in terms of their physiological effects on the body.

And for the patient, for example, who has a disease of the spine (scoliosis, osteochondrosis, etc.), it belongs to a special group of exercises, because it helps to solve the treatment indirectly - it helps to correct the spine, strengthen the muscles, increase the mobility of the spine, etc.

The physical classification of exercises base d a is one how many o m ils lies :

1. According to anatomical features :

Exercises are divided into small (palms, soles, face), medium (neck, wrist, calf, shoulder, thigh) and large (arms, legs, body) muscle groups.

2. Muscle q is q arish according to the character . Muscle _ q is q arishi character according to dynamic (isotonic) and static (isometric) ka is divided .

***Dynamic exercises* .** D namic x arakats the most popular _ is , in which the muscle isotonic in mode works. In this, q is q arish and relax from time to time surface will come , die and die joints or body to x effort is brought . Examples of dynamic meshes being elbow in the throat q die bending and writing , in the

shoulder joint q die lengthening the body forward , side bending Performing dynamic exercises the muscle tension is under pressure , x is moving the body segment x effort speed and muscle there is no tension to x dosed .

3. Dynamic exercises are active level according to active, passive and ideomotor will be (q is engraved ma q sad, patient x tool and disease or injury character as well adequate to upload bo g' li q x ahead) .

Active exercises the patient itself , simple or eased in the circumstances performs (pulling force , working force with).

Passive exercises with, the help of an instructor, the patient performed without effort, in which there is no active contraction of the muscles. Passive exercises are prescribed to improve lymph and blood circulation, to prevent low mobility in joints when the patient is unable to perform active movements, and to restore the correct pattern of movement (for example, paresis and paralysis of the arms and legs).

Ideomotor exercises - an exercise performed in the imagination have a neuroreflective effect on the body.

Static exercises. Movements in which muscles contract and do not change their length are called static (isometric) movements. For example: while the patient is lying down, raise the leg and hold it in this position for a few minutes. In this case, dynamic work is performed first (lifting up), and then static, otherwise, the hip flexors perform an isometric contraction. These exercises are widely used in traumatology and orthopedics for limbs in plaster casts.

Methodical guidelines for therapeutic gymnastics.

Classes are held in the physical education rooms or special halls of the women's consultation room or sanatorium-resorts. It is advisable not to let

Purulent processes in the small pelvis.

strangers into the hall during the training. Clothing should be comfortable and not restrict movement. Before training, the bladder and bowels should be emptied.

The following conditions must be taken into account in physical education.

- during menstruation, training is not stopped, but the load is slightly reduced in general strengthening exercises.
- in all exercises, you should pay attention to the breath, the breath should match the rhythm of the movements.
- it is advisable to include lying down, running and light jumps during uterine retroflexion at the end of the treatment.

HEALING IN GYNECOLOGY.

Healing massage is an effective treatment for non-drug treatment of female genital diseases.

Instructions for therapeutic massage.

Contraindications. Small pelvic and abdominal tumors requiring urgent care.

Attack of chronic processes in the small pelvis.
Qin flora grade III-IV purity.
Increase in body temperature by , 37 °C increase in EChT by more than 20 mm/s.
Endocervicitis and erosion of the cervix.
Endometriosis.
Bloody stools.
Menstruation (massage is possible in oligomenorrhea).
Pregnancy or suspected pregnancy.
The period after childbirth or abortion.
Venereal diseases.
Having severe pain after a massage.

Massage tasks.

- Improvement of the regeneration of pelvic organs, lymph and blood circulation in them.
-Restoration of the normal physiological state of the uterus. - Restoration of normal motility and tone of the myometrium and uterine tubes.
-Normalization of ovarian-menstrual function of ovaries.
-Restoration of reproductive function.
Acceleration of the absorption of the infiltrate in the cell around the uterus.
-Loss of adhesions of the uterus.
-Elimination of pain syndrome.
-Improving mental and emotional state

Massage area . The main area for massaging is the lower part of the back from the chest, lower back, buttock area, lower abdomen, thighs (segments D- $_{11,12}$, L $_{-1-5}$, S- $_{1,2}$). In the presence of comorbidities, these areas become much larger.
Massage conditions : it can be done while sitting, lying (on the stomach), lying on the side .

MEDICAL PHYSICAL EDUCATION IN OBSTETRICS

PHYSICAL EDUCATION IN PREGNANCY

General tasks of the HCW during pregnancy:

improve general metabolism;

Strengthen press, back, pelvic floor, leg muscles;

Increase the elasticity of the intermediate muscles;

Maintaining the mobility of the pelvis and other joints of the body;

Teaching pregnant women to breathe properly and relax muscles;

improve the work of the cardiovascular system, lungs, intestines;

loss of dampness in the pelvis and legs psychomotor preparation for childbirth, etc. *Physical therapy tools:* all physical therapy methods can be used in practice: physical exercises (gymnastics, sports, games), autogenic training and massage, conditioning elements (sun, air, water). *Forms of ThE:* morning hygienic gymnastics, DG treatment, aerobics, physical exercises in water, football, independent training of pregnant women.

Selection of pregnant women for training: DG is recommended to all women with a normal pregnancy from the first day of consultation with a gynecologist or GP Pregnant women with diseases of the compensation period of the cardiovascular system are also involved in training.

Instructions against ThE :

Cases requiring urgent surgical or obstetric care,Cases whose clinic is characterized by an inflammatory process: acute infectious and inflammatory diseases in organs and tissues, long-lasting subfebrile temperature of unknown etiology; acute kidney and bladder diseases (nephritis, nephrosis, cystitis); post-inflammation condition in the small pelvis, conditions related to ongoing or early pregnancy: severe toxicosis of pregnancy (vomiting, nephropathy, preeclampsia and eclampsia); bleeding from the genitals; there is a risk of pregnancy termination; damage to the peritoneum of the fetus; ectopic pregnancy; normal baby throws; that a lot of water has accumulated; history of stillbirth; acute abdominal pain, conditions related to somatic complications of pregnancy: acute and accelerated chronic cardiovascular failure; decompensation of diseases of the cardiovascular system; active course of kidney and liver diseases ; blood diseases; epilepsy; risk of retinal detachment.

Therapeutic gymnastics

The training scheme is standard and consists of introductory, main and final parts. The introductory part consists of exercises that activate the main muscle groups - various options for walking, simple movements in the joints of the limbs. The main part is an individualized complex - breathing exercises, exercises for the muscles of the abdomen, back, legs, pelvic floor, exercises that increase the elasticity of the muscles of the midsection and thighs. The final part includes simple exercises and exercises for relaxation. The duration of pregnancy is taken into account when organizing, forming a group and conducting training.

I trimester (1-16 weeks) . At 16 weeks, the fundus of the uterus is 2 fingers above the pubic junction, but it is still located in the small pelvis. During

this period, the fetus does not have a strong connection with the uterus, because the placenta is not well developed, and its high excitability is determined against the background of the porosity of the uterine myometrium and joint. The uterus is very sensitive to physical stress. Especially intense exercise is dangerous during the first 3 days of the menstrual cycle.

The tasks of therapeutic gymnastics in the 1st trimester: activation of the cardiovascular and respiratory systems to improve general metabolism; improving the psychoemotional condition of pregnant women; improvement of blood circulation in small pelvis and legs for prevention of venous dampness; strengthening the muscles of the back, abdominal press and legs; training in muscle relaxation and proper breathing skills.

Therapeutic gymnastics procedures are carried out at a light, calm pace, without excessive impact on the nervous system. Breathing should be calm and rhythmic.

II trimester (17–32 weeks). Increased placental activity ensures hormonal balance in the body of a pregnant woman: vegetative disturbances decrease, mental endurance increases, and tolerance to physical stress increases. Due to better fixation of the fetus and reduction of uterine muscle contractions, miscarriage is reduced.

Good conditions for childbirth are created: the intervertebral joints of the spine in the lumbar area soften, but the ability to hold the shape abnormally decreases as a result of the hollowing of the pelvic ligaments. This role of the tendons is taken over by the muscles. This causes them to be constantly stressed and quickly tired. Changes are observed in the body statistics of a pregnant woman. The body weight increases, the center of gravity moves forward, and it is compensated by the backward deviation of the upper part of the body; this increases the lumbar spine and pelvic tilt angle. In this case, the back and abdominal muscles take a lot of strain. A pregnant woman who does not perform appropriate exercises and does not correct her figure may feel pain in the buttocks and back. Incorrectly selected shoes will worsen the figure and increase the pain. Due to the causative effect of hormones on the musculoskeletal system, an increase in body weight leads to the development of flat heels and increases

the pain syndrome. Movement functions, including walking, become difficult, and as a result, severe fatigue is observed.

The goals of therapeutic gymnastics in the II trimester are to: improve the adaptation of the cardiovascular and respiratory systems to physical stress; improve blood circulation in the small pelvis and legs; activate the calf, hip, thigh, and pelvic floor muscles; strengthen the muscles of the back and abdominal press, including the heel muscles; and relax the abdominal muscles with breathing.

Treatments are carried out at a normal, medium pace. Simple exercises are recommended for all muscle groups. In the main part of the treatment, narrowly focused exercises for individual muscle groups are included. When performing them, the use of force and quick reactions are not required. Relaxation and stretching exercises are more recommended during the first period. The movements for the legs are performed at a large amplitude, the movements of the pelvic joints increase, and the blood flow in the legs is improved. Relaxation and breathing exercises are included.

During the period of maximum stress on the heart (28–32 weeks), general physical exertion is reduced, the number of exercises in the main part is reduced, breathing dynamic exercises are increased, and the duration of training is up to 30 minutes. Exercises are not recommended when there is respiratory arrest and static tension.

III trimester (33–40 weeks). During this period, the uterus grows even larger; by the end of the 35th–36th week, its bottom reaches a saber-shaped tumor. The movement of the diaphragm is more limited; the liver is pressed against the diaphragm, which in turn makes it difficult for the bile to flow through the gallbladder. Deviation of the stomach and intestines causes reflux, esophagitis, heartburn, and constipation. Compression of the large vessels leads to conditions in the small pelvis and is accompanied by dilatation of the veins in the legs, rectum, and external genitalia.

Pelvis and lordosis increase, and pain in the lower back and calf muscles increases.

In the III-trimester, the tasks of the DG are: increasing the stretchability and elasticity of the intermediate muscles; maintaining the tone of the back and abdominal muscles; increasing the mobility of the hip joint, pelvic joints, and spine; activating bowel activity; reducing dampness in the lower part of the body; increasing the coordination of relaxing and tensing muscles involved in the movement; and activating the circulatory system.

Treatments are carried out at a slow pace from the supine or sitting position. Light and simple exercises aimed at correcting breathing skills are used. The number of exercises that stretch the intermediate muscles has increased. Breathing exercises are aimed at changing the rhythm of breathing: slowly, for 10–20 s, the frequency of breathing is accelerated, then held; this method is used when the intensity comes. Diaphragmatic breathing should also be practiced.

Complex exercises for pregnant women (III-trimester)

Pain in the lower back and pelvis

1. Initial position: when sitting on the floor, the buttocks are between the heels, and the knees are opened as wide as possible. The body is bent forward toward the floor. The hands lie freely on the floor, the buttocks are raised as high as possible, held in this position for several seconds (5–6), and slowly returned to the original position.
2. Initial position: on all fours. Hands are at right angles to the floor. The body and head are parallel to the floor. When exhaling, the back slowly bends down, and at the same time, the head and buttocks rise up. When exhaling, the spine is arched and the head is lowered. The action is repeated several times. This pose increases the flexibility of the spine, strengthens it, and reduces the pressure of the fetus on the nerve fibers and blood vessels of the pelvis.
3. Initial position: lying on the back. Place the legs bent at a right angle at the hips and knees on a stool or couch. Stay in this position for a few minutes.

The pace of movement in these exercises is slow. It is returned 3-5 times (in good preparation—10 or more, until slightly tired). In the last phases of movements, the pose is held for 5–10 s.

Pain in the calf muscles

Passive stretching of the calf muscles is used. The initial position is standing one step apart, facing the wall or the Swedish wall. The palms rest on it at shoulder level. He bends his arms and leans forward. The heel does not detach from the floor. You should feel the muscles stretch. Hold in this position for 10–20 seconds. Return to the starting position and repeat three times.

Varicose veins and swelling in the legs

Exercises: the legs are raised up in the position of leaning on the wall. The starting position is on the side, buttocks pressed against the wall. Turning back, the legs are raised and pressed against the wall. Outstretched hands, palms facing up, written to the side. After being in this position for a few minutes, the legs are relaxed until you feel a slight twitching of the muscles. This pose should be maintained for several minutes. The knees are bent, turned to the side, and rested. It should be returned 2–3 times. This exercise is effective for strengthening the abdominal muscles, which is very important in preparation for childbirth.

Methodological instruction for performing DG

The complexity of the exercises should be compared with the woman's capabilities—her health, her sense of self. shoulder, body, and leg muscles should be trained evenly. It is impossible to do different exercises for the muscles of the abdominal wall at the same time. They should be alternated with exercises for other parts of the body. holding your breath and avoiding exercises

that increase intra-abdominal pressure. In the II-III trimester, d.h. It is necessary to be careful about exercises in the position of lying on the back because the large uterus puts a lot of pressure on the blood vessels, blood circulation is disturbed, and even fainting can occur. At the end of DG, a pulse of more than 100 times after 5 minutes indicates an excess of tension. Supplemental nutrition is recommended to replace the energy lost during intensive training.

The study design will be represented by a single-stage descriptive study (cross-sectional) of outpatient records, an analysis of questionnaires and measurements, and a non-randomized controlled trial divided into 4 groups:

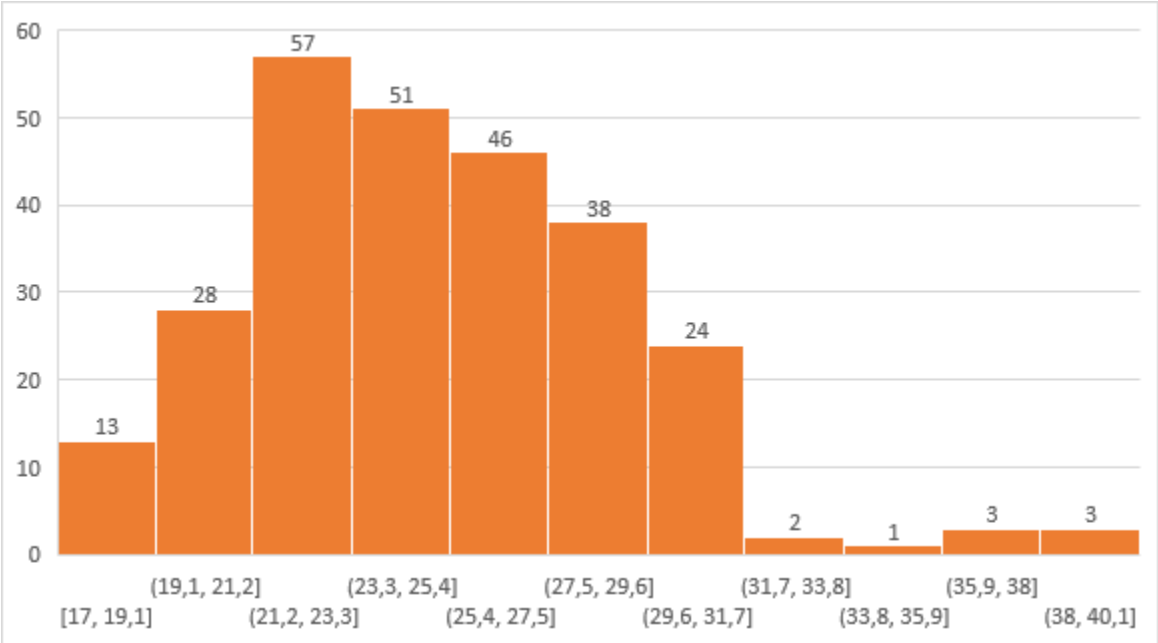
Group 1: postmenopausal women with hypertension with standard treatment for normal and overweight

Group 2: postmenopausal women with arterial hypertension taking standard therapy and an exercise program

Group 3: women with standard therapy, a set of physical exercises, and taking herbal medicine

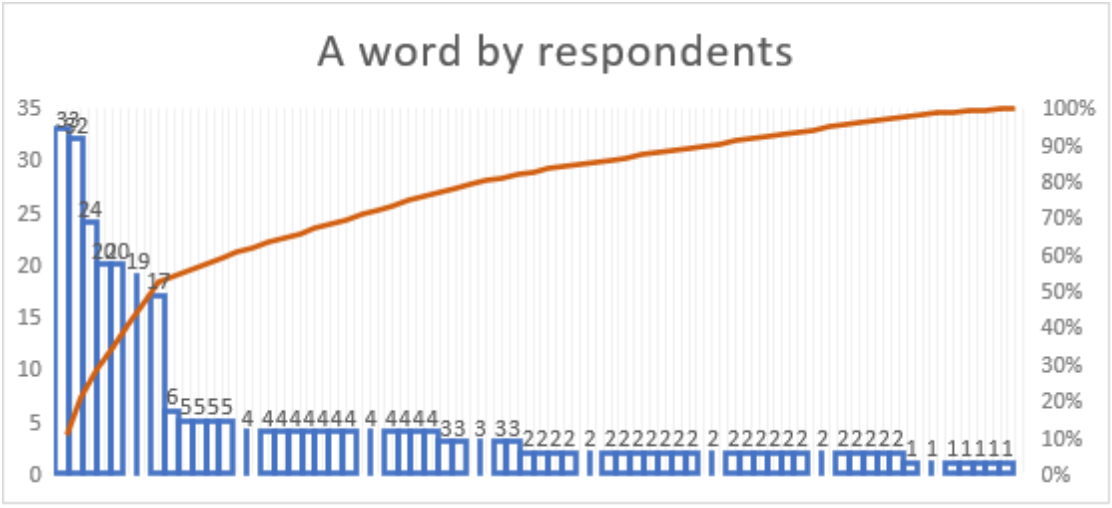
Group 4: women receiving standard therapy, a developed complex of Tai Chi gymnastics, and a herbal drug, Cordyceps sinensis extract.

Table 2



Statistical analysis will be carried out using specialized software, the choice of which will be made at the stage of preparing the statistical analysis plan.

Continuous (quantitative) data will be presented using the number of observations, arithmetic mean, standard deviation, median, interquartile range, minimum and maximum.



Table

Ordinal, categorical, and qualitative data will be presented using absolute frequencies (number of observations) and relative frequencies (percentages).

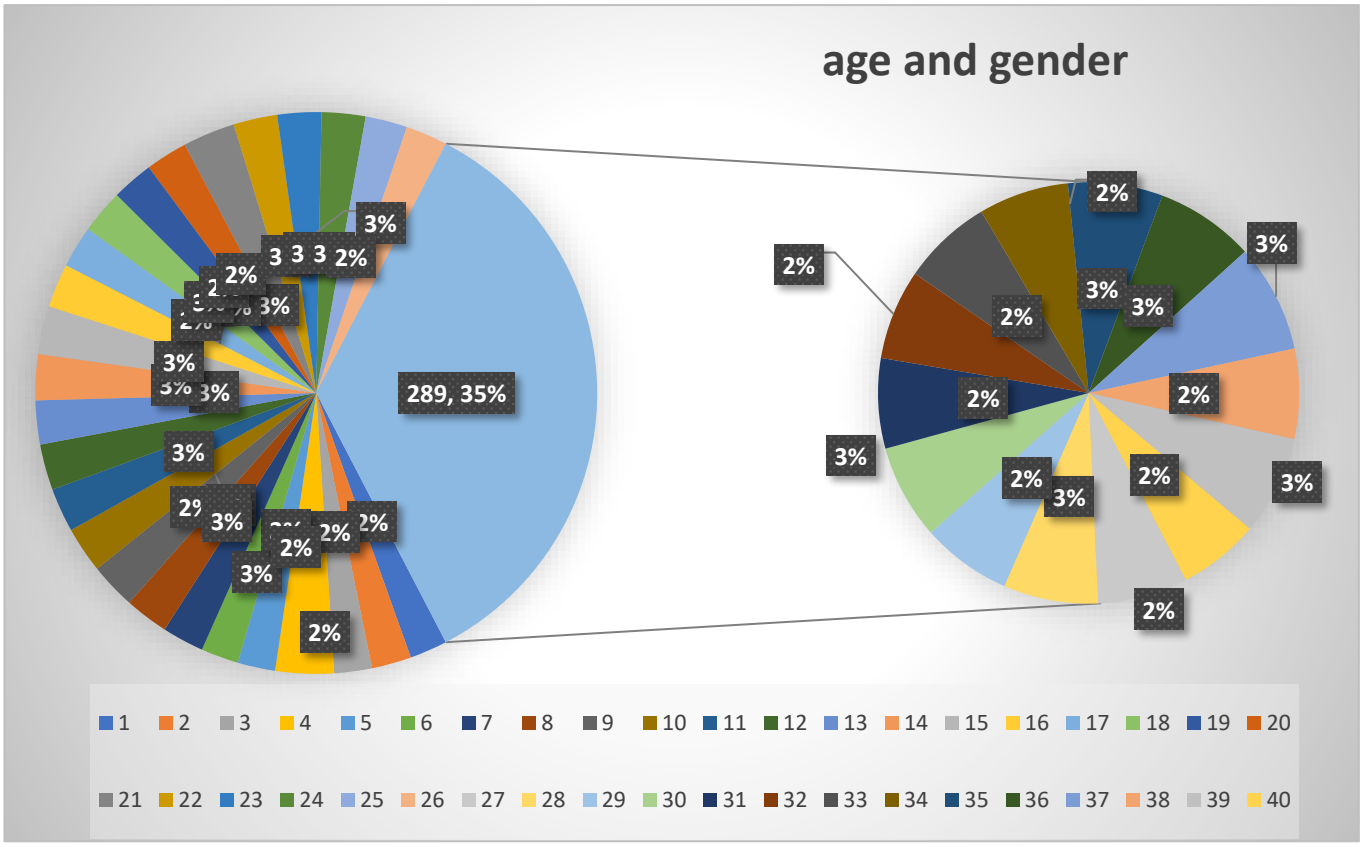


Table 4

Daily regime

Even if you are a business woman and the day is scheduled, we forget about overtime. The body already has enough stress. Give yourself a break. 8 hours of healthy sleep are required! This will definitely have a great effect on your appearance.

We diligently avoid stressful situations. Menopause makes them worse. On the Internet, it is easy to find posts from women about menopause where they talk about how much it bothers them and how annoying everything is. Therefore, at work we smile, in transport we listen to pleasant music, and at home we do not enter into conflicts with our family. You can get a cat or a dog, or, in extreme cases, a lover. Believe me, this is great anti-stress!

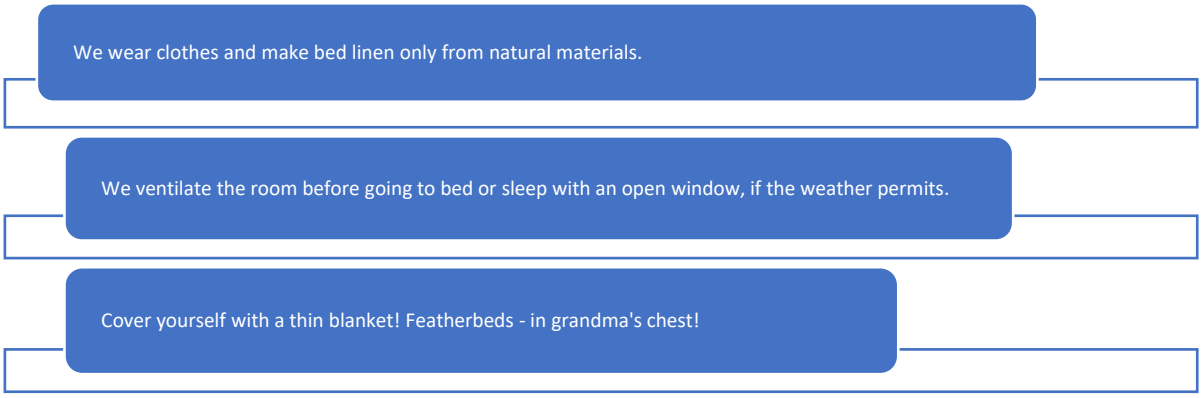
It’s worth signing up for fitness, yoga, swimming, or any other activity that suits you—whatever your heart desires. Standardized physical activity is very useful. You can just run around the park with your dog. But at least three times a week! In a word, spend more energy, and excess weight will not bother you.

Hormonal levels during menopause are particularly sensitive and dependent on circadian rhythms (cyclical fluctuations in the intensity of various biological processes associated with the change of day and night). Therefore, a daily routine is a faithful ally in the fight against insomnia and bad moods. We get up and go to bed exactly at the same time. It is better to go to bed no later than 23:00. By one o'clock in the morning, a period of active rest begins—this is exactly what you need!

An hour before bedtime, take a cool shower—a sure remedy for nighttime hot flashes.

Dream

Tides occur during the period of least activity, so night is their time. But menopause is not scary if you know what to do! To get enough sleep even with hot flashes, we act correctly:



We use the laws of physics to our advantage, namely, we sleep with one leg out from under the blanket or without any clothes at all. This will remove excess heat. In particularly severe cases, you can put an ice pack under your pillow. We

removed the TV and computer from the bedroom. This is our zone of sleep, not work and entertainment. We cover the windows with thick curtains. It helps a lot in the summer, when the sun rises very early.

Nutrition

Forget fast food! Your favorite foods should be vegetables and fruits. We eat them in large quantities. Sprouted grains of wheat, oats, or soy are especially useful.

Give up coffee. Green tea also invigorates.

In the refrigerator, we allocate a shelf for fermented milk products. They contain not only beneficial bacteria but also calcium, which your body especially needs during this period.

We try to exclude fatty types of meat (pork, lamb). Add more fish to your diet and continue to enjoy life!

Hygiene

We now take water treatments more often. Cool shower morning and evening. If possible, in the middle of the day too. Hormone levels during menopause are subject to significant and dramatic fluctuations. You can expect anything.

For intimate hygiene, we use only intimate hygiene products (with a pH of 4-5, corresponding to the pH of the microflora of the intimate area); this will help cope with dryness in the intimate area and prevent possible inflammation, which also becomes a frequent guest.

We exclude synthetic underwear. We wear natural, but also beautiful, of course! This is the best solution for menopause.

Exercises

Due to the weakening of the perineal muscles during menopause, uterine prolapse may occur, as well as an even greater nuisance: urinary incontinence. A set of Kegel exercises helps strengthen the muscles of the pelvic floor and intimate area. It also helps maintain sexual health; in order for the exercises to be effective, do them correctly. The necessary information can be freely found on the Internet and in books on wumbling (intimate gymnastics for women). Perform these exercises regularly, and the problem will be under control. But there is a rule: before starting the complex, you need to consult a gynecologist. Only he will determine how menopause proceeds and whether you can use these exercises. Especially if there are gynecological diseases or operations.

Intimate life

This area is usually overshadowed by a decrease in libido and unpleasant sensations during sexual intercourse. You should not refuse intimate intimacy.

Like Kegel exercises, sex naturally supports our sexual health. If you give it up for just two weeks, your muscles will begin to lose elasticity.

That's why:

If natural hydration is insufficient, we use water-based lubricants.

We maintain intimate hygiene. Don't forget to use special delicate care products with pH 4-5. Such remedies are simply necessary for menopause.

Attention! Let's protect ourselves! It has been proven that pregnancy is possible for 12 months after the last menstruation. Remember this if you don't want to give birth again!

Bad habits

This is something you should definitely give up! It is believed that smoking and alcohol are indirect causes of menopause, which can cause

Scientific novelty: a comprehensive modified treatment and preventive program will be developed using traditional medicine methods for middle-aged postmenopausal women with arterial hypertension.

of mahogany mushroom preparations will be studied in postmenopausal women with arterial hypertension.

Table

Depending on the level

of blood pressure, there are

three degrees of hypertension:

- first: systolic pressure rises to

  140-160 mmHg, and diastolic

  pressure - to 90-100 mmHg;

- second: systolic pressure: 160–180 mmHg; diastolic: 100–110 mmHg;
- third: systolic pressure is above 180 mmHg; diastolic pressure is more than 110 mmHg.

These symptoms may vary in severity depending on the individual characteristics of the body and are not specific to hypertension. It should not be

forgotten that increased blood pressure in the absence of medical care can cause complications. Therefore, if the listed symptoms appear, you must immediately contact experienced doctors to lower your blood pressure, diagnose, and prescribe treatment, taking into account the nature and stage of development of this disease.

To date, there is no data on the exact causes of this pathology. But numerous studies have shown a direct dependence of the occurrence of arterial hypertension on a number of factors. These factors include:

- 

1. age changes the circulatory systems;
2. Prolonged stay in a stressful situation;
3. Hereditary predisposition;
4. Problems with excess weight;
5. Availability: sugar diabetes;
6. Diseases: thyroid glands;
7. B. diseases of the of the adrenal glands and kidneys;
8. And redundant consumption of cooking salt;
9. Reception: hormonal contraceptives;
10. Smoking and abuse of alcohol.

Every person who has problems with high blood pressure needs to take preventive measures.

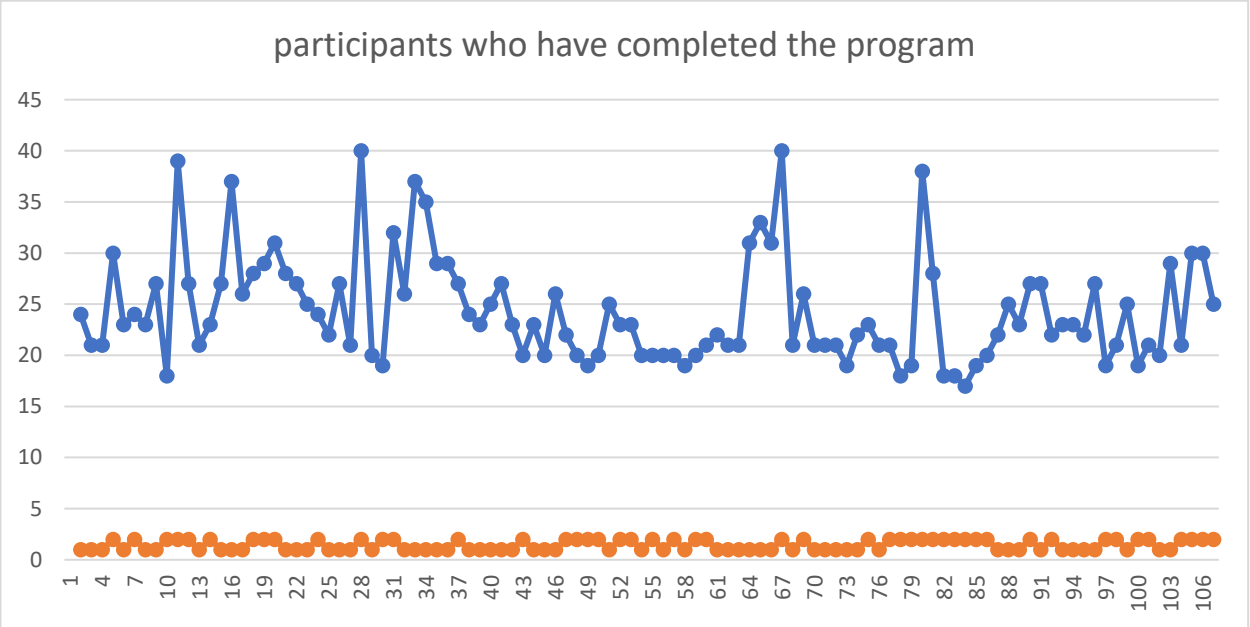
The appearance of arterial hypertension during menopause deserves special attention. In this case, the pathology becomes a consequence of the exacerbation of emotional reactions and disturbances in the functioning of the nervous system, provoked by hormonal imbalance. Often, patients over 50–55 years of age suffer from this disease.

What exercise program is best for 45- to 50-yyear-old women?

Walking, jogging, swimming, and dance exercises are good ones to try. Aerobic exercise works the large muscles in your body, benefiting your cardiovascular system and your weight. Work up to getting 25 or more minutes per session, 3 or 4 days a week. What exercises should older women do?

Examples of muscle-strengthening activities include carrying heavy shopping bags, yoga, pilates, lifting weights, working with resistance bands, and doing exercises that use your own body weight, such as push-ups and sit-ups.. Heavy gardening, such as digging and shoveling,. Regular physical activity is vital for good physical and mental health. It helps improve your overall health and fitness, maintain a healthy weight, reduce your risk for many chronic diseases, and promote good mental health.

Special gymnastic exercises of the Tai Chi system will be developed for middle-aged women who are normal or overweight.

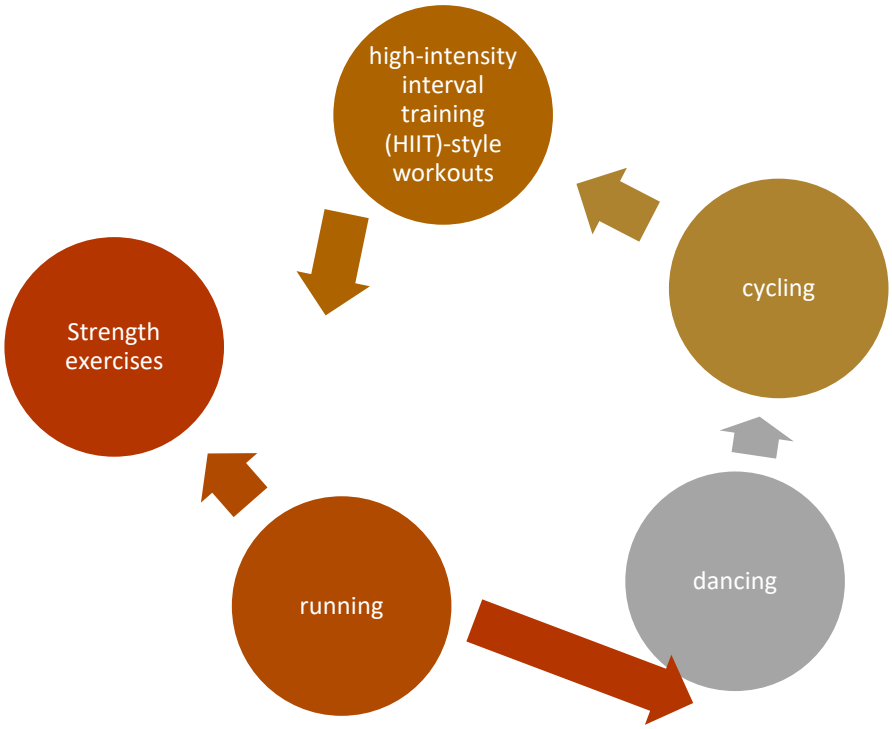


Our study is very relevant, and the past program is useful for women. Engage in regular physical activity or exercise most days to protect against heart disease, diabetes, osteoporosis, and other conditions associated with aging. Modified physical activity programs for middle-aged women with pathologies of the cardiovascular system have been introduced into the practical activities of outpatient specialists, and an algorithm for preventive measures has been developed using a comprehensive program of traditional medicine methods.

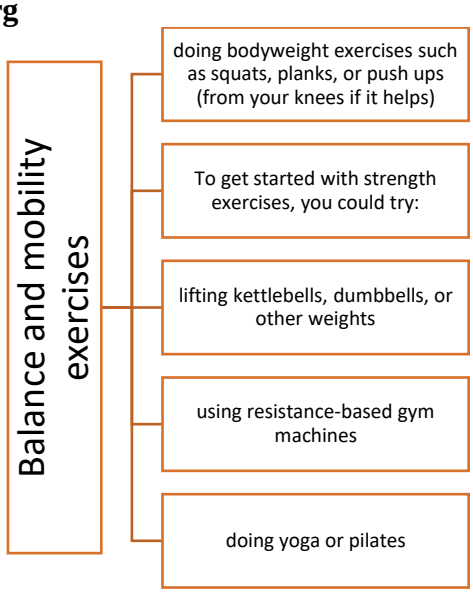
Cardiovascular exercises

Doing cardiovascular exercise will help improve your heart health after menopause. Cardiovascular exercise improves how efficiently your heart pumps blood around your body. It also improves the health of your lungs and blood vessels. While everyone needs to do cardiovascular exercise, women are at particular risk of heart disease after menopause. So, it’s extra important to do this type of movement on a regular basis.

Cardiovascular exercise can also increase your energy levels, boost your mood, and enhance your sleep quality. Some examples of cardiovascular exercise include

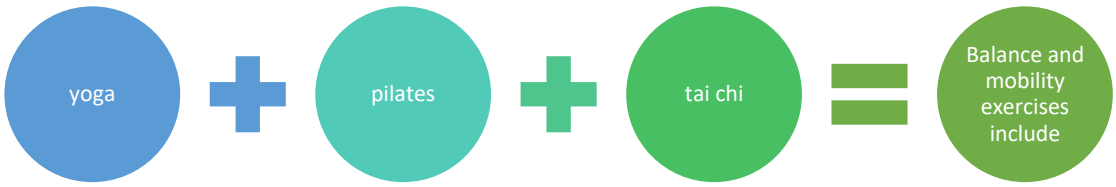


After menopause, women experience a loss of estrogen. One of the effects of this is an increased risk of osteoporosis. Osteoporosis causes issues with your bones, which may lead to pain and increase your fracture risk. Helpfully, strength-based exercises can reduce this risk. Doing strength exercises can also help keep you metabolically healthy. This means you're at lower risk of conditions such as heart disease and diabetes. Studies have also shown that weightlifting and other strength-based exercises can help improve women's mental health. This may be useful during menopause, when anxiety and low mood may occur.



It's really important to maintain your balance as you get older. This is because it can reduce your risk of falling and even increase your chance of living longer. Balance and mobility can sometimes decline during the menopause because of a loss of muscle mass.

Another advantage of doing these types of exercises is that they usually involve a mind-body aspect. This means that they can reduce your stress levels and may improve some symptoms of menopause. Balance and mobility exercises include:



How much exercise should I do during the menopause? You should aim to meet the guidelines on activity levels for all adults. This is 150 minutes of moderate-intensity exercise per week. This should include a mix of cardiovascular exercise and at least two strength-building sessions. So, this could be 30 minutes of exercise, five times a week. You could also consider incorporating some movement snacking during your day. To do this, you could do some squats while waiting for the kettle to boil and stand on one leg as you brush your teeth. Infographic: Best Menopause Workouts The following infographic illustrates the best workouts for menopause: cardio, strength training, and yoga. Click on the image to download a larger PDF version of the infographic (pdf, 0.9 MB).

GLOSSARY

Aerotherapy is a method of therapeutic use of atmospheric air particles (aeroions) that contain positive or negative electrical charges.

Aerosol therapy is the introduction of drugs into the body by inhalation.

Practical sports exercises: with the help of these exercises, adaptation to loads, increase, and improvement of blood and lymph circulation and metabolism are carried out.

Machine massage: massage is performed with a machine, and the massaging specialist does not feel the area being massaged. Therefore, machine massage is used as an additional tool to manual massage.

Balneotherapy is the use of mineral water for the purpose of treatment, disease prevention, and medical rehabilitation using special methods.

Barotherapy is used in the process of treatment with negative barometric pressure below 1 atmosphere and pressure up to 1 atmosphere using the barotherapy method. Barotherapy is carried out using local and general methods.

Halotherapy: use of table salt (sodium chloride) aerosol for treatment. This type of aerosol is highly dispersed, as more than 80% of the particles are smaller than 5 μm.

Galvanization, low-voltage direct current (up to 80 volts), and small high current (up to 50 milliamperes) are used.

Hydrotherapy is the use of fresh water for the purposes of treatment, disease prevention, and medical rehabilitation using special methods.

Hydroaeroionotherapy is a method of therapeutic use of combined air molecules and water molecules (hydroaeroions) that contain positive or negative electric charges. Air ionization occurs as a result of solar radiation, cosmic rays, electric charges, radioactive substances on the ground, active movements of air masses, and water evaporation on the shores of rivers, seas, and oceans.

Gymnastic exercises are the basis of physical exercises. It is divided into general booster and special. General strengthening exercises bodybuilding exercises aimed at improving and strengthening the whole organism. Special exercises selectively affect one or another part of the musculoskeletal system, for example, in the case of flat feet or traumatic damage to the sole of the foot or spinal deformities, or to one or another joint when movement is limited.

Hygienic massage is used in order to prevent diseases, maintain the normal functional state of the body, and strengthen health.

The healing body education is a healer-physical education treatment-healer-physical exercise. of exercises _ main is the. Har one treatment 3 b' from death organize finds : input q name, main b'lim and final death. _ _

Therapeutic massage: mechanical impact on different areas of the human body with special equipment or the hands of the masseur.

Darsonvalization is a method of treatment with high-voltage (up to 20 kV), low-power (0.015–0.02 mA), and high-frequency (110 kHz) impulse currents. This type of vine was proposed for the first time by the French scientist D. Arsonval.

Diadynamotherapy: two different half-sinusoidal pulse currents are used, that is, 50 Hz (one-cycle continuous) and 100 Hz (two-cycle continuous). These vines were proposed by Bernard for use in healing practices, so they are also called Bernard vines.

Dynamic exercises. Dynamic movements are the most common, in which the muscle works in an isotonic mode. In this, contraction and relaxation occur alternately, and the joints of the limbs or the body are moved. Examples of dynamic exercises include bending and writing at the elbow joint, extending the arm at the shoulder joint, and bending the body forward to the side. Dynamic exercises are dosed according to the phase of muscle tension, the speed of movement of the body segment being moved, and the phase of muscle tension.

Dynamic breathing exercises - breathing is performed with the help of breathing muscles, with the help of arms, legs and body movements.

Light therapy - infrared, red (visible) and ultraviolet rays are widely used in medical practice for the treatment and prevention of diseases. In the light stream, their wavelengths are different, that is, infrared rays from 400 μm to 760 nm, visible rays from 760 nm to 400 nm, and ultraviolet rays from 400 nm to 180 nm.

Physical rehabilitation - restoring or compensating physical ability and mental ability, increasing and improving the functional state of the body, physical training tools and methods, sports elements, sports training, massage, physiotherapy and improving the human body's physical ability, emotional resilience and adaptive reserves with the help of natural factors is a system of events.

Double massage - this type of massage is used after morning physical training, in the sauna, before and after sports competitions, before and after sports training.

Socioeconomic rehabilitation focuses on restoring economic independence and social excellence to the injured patient. These tasks should be solved not only by medical institutions, but also by social welfare bodies.

Inductothermy is a treatment with a high frequency magnetic field. Inducto means accumulation, thermo means heat, that is, accumulation of heat.

Vocational (labour) rehabilitation deals with the issues of rehabilitation (placement), vocational training and retraining, determination of patients' ability to work.

Combined massage is a combination of machine massage with classical or segmental massage.

Cosmetic massage - this massage is performed only locally. It is used in normal skin care, various cosmetic defects, diseases to prevent aging.

Spa - natural healing factors, mineral resources, healing mud layers, favorable climate, as well as balneotechnical and hydrotechnical facilities, sanatoriums, rest houses, spa polyclinics, galleries and other infrastructure facilities (cultural and household institutions, shops) designed for the treatment and relaxation of patients) is a specially protected natural territory.

Magnetotherapy is a physiotherapeutic method based on the effect of low-frequency variable magnetic field and constant magnetic field on the body, called magnetotherapy.

Local massage - in which a separate part of the body is massaged, for example: neck, back, legs, etc.

Breathing exercises (dynamic, static and drainage) in order to improve external respiratory function, strengthen respiratory muscles, prevent lung complications (congestion, atelectasis, pleural adhesions, pleurocardial adhesions, etc.), as well as to reduce physical load after physical exertion and physical training. is used.

Peloidotherapy - mud, peat, sapropel, and sedum are used for treatment purposes

Psammotherapy - treatment with sand using various methods.

Rehabilitation is the restoration of health and functional states, as well as the ability to work, which have changed due to diseases, injuries or physical, chemical and household factors.

The goal of rehabilitation is early and effective return of sick and disabled people to household and work activities, to society; restoration of personal characteristics of a person.

Rehabilitation result (prognosis) is the achievement of the goal of rehabilitation during the planned period of time, taking into account the individual reserves and compensatory capabilities of the patient, the nature and course of the disease . It is necessary when there is a risk of deterioration of the condition or long-term limitation.

Rehabilitative capacity - the stability of the patient's somatic and mental state is a strong interest in the approach to the recommended rehabilitation treatment.

The rehabilitation approach is the application of a complex of medical, pedagogical, professional and social activities interacting with medical, nursing, physiotherapeutic, ergotherapeutic, speech therapy, dietological and

psychotherapeutic provision, including various types that help to overcome the complexity of the disease, change the lifestyle, and reduce risk factors.

In mental rehabilitation, the main focus is on the correction of the patient's mental state, as well as on the formation of the correct approach to his treatment, doctor's recommendations, and the implementation of rehabilitation measures. In this direction, it is necessary to create the necessary conditions for patients to mentally adapt to life activities changed as a result of the disease.

A sanatorium is a treatment-prophylactic facility in a resort, where natural factors, diet therapy, physical therapy, physical therapy, and similar prescribed procedures are widely used.

Sinusoidal modulated currents - the effect is carried out by modulated sinusoidal currents with a frequency of t (5000 Hz), which pass well through the skin and affect deep tissues. As this type of current is influenced by a weak stimulus, its low-frequency modulation around 10-150 Hz, which is close to the frequency of muscle biocurrents, is widely used.

Speleotherapy - treatment in natural caves.

Sports massage - this type of massage is used to improve the functional condition of athletes, sports form, increase their ability to perform physical work, and prevent injuries and diseases of the musculoskeletal system.

Artificial physical factors - creation of physical factors with the help of physiotherapeutic devices.

Static exercises . Movements in which muscles contract and do not change their length are called static (isometric) movements. For example: while the patient is lying down, raise the leg and hold it in this position for a few minutes. In this case, dynamic work is performed first (lifting up), and then static;

otherwise, the hip flexors perform an isometric contraction. These exercises are widely used in traumatology and orthopedics for limbs in plaster casts.

Static breathing exercises are exercises performed with deep, rhythmic breathing without body movements .

Natural physical factors - natural factors: water, air, sunlight, climate, sand, mud, mud, etc.

Thalassotherapy - in a nutshell use of sea water for the purpose of treatment, disease prevention and medical rehabilitation using special methods. In a broad sense, it is the use of balneological, hydrotherapeutic and climatic factors on the seashore for the purpose of treatment, disease prevention and medical rehabilitation.

Terraincourt is a specially prepared track with different angles of elevation and distance.

Medical rehabilitation - the main task of medical rehabilitation is to perfectly restore the functional capabilities of various body systems and locomotor apparatus, and to develop compensatory adaptation to everyday life and working conditions.

General massage - b in which the whole body surface is massaged. The duration of the massage depends on its type, body weight, age, gender and others.

UYuCh-therapy - an ultra-high-frequency alternating electric field is used for the purpose of treatment. Ultra high frequency electric field is applied in continuous and pulse mode. In the pulsed mode, series of strong pulses of the electric field and a pause between them are alternated.

Physiotherapy (from the Greek physis nature + therapeia treatment; synonyms: physical therapy, physical therapy, physiatry) is a branch of medicine that studies the physiological and therapeutic effects of natural and artificial physical factors and the use of physical factors for treatment and prevention.

Franklinization is a high-voltage (up to 50-60 kV) direct electric field treatment. In the resulting field, due to the displacement of electric charges, the disintegration of gaseous molecules in the air is formed.

Therapeutic physical education is a part of medical rehabilitation, which is the use of physical education tools for the purpose of disease treatment, prevention and rehabilitation of patients.

Electrophoresis is the combined or simultaneous effect of a direct current on the body and a small amount of drug that enters the body with it.

Electrocution - the body is affected by low-frequency right-angle impulse currents.

Morning physical training - physical training is carried out at home in the morning hours, it is considered a very good way to move the body from sleep to a state of freshness, active movement.

Self-massage - in which a person massages himself. It is often used after morning physical training, in the bath, in injuries and diseases, and in sports.

Hand massage is a traditional way of massage. With the help of manual massage, all massage techniques can be used, even if necessary, they can be combined and sequenced.

Movement arrangements include bed, semi-bed and free-standing arrangements.

RECOMMENDED READINGS _

Basic literature .

1. Law of the Republic of Uzbekistan on Education dated 29.08.1997. N 464-I.

President of the Republic of Uzbekistan I.A. Karimov

2. Methods of rehabilitation in obstetric and gynecological diseases.

Instructional manual. Developers: Koshimbetova G. K., Shamansurova E.A.,

Agzamova Sh.A. Tashkent. 2011.

3. Babadzhanov S.N. Handbook of physiotherapist "Abu Ali ibn Sina ", T.,

1999.- 279p. (textbook for students)

4. Bogolyubov V.M., Ponomarev G.N. "Obshchaya Physiotherapy" M. 1999g.

5. Vygodner E.P. "Physical factors in gastroenterology". M. 1991g

6. Dmitr i ev A.E., Marichenko A.L. 1990.

7. Dubrovsky V.A. "Lechebnaya fizkultura" M.- 2004 .

8. Evdokimova T.A., Milyukova I.V. Noveishiy spravochnik "Lechebnaya fizkultura" M. 2004.

9. Epifanov E.A. "Lechebnaya fizkultura" M. 1999g.

10. Epifanov E.A. "Therapeutic physical culture and sports medicine" M. 2000g

Additional literature

1. Bogolyubov V.M. "Spravochnik po sanatorno-kurortnomu otboru" M. 1992g
2. Bokov A.S., Sergeev S. Yoga for children» M. 2004. Busakov S.S., Kirgizov Yu.A. "Practicheskoe rukovodosto po reflexoterapii" T. 1991g
3. Krasilnikova R.G. "Method of physiotherapy and medical practice" M. 1997g.
4. Levinson A.Ya. "Electromedical apparatus" M. 1987g

1. 1992 _ _Mark Harrast , MD, Jonathan Finnoff , DO Sports Medicine Study Guide and Review for Boards

2. Mika T. Warsaw . Physical therapy . 460.2000

3. Sarah J. Cuccurullo (Editor) Physical Medicine and Rehabilitation Board Review 2004 - Demos Medical Publishing, 848 pp .

Websites : _

http :// www . doctor _ ru

http :// www . medinfo . org

http :// www . restart - med . ru

http :// www . didn't say ru