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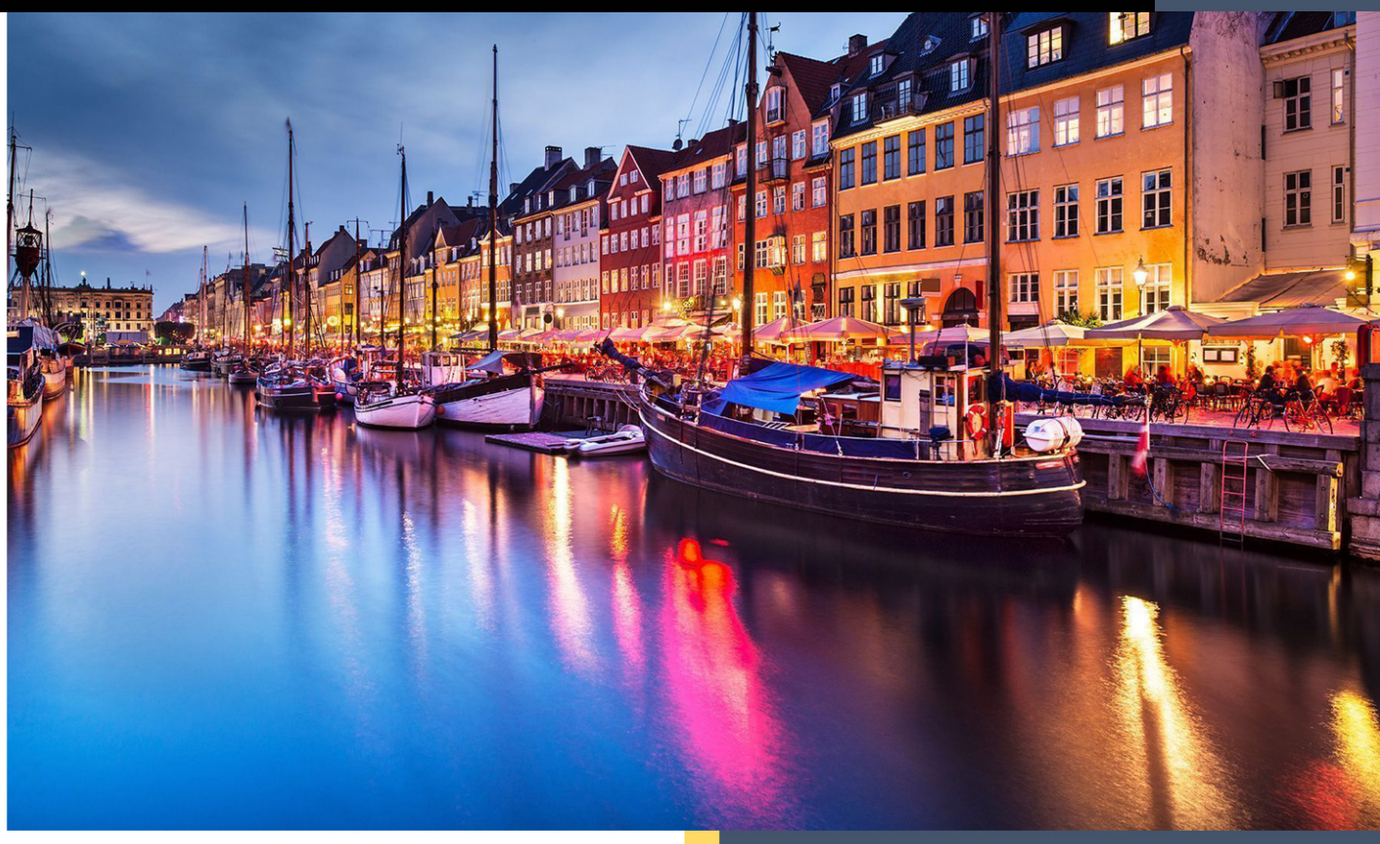

COPENHAGEN, DENMARK

26-28.02.2021

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THE EFFECTIVENESS OF PHYSIOTHERAPY EXERCISES IN WOMEN IN THE POSTOPERATIVE PERIOD WITH POLYCYSTIC OVARY SYNDROME

Abstract. Aim: *efficiency, improvement of the result of postoperative treatment of gynecological patients with the help of physical therapy and occupational therapy.* ***Material and methods:****58 women who underwent surgery for polycystic ovary syndrome were studied. All women were divided into three clinical groups depending on the treatment methods. All patients underwent clinical and laboratory examination, biochemical blood test, coagulogram, determination of the content of basic hormones. The main therapy for patients in group 1 was analgesic therapy. The course of physiotherapy and occupational therapy received by patients of the 2nd and 3rd groups included from two weeks to two months. In the treatment of patients of the 3rd group, in addition to physiotherapy and occupational therapy, symptomatic therapy was used.* ***Results:*** *The duration of the rehabilitation period ranged from 2 weeks to 2 months. Determination of hormone levels inpatients of the 3rd group after treatment, showed normalization of hormone levels: FSH – 4,38± 0,7 IU / I, LH – 8,3 ± 1,4 IU / I. We can note the positive dynamics of physiotherapy and occupational therapy in all women of the 2nd and 3rd groups.* ***Conclusions:*** *the use of physiotherapy and occupational therapy is a highly effective method of treatment of the postoperative period in women operated on for polycystic ovary syndrome.*

Keywords: *physical therapy, occupational therapy, rehabilitation, functional disorders, therapeutic plan, polycystic ovary syndrome, differentiated approach.*

Occupational therapy is a medical and social field that aims to maintain the health of people with various health problems. People who have suffered injuries, various diseases, possibly congenital defects, which resulted in disability, which in turn leads to inconvenience.

The main purpose of occupational therapy and physical therapy is to help people who have lost their ability to work due to illness or birth defects.

With the help of occupational therapy a person can take care of himself, adapt to new living conditions in society, that is, live the daily life of a healthy person and improve the quality of life.

Any illness or injury can result in temporary or permanent functional and physical impairments that can lead to a restriction of social life. In the system of practical medicine there is medical rehabilitation as a method of treatment that helps to restore or compensate for lost functions. With the help of rehabilitation measures a person has the opportunity to return to society with independence and independence in everyday life and professional activities [1; 2].

Occupational therapy uses knowledge of pedagogy, psychology, sociology, biomechanics, physical therapy, sports medicine and physical therapy. The purpose of this industry is not only to restore lost functions, but also to adapt a person to a normal life, to stop him be independent. Physiotherapy improvers not only motor, but also cognitive and emotional possibilities. The main directions of the occupational therapist are: evaluation, purpose in each case individually. Intervention, evaluation of treatment results.The occupational therapist’s plan for a person with various diseases should include a perfect plan of his activities, which consists in adopting a therapeutic act from different areas of occupational therapy, which in turn should take into account the level of education, characteristics of the problem, environment and motivation for change.

In determining the goal it is necessary to take into account some factors, such as: the needs and wishes of the patient, knowledge related to the human value system, existing information about the diseases or defects, their consequences for physical and mental aspects, and the general objectives of the health program in which the patient participates. It is necessary that in determining the main tasks,

consult other specialists from different fields of medicine, so the tasks will be implemented in practice. This is a kind of cooperation between educators, teachers, physical education specialists, psychologists, doctors, social workers who will use special treatments [2].

The development of a therapeutic plan refers to the description of the methods used to achieve the goal. These include activities that are organized to enhance human capabilities. The plan must be taken in the form of defined tasks so that it can be changed if necessary. Surgery is often the only way to save or restore a person's physiological capabilities. Depending on the size and complexity of the surgery, the recovery period can be long. Given the individual capabilities of postoperative patients, there may be a variety of methods of postoperative rehabilitation, which are aimed at recovery. The postoperative period begins the day after surgery and involves a number of measures aimed at reducing the risk of complications, postoperative wound healing and recovery of the body as a whole. It is very important if the patient is psychologically prepared for the fastest recovery, thus following the doctor's recommendations. Regardless of the size of the surgery, it takes time for the tissue to heal and regenerate, so it is advisable to prepare for the planned surgery. There are many ways of postoperativerehabilitation, as well as individual capabilities of patients.

In gynecological pathologies there are disorders in the system of the cervix – body of the uterus – ovaries, which leads to a partial violation of the hematopoietic, lymphatic and nervous systems, which is a consequence of disorders of the hypothalamic – pituitary system. Removal or resection of the endocrine – dependent organ leads to dysfunction of the hypothalamic – pituitary system. Changes in this system lead to dysfunction of other glands, especially the thyroid gland and adrenal glands.

Modern operative gynecology is a perfect surgical technique, the latest technologies. However, in modern ecological and socio-psychological conditions there is a sharp increase in extragenital diseases, especially cardiovascular, diseases of the central and peripheral nervous systems, metabolic diseases, which in turn can

affect the postoperative period. For complete recovery of the patient, treatment is indicated, which is aimed at prevention of postoperative complications, prevention of recurrence of the disease, elimination of functional disorders caused by the pathological process [3].

One of the measures of rehabilitation therapy in operative gynecology is therapeutic exercise. Therapeutic exercise is a method that uses physical therapy for therapeutic and prophylactic purposes to better restore health and prevent complications. Therapeutic exercise is combined with other therapeutic agents in accordance with therapeutic objectives. Therapeutic exercise is first prescribed in the preoperative period to prepare the patient for elective surgery.

The current factors of therapeutic exercise are physical exercises, ie exercises that are specially organized for a particular disease, and are used as a non-specific stimulus for the treatment and rehabilitation of the patient. Physical factors contribute to the restoration of not only physical but also general strength of the human body. Therapeutic exercise is also a method of functional and pathogenetic therapy. Exercise stimulates the functional activity of all body systems, thereby leading to the development of functional adaptation of the patient.

Exercise, affecting the reactivity of the patient, changes both the general reaction and its local manifestations. Training of the patient should be considered as a process of systematic, gradual and dosed application of physical exercises for the purpose of the general improvement of an organism, improvement of function of this or that body, formation of motor skills. Exercise has a tonic effect on the human body, stimulates motor-visceral reflexes, accelerates metabolic processes in tissues, activateshumoral processes.

With appropriate exercises, it is possible to selectively influence a variety of reflexes, which allows to increase the tone of those organs and systems in which it was reduced [3;].Therapeutic exercise is carried out through physical exercises for small and medium muscle groups in combination with respiratory gymnastics. The choice of starting position depends on the nature of the disease. It is necessary to

adhere to the starting positions and exercises that increase intra-abdominal pressure. Abrupt movements and frequent change of initial positions are excluded.

After gynecological operations, occupational therapy of operated patients is carried out in stages and aimed at restoring a woman's reproductive function, rehabilitation measures are based on an individual differentiated approach and depend on the nature of postoperative interventions, the presence of infectious diseases, repeated surgical interventions, long-term functions in the future.

In the postoperative period, occupational therapy is carried out using the following measures: strengthening compensatory mechanisms, protective reactions, prevention of exacerbations of chronic inflammatory diseases, improving tissue trophism in the postoperative area, analgesia, prevention of postoperative wound suppuration and prevention of other complications.

After major gynecological surgeries there may be changes in the form of anatomical and functional state of the pelvic organs, joint disease, pain, which in turn leads to infertility, miscarriage, even disability, which significantly reduces the quality of life. Therefore, occupational therapy helps to restore reproductive function and prevent the development of postoperative complications.

Restoration of reproductive function in women after surgery includes the provision of rehabilitation and rehabilitation measures to restore organ dysfunction, prevent recurrence, eliminate emerging functional disorders. The principles of rehabilitation include: early onset of rehabilitation, a set of measures that includes drug therapy, surgery, psychotherapy, physiotherapy and balneotherapy [1].

Early recovery stage includes: strengthening of adaptive-compensatory mechanisms, rehabilitation of the surgical intervention, prevention of infiltration and suppuration in the postoperative wound, analgesia in the early postoperative period, improvement of tissue trophism, prevention of exacerbation of chronic inflammatory diseases, prevention of complications. In order to prevent complications in the respiratory system, prevent thrombosis, thromboembolism and improve hemodynamics, all patients are prescribed therapeutic physical therapy.

Tactics of patients is determined by the nature of surgery, the presence of complications during and after surgery, comorbidities. The scope of rehabilitation

measures depends on the nature of postoperative changes in the body, the degree of blood loss. In the rehabilitation of patients of great importance is the normalization of the psycho-emotional state, the neuroendocrine system. To prevent inflammatory complications, nonspecific anti-inflammatory therapy is performed, and antibacterial therapy is used.

Morepatientsinthepostoperativeperiodareofferedtouseacombinationofseverala ppointments: pharmacologicaldrugs, physiotherapy, reflexology, physicaltherapy and occupational therapy. The complexity of the operation is not the only sign of the duration of the operation. You need to pay attention to the age and sex of the patient, the presence of comorbidities, bad habits and level of physical fitness. Was a person's motivation to recover important?

It is advisable to use delayed rehabilitation treatment after surgery in subsequent menstrual cycles, for 3-6 months use drug treatment (hormone therapy and herbal medicines) and non-drug therapy, namely, spa treatment, physiotherapy and phytotherapy methods.

Recently, the issue of rehabilitation measures after surgery for ovarian cysts is acute. Such women are recommended three stages of rehabilitation cycles after such surgical interventions, the main principles of which are: continuity of treatment, individual approach to the development of a rehabilitation program, dispensary observation.

Therapy should begin in the first 36 hours after surgery to prevent radiation sickness and other complications. After surgery on the appendages of the uterus shown low-frequency magnetic therapy [3].Electric treatmentsupertonal frequency is advisable in women with previous laparotomies, with III - IV degrees of the spread of connective disease. After surgery for ovarian cysts, a permanent magnetic field and low-intensity laser radiation are used. In the presence of acyclic uterine bleeding on the background of anovulation, magnetic laser therapy with localization of action in the area of projection of the operated organ on the anterior abdominal wall is recommended.

Criteria that determine the need for rehabilitation after surgical treatment of endometrioid cysts of the ovaries are the following: the presence of a part of the

ovary and a full fallopian tube, the age of a woman under 40, no extragenital pathology that prevents pregnancy, no true uterine appendix tumor. Non-drug therapy includes phonophoresis, magnetic laser therapy and therapeutic exercise.In the early postoperative period for polycystic ovary syndrome, regardless of the form of the disease, it is advisable to conduct anti-inflammatory and resorption therapy, physical therapy.

Therapeutic exercise is used in the first 3 days of the early postoperative period, as the prevention of postoperative complications, such as pneumonia, thrombosis, atony of the intestine and bladder. Therapeutic exercise helps to improve peripheral blood circulation, blood circulation in the area of the postoperative wound, accelerate the excretion of drugs from the body after anesthesia.

Patients from the third day are recommended ultraviolet radiation (6 sessions) on the cervical ganglia, ultraviolet radiation of the lumbar region and the postoperative suture, from the twelfth day are offered microclysters with sage, chamomile, on the eighteenth day of the eighteenth day. Non-drug methods of rehabilitation after surgery for polycystic ovary syndrome include dynamic current (10 procedures), electrophoresis on the lower abdomen from the fourteenth day after surgery, a course of 10 procedures.

To induce ovulation in the postoperative period using reflexology, namely, after three months, conduct two courses of 7 days with an interval of 3-4 days. In the first phase of the menstrual cycle is the stimulation of the tone of the parasympathetic nervous system, in the second phase of the menstrual cycle - the sympathetic nervous system. Laser stimulation of ovulation through the receptors of the cervix is also shown. In the late postoperative period, it is also recommended to use therapeutic exercise to prevent joint disease, to strengthen the muscles of the anterior abdominal wall and pelvic floor.

Afterremovingthesutures, patientscanexerciseinthegym. After discharge from the hospital, therapeutic exercise is continued for up to 6 months to achieve a lasting clinical effect. Absence of pregnancy after surgery for polycystic ovary syndrome for 6 months is an indication for combination therapy with hormone therapy [2].

The aim of the study. To study our goal, you have identified the effectiveness, improvement of the outcome of postoperative treatment of gynecological patients with physical therapy and occupational therapy.

Materials and methods of research. To achieve this goal, we studied 58 women who underwent surgery for polycystic ovary syndrome. The age of patients was 25 - 35 years, their average age was 34.8 ± 2.5 years. All women were divided into three clinical groups depending on the treatment methods.

The first group consisted of 20 women who underwent surgery for polycystic ovary syndrome, who underwent pharmacological support in the postoperative period, namely, all patients in this group received painkillers, vitamins and adaptogens.

The 2-nd group in cluded 19 women who underwent physiotherapy and occupational therapy. 19 patients underwent comprehensive treatment with physiotherapy and occupational therapy (group 3).

All patients underwent clinical and laboratory examination, which included a dynamic assessment of general condition, pulse, pressure, body weight and other parameters, clinical and biochemical blood tests, coagulogram, determination of the content of major hormones (FSH, LH, prolactin, estradiol, progesterone) in blood serum by enzyme-linked immunosorbent assay, pelvic ultrasound.

Statistical processing of the obtained data included the calculation of average values, average error. The significance of the difference was assessed by the Student-Fisher test. The difference between the variation series was considered significant at $p < 0.05$.

The main therapy for patients in group 1 was analgesic therapy, which was selected individually based on age.

The course of physiotherapy and occupational therapy received by patients of the 2nd and 3rd groups included from two weeks to two months, namely, electrophoresis on the lower abdomen from the fourteenth day after surgery, a course of 10 procedures, breathing exercises and exercise, which was also selected individually. In addition to physiotherapy and occupational therapy, symptomatic therapy (analgesics and vitamins, physiotherapy procedures) was used in the treatment of patients of the 3rd group.

Research results and their discussion.

The duration of the rehabilitation period ranged from 2 weeks to 2 months. After two months of the postoperative period, patients of the 1st and 2nd groups underwent a hormonal study, which showed a significant ($p < 0.05$) decrease in the amount of FSH (3.03 ± 0.7 IU / l) and LH (3.1 ± 0.7 IU / l). Determination of hormone levels in patients of the 3rd group after treatment, showed normalization of hormone levels: FSH - 4.38 ± 0.7 IU / l, LH - 8.3 ± 1.4 IU / l.

We can note the positive dynamics of physiotherapy and occupational therapy in all women of the 2nd and 3rd groups. As a result of the treatment, the full therapeutic effect was achieved in 12 (60 %), 16 (84.2 %), 17 (89.5 %) patients of the 1st, 2nd, 3rd groups, respectively.

Conclusions.

Thus, the use of physiotherapy and occupational therapy is a highly effective method of treatment of the postoperative period in women operated on for polycystic ovary syndrome, which is confirmed by the normalization of hormonal status and improvement of general well-being.

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