ISSN 2602-0440, ISSN-L 2602-0440

HIGHLIGHTING THE VALUE OF KINETIC PROGRAMS IN THE COMPLEX MOTION THERAPY

Evidenţierea valorii programelor kinetice, în cadrul complex al terapiei prin mişcare

GANCIU Oana-Maria
Department of Physical Education and Sport, University of Bucharest, Romania
* Corresponding author: ganciuoana@yahoo.com

Abstract

Background. Physical exercises have been practiced for prophylactic and curative purposes since ancient times.Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with to the means of medical gymnastics other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

Objectives. The aim of the study was to select and structure the specific means of kinetotherapy and therapeutic swimming, using multiple possibilities of correlation and combination, in order to help improving the recovery process in ankylosing spondylitis (for reducing the recovery time and increasing the efficiency

Methods. The research methods used were: documenting by studying specialized material; Case study, applied to a single subject, a student diagnosed with ankylosing spondylitis; Measurement and testing method necessary to objectify all processes undergoing scientific research.

The study was conducted over an university year, and was divided into three stages: in the first stage, the initial evaluation of the subject, the second stage, the development of the kinetotherapeutic intervention program, and the last stage of the final evaluation, the processing of the test data and the interpretation of the results .

Results. Kinetic treatment has played an important role in improving ankylosing spondylitis. The medical gymnastics programs and the therapeutic swimming programs had as a reference: the local postural re-education, regaining the figure, regaining strength; and encompassed means to relieve pain, muscular toning and increase mobility of affected joints.

Conclusion. Physical therapy was very important for regaining the mobility and contributed a lot to resuming the normal daily activities of the patient. Thus, for a complete success of the treatment, physical exercise should be a daily activity even after the disease enters remission, throughout the complex therapy through motion.

Keywords: kinetic programs, students, motion therapy

Introduction

Physical exercises have been practiced for prophylactic and curative purposes.

The first references to "motion therapy" are found in the Chinese writings of 4700 years ago. This is the Cong Fu pain relief system.

Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with to the means of medical gymnastics other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

In order to obtain complex prophylactic and therapeutic effects, special forms and methods of medical gymnastics are developed, determined by the particularities of certain groups of disorders or by the individual clinical needs.

For the physical therapy program to be effective, the practitioner must adhere to a set of principles, which are subordinate to the basic principle, applicable to any form of therapy; it is the principle of Hippocrates, the father of medicine, in the form of the dictum: Primum non nocere !, that is, First, do not hurt! This requires appropriate theoretical and practical training of the teacher and adapting the kinetic program to the individual particularities of the patient and the stage of the disease.

Case study highlights the value of the recovery program in complex motion therapy as well as in the prevention of algic relapses, constituting an important means of secondary kinetoprophylaxis.

Ankylosing spondylitis (SA) is an inflammatory disease with predominant damage to the axial and obligatory scaffolding of the sacroiliac joint, but also to the peripheral joints. It can also carry out a wide range

ISSN 2602-0440, ISSN-L 2602-0440

of extraarticular determinations. Manifestations vary a lot, and the clinical spectrum ranges from a simple pelvic disease (sacroilitis) to a serious and progressive multisystemic suffering.

The individualization of ankylosing spondylitis as a stand-alone entity was due to the introduction of the radiological examination for the detection of early sacroilitis and the discovery of the relationship with HLA-B27 histocompatibility antigen.

Since three decades ago, it has been reported that the frequency of ankylosing spondylitis is 20 times higher among spondylists than in the general population. However, genetic factors are not the only ones involved in the etiopathogenesis of ankylosing spondylitis, and their action depends, to a certain extent, on peristalsis. The greatest relevance for the genetic hypothesis in ankylosing spondylitis is the close association of the disease with the HLA-B27 antigen.

Treatment of ankylosing spondylitis has long been a challenge for clinicians based on NSAIDs and exercise. Optimal management of patients with spondylitis consists of the combination of pharmacological and non-pharmacological treatment, the failure of the two therapies often requiring orthopedic treatment. The two types of therapies should be complementary to prevent disease progression with ankylosing, to relieve pain and improve quality of life, reducing morbidity and mortality.

The aim of the study was to select and structure the means of kinetotherapy and therapeutic swimming, using the multiple possibilities of correlation and combining, to help improve the recovery process in ankylosing spondylitis (in order to reduce the recovery time and increase the efficiency).

The research methods used were: documenting by studying specialized material;

Case study, applied to a single subject, a student diagnosed with ankylosing spondylitis; Measurement and testing method necessary to objectify all processes undergoing scientific research.

-The case study. To highlight the effectiveness of the kinetic program, we organized a case study at the DEFS of the University of Bucharest, applied to a single 19-year-old student during a university year, following the evolution of the diagnosis, following the application of kinetotherapy and swimming program therapeutic.

Study hypothesis. We believe that through the efficient use of medical gymnastics and therapeutic swimming in the physical education lesson, as well as an independent physical activity program at home, health will be improved and will contribute to improving the quality of life.

Organization of the Text

The research was carried out both in the gym of the University of Bucharest and in the Steaua Basin. To highlight the effectiveness of the applied program, we organized a case study, applied to a single patient, a 19-year-old student with Q = 164 cm, G = 47kg, diagnosed with HLA-B27 ankylosing spondylitis. The study was conducted over a university year (October 2015 - May 2016). It is divided into three stages: in the first stage, the initial evaluation of the subject, the second stage, the development of the kinetotherapeutic intervention program, the final stage of the final evaluation, the processing of the test data and the interpretation of the obtained results.

Symptoms: Patient AM, aged 19 years, presents for investigations on mixed arthralgia (at initiation of the movement louder than at rest, but without later alleviating the movement), debut 7 months ago, originally at the shoulder left, which improves one month after the periarticular infiltration of Diprophos. Six-week (two weeks before Diprophos) occurred partial left mechanical metatarsal pain; a three-week pain occurs at the right sacroiliac joint, and one week and the left metacarpian-phalange joint (MCF) III with the extension limitation.

Medical Analyzes:

MRI sacroiliac joints: Straight sacroiliac joint shows inflammation-like signal damage at both syllables of the joint that associates the synovial contrast sink and subchondral geodex with a 4.3 mm diameter on the iliac versus. There is no evidence of inflammatory changes in the left sacroiliac joint or in the coxofemoral joints.

VSH: 46mm / h (0-20mm / h)

Reactive Protein C: 12mg / L (0-5mg / L)

ISSN 2602-0440, ISSN-L 2602-0440

The first dose of Sulfasalazine 500 mg with 1 capsule / day is started initially, then increased by 1 capsule / week to 4 capsules / day. Also, anti-inflammatory, Diclofenac 50mg, 1 capsule twice a day is also given.

Training project developed under the issued assumption comprises medical gymnastics and therapeutic swimming programs.

Programme's Content

The kinetotherapist programme has as starting points three marks:

- recovery treatment in addition to labour classic, charged on land, in physical shortcomings, either globally, or segmentation, it is recommended that, due to its multiple aquatic values, and recovery.

The patient underwent exercises involving the lumbar and cervical segment. For the lumbar region, dorsal decubitus flexures, ventral decubitus extensions, and vertebral column depressions and flexions and four-pivotal extension were performed. Also, exercises with the stick and the trellis were performed.

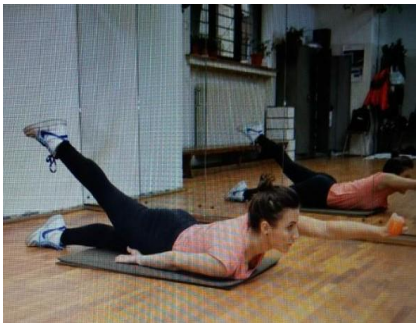
Fig. 1.


Fig 2.


Fig 3.


Fig. 4.


Fig 5.


Fig 6.

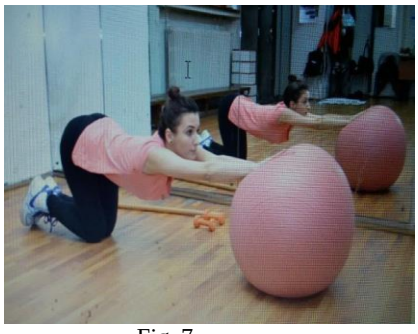
Fig. 7.


Fig 8.


Fig 9.

ISSN 2602-0440, ISSN-L 2602-0440


Fig. 10.


Fig 11.


Fig 12.


Fig 13.

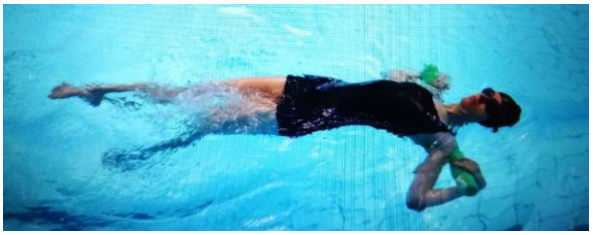
Fig. 14.


Fig 15.


Fig. 16.


Fig 17.

It is recommended at home to maintain a correct posture, frequent head and neck movements, sleeping on the hard bed, stomach state for 20 minutes before bedtime and waking. Exercises should be 2-3 hours / week, swimming being considered the most useful.

Analyze and interpret the results of the case study

The kinetotherapeutic program had three starting points: local postural re-education, regaining the flexibility, regaining strength and encompassing means to relieve pain, muscular toning and increased mobility of affected joints.

The study shows that exercise performed both in physical education classes and, as an independent activity, at home improves short-term functionality compared to lack of any therapeutic intervention. It is recommended to maintain a correct posture, frequent head and neck movements, sleeping on the hard bed, stomach state for 20 minutes before bedtime and waking. Exercises should be 2-3 hours / week, swimming being considered the most useful.

Physical exercise plays an important role in the prophylaxis of vicious attitudes and the correction of what has already been done in patients with SA. In principle, a program of this kind should be introduced as early as possible, graduated according to the clinical condition of the subject and maintained throughout its life, except for the short period of activity. Keeping in mind the non-prescription rule, moderate medication and / or moderate therapy may be used to facilitate kinetotherapy.

Although the primary goal in AE is not to strengthen muscle strength but to improve joint mobility, the first kinesiological achievements to be introduced are isometric exercises during which the subject is required to

ISSN 2602-0440, ISSN-L 2602-0440

contract his paravertebral muscles and belts. The emphasis is on the extension, and gradually, it goes to free exercises, which are primarily vertebral and respiratory. The vertebral spine exercises are preferably performed in low positions and emphasis is placed on the more severely affected regions. These will be complemented, where appropriate, with movements directed to the peripheral joints.

The patient underwent exercises involving the lumbar and cervical segment. For the lumbar region, dorsal decubitus flexures, ventral decubitus extensions, and vertebral column depressions and flexions and four-pivotal extension were performed. Also, exercises with the stick and the trellis were performed. Following physical therapy sessions, the patient observed pain relief and increased mobility of affected joints.

Although medical treatment had an important role in relieving pain, kinetotherapy was very important for the development of mobility and greatly contributed to the resumption of normal patient activities. Thus, for a complete success of treatment, physical exercise is recommended, and for spondylolytic patients it should be a daily activity even after the disease enters remission.

Conclusions on the Case Study

From the results of the study, I highlight the following conclusions:

- In the presented case study, we selected and structured the specific means of kinetotherapy using the multiple correlation and combination possibilities to help improve the recovery process in the ankylosing spondylitis (in order to reduce the recovery time and increase the efficiency);
- We believe that through the efficient use of medical gymnastics and therapeutic swimming in the physical education lesson, as well as an independent physical activity program at home, it has improved mobility and suppleness as well as health and has helped to improve quality life.

Physical therapy was very important for the mobility and contributed a lot to resuming the normal activities of the patient. Thus, for a complete success of treatment, physical exercise should be a daily activity even after the disease enters remission, within the complex of motion therapy.

Based on the principle of combining prophylactic and therapeutic means in motion therapy, we can associate with the means of medical gymnastics and other therapeutic methods, such as therapeutic swimming, which strengthen the action and increase the capacity of the specific means.

Proposals

-While Romania faces a record number of vertebral deficiencies, authorities need to resort to some urgent measures, including:

- information activity of students on health and risks of untreatment in time of vicious attitudes;
- protection programs to prevent static vertebral disorders by increasing the number of hours allocated to physical activities;

-About an interdisciplinary approach to such a complex problem, as motion therapy, in general, and kinetic in particular, can provide good results and implicitly professional rewards.

References

Cordun, M., (1999). *KinetologieMedical*a, Editura AXA, Bucuresti
Cirla, L., (1997). *Înotul – mijloc asociat al kinetoterapiei*, EdituraCaritas, Bucuresti
Clarance, D., (1999). *Hidroterapia.* Ed. Viaţă şi sănătate
Dominteanu, T., (2009). *Cum să fii sănătos*, Editura Printech, Bucureşti,
Dumitru, D., (1984). *Reducerea funcţională în afecţiunile coloanei vertebrale*, Ed. Sport-Turism
Sbenghe,T., (2005). *Kinesiologie ştiinţa mişcării*, Ed. Medicală, Bucureşti,
Sidenco, E.L., (2005). *Coloana vertebrală şi membrul inferior*, Ed. Fundaţiei România de mâine, Bucureşti.