

PREVENTION AND RECOVERY OF LORDOSIS BY KINETIC MEANS

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Abstract

The present work aims to demonstrate the importance of physical therapy in a lumbar disc herniation rehabilitation program. Due to its frequency and the problems it creates, related to the inability to work, the condition is starting to become a social disease. This is becoming more and more common in society, making it impossible for the subject to perform various activities from an early age.[1,3,5,11]

The aim pursued in this work is to recover the patient with lumbar disc herniation. The general goal of rehabilitation is to help the patient recover as quickly as possible, to prevent physical discomfort and, in particular, to stop the worsening of the disease.[2,7,9]

After performing the initial and final tests, we managed to collect the results presented in the paper and draw up the final conclusions of the study.

Introduction

The reason why we chose this topic is that a large part of the population, especially among children, are affected by some form of lordosis, either a congenital lordosis or a postural lordosis, and through physical therapy we can correct this abnormal deviation.[4,6,10]

The approach to this problem is determined not only by the widespread prevalence of the disease that affects the human body, but also by the environment in which they live and are raised.

Historically lordosis is defined as an abnormal curvature of the lumbar spine.[8,10]

Problems related to the spine these days are more and more common and cases of spinal pain among children and young adults are increasing significantly day by day, with a probability of returning to normal quite low.[8,9]

Material-method

The hypothesis of the work

In this paper, we started from the following hypothesis:

If we use physical exercises as diversified and concrete as possible, can we fight this disease and reintegrate the affected person into society?

The purpose and objectives of the paper

The purpose of this study is to examine the impact that physical therapy has on the spine, physical development, and mental and emotional state of children with postural lordosis disorders or congenital lordosis.

The objectives pursued in this study are the following:

- removal of pain;
- correcting the abnormal alignment of the spine;
- increasing vertebral mobility;
- toning the abdominal muscles and decontracting the lumbo-sacral muscles;
- combating the recurrence of lordosis.

Organization and conduct of the study

The study was organized and carried out in the neuro-psycho-motor recovery center for Children with Disabilities within the Blijdorp Neuro-Psycho-Motor Recovery Complex - O Nouă Viață.

Case presentation (observation sheet)

Table 1. Patient observation sheet

Observation sheet-Name: M.I	
Age/Sex	17 years, F
Diagnosis	Lumbar hyperlordosis, mental retardation
Observations	normal weight
Proportionality	Normal
Concordance between physiological and chronological age	Stature hypotrophy

Venue and material base conditions

The venue is the Neuro-Psycho-Motor Recovery Center for Children with Disabilities within the Blijdorp Neuro-Psycho-Motor Recovery Complex – A New Life.

The services offered by this recovery center correspond to the individual needs of the child in his socio-family context:

- initial and periodic assessment services;
- recovery-rehabilitation therapies (speech therapy and communication stimulation, physical therapy, massage and psychomotor therapy);
- psychodiagnosis and psychological intervention services (learning therapies);
- psychological counseling services;
- therapies adapted to the diagnosis of the beneficiary (hippotherapy and cognitive-behavioral therapy, sensory integration);
- occupational therapy;
- expression therapies – melotherapy, plastic, corporal expression;

- therapies for training self-service and self-management skills.

The beneficiaries of the social services provided by the Blijdorp – O Nouă Viață center are children with severe and moderate mental and neuro-motor disabilities from the community.

The physical basic conditions of the physical therapy room consist of:

- elastic bands, trellises, mirrors, mattresses, balls of various sizes, gym bench, dumbbells, steppers, exercise table, walking sticks, exercise bike, lumbar support sponges, medicine balls, weights of various sizes, emergency kit, bars parallels, sterile dressings, disinfectants, protective masks.

Duration and stages of work

This study was carried out over a period of 3 months with 3 sessions per week, the duration of the session being 40-45 minutes. The study was carried out from 2.03.2023 until 2.06.2023.

Initial patient assessment

The assessment of the patient starts from the moment he stepped into the physical therapy room and was evaluated in a general way, after which we did a follow-up in detail to capture every manifestation, sign, attitude.

The assessment first begins with the inspection of the patient where his posture can be observed. For the best possible initial evaluation of the patient, we will measure with the help of the goniometer the angles of flexion, extension and rotation of the spine as well as the evaluation of the thoracic perimeter, the elasticity of the ribcage and the body mass index.

Table 2. Initial goniometric assessment of the patient's segments.

patient name -M.I			
Grade	Flexion	Extension	Rotation
Cervical Segment	67	58	50
Thoracic Segmnet	20	45	27
Lumbar Segment	35	13	15
Initial Evaluation			

Table 3. Baseline assessment of patient height, chest circumference, chest elasticity, and body mass index.

Name and surname	Sex	Age	Height (cm)	Chest circumference (cm)	Chest elasticity	IMC body mass index		
			Initial Testing	Initial Testing	Initial Testing	Initial Testing		
			F	17	158	70	6	19,2
M.I			Final Testing	Final Testing	Final Testing	Final Testing		

159	70	6	19,2
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- Complex recovery - Physiotherapy Program

The kinetherapeutic program will consist of performing physical exercises and postures suitable for the patient:

Final evaluation of the patient

After the physical therapy sessions, the patient has an anatomical position close to the normal one, the lumbar area no longer presents such a pronounced hyperlordosis and the muscles of the back and the dorsal part of the thigh are no longer so contracted.

Table 4. Final goniometric assessment of patient segments

patient name -M.I			
Grade	Flexion	Extension	Rotation
Cervical Segment	67	59	54
Thoracic Segmnet	20	45	27
Lumbar Segment	39	19	18
Initial Evaluation			

RESULTS AND DISCUSSION

Presentation of results

Table 5 The initial and final goniometric assessment of patient segments

patient name -M.I						
Grade	Flexion		Extension		Rotation	
	I.T.	F.T.	I.T.	F.T.	I.T.	F.T.
Cervical Segment	67	67	58	59	50	54
Thoracic Segmnet	20	20	45	45	27	27
Lumbar Segment	35	39	13	19	15	18

Interpretation of results and evolution dynamics

The main and secondary outcomes of this study are:

- Significant pain reduction;
- The patient corrected his deformed spine almost to normal;
- The patient has become accustomed to correct and coordinated movements;

- The patient has removed his bad habits;
- The patient has toned his abdominal muscles.

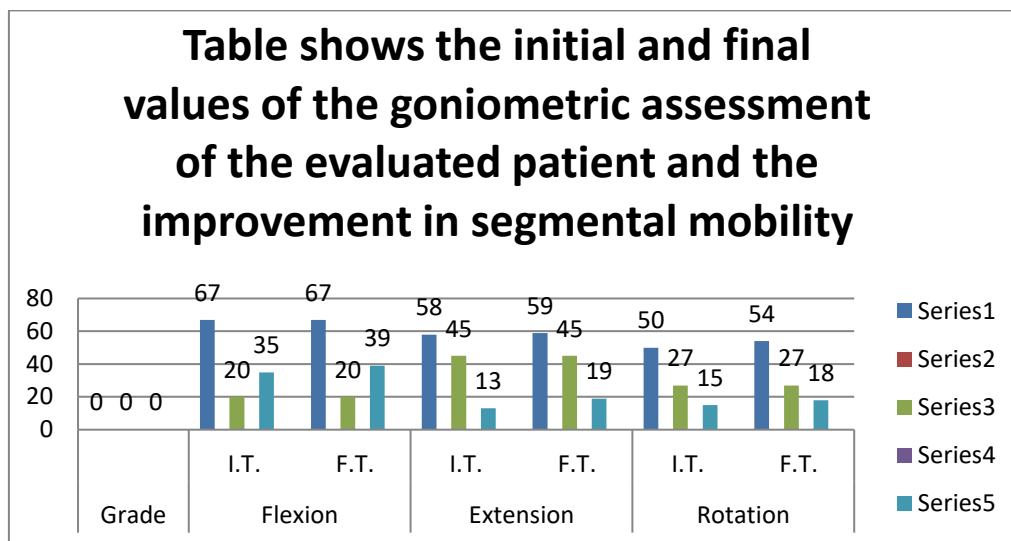


Fig. 1. This chart represents the patient's initial and final testing, where goniometric grades are shown and improvements in mobility grades can be seen.

Discussions

The main therapeutic method used is physical therapy, which uses movement as the main method for the purpose of motor recovery and re-education of compensatory functions. Following the study carried out, it follows that movement is indispensable for the recovery of lordotic patients.

Following the study, the starting hypothesis was confirmed, because by performing physical exercises and postures, the patients were able to regain the mobility of the segments that were rigid and hypotonic. Following the study, the results obtained were as expected and the patient had good results.

CONCLUSIONS AND PROPOSALS

For the completion and success of this study, the physiotherapist must have an attitude as understanding and as open as possible towards these children. The physiotherapist must know how to make the physiotherapy sessions a harmonious game, where the child gets familiar with the physiotherapy room, the equipment and the working materials.

Among children, spine deficiencies appear more and more frequently and negatively influence the locomotor apparatus and the body segments are found in an unstable form.

Following the study, we emphasized the importance of movement, in order to have a more harmonious body and not to end up in the situation of surgical intervention. It is very important to note that these children understand and interpret the exercises more difficult, and capturing their attention is not an easy thing. Pain and stress on the spine make the physical therapist's job more difficult, but never impossible.

The means and methods used in this study are proven to be effective and beneficial.

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