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HOW TO CORRECT OR AMELIORATE THE POSTURAL DEFICIENCIES BY DOING KINETIC EXERCISES WITHIN SPORT LECTURES

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Abstract

Background. The characteristic position to a human being is orthostatic, it shows an antigravity posture. Using neuromioartrokinetic interventions for conservation leads to a transformation of the posture or a correct and normal attitude also called the position of the orthostathic alignment.

Preventing the occurrence of postural deficiencies represents the primary prophylaxis (also known as primary prevention) and can be achieved by keeping a correct attitude of the body, self-control both in daily routines and professional ones. It is a regrettable reality the fact that part of students presents different physic deficiencies. They practice medical gymnastic in different groups, differentiated by their diagnostic. Different techniques that are applied in these groups lead finally to a delay of the evolution, the amelioration and correction of the physical deficiencies.

Objectives. The scope of this paper addresses the need of correction and improvement of the student's postural deficiencies through implementation of a therapeutic program, based on a large range of techniques which are going to be adapted to the particularities of each and every subject during the sport lectures.

The aim of these corrective exercises during sport lectures was to generate a reflex action that trigger a correct, upright body posture both in student's static or dynamic activities.

Another objective of the sport lecture was related to the muscular tonus of the posterior plan of the trunk and reestablishing the correct posture of the shoulders, sholder blades through shortening the musculatures designed to secure the pectoral arch.

Methods. The following research methods were used: Specific documentation; Testing and measuring methods; Mathematic methods of statistics; Methods using graphs and diagrams; Functional evaluation comprised the following tests for measuring and posture assessment as well as the amplitude of the movement. At the beginning and at the end of the recovery period following tests were conducted: Tests Ott and the distance fingers to the ground floor.

Results. Initial test revealed that the average values are almost similar to both groups. The final test showed significant differences between the two groups. For the experimental group the results indicated a significant increase between the final test and the initial one ($p<0.05$). The null hypothesis is accepted for both groups.

Conclusion. The intervention plan applied in sport lectures comprised the following techniques: the correct or hypercorrect posture, maintained through various methods; passive movements, assisted and active activities, isometric contractions and different techniques related to proprioceptive facilitation.

Applied kinetic programs were various and numerous, being organized and implemented in accordance to individual necessities and were oriented to the following directions: to develop to prevent, to compensate and to correct.

A consistent practice of the therapeutic programs will prevent the aggravation of accumulated deficiencies and in the end to a ceased evolution of the deficiencies. We recommend our students to continue these therapeutic programs out of the sport lectures to consolidate the results they already achieved.

Keywords: *deficiencies, posture, kinetic exercises, students*

Introduction

The paper brings up the issue of vertebral static disorders addressed for the first time in our country by the illustrious Prof. Dr. A. Ionescu, at a time when statistics reveal alarming increases in these physical deficiencies in all age groups, but especially in children, adolescents and young people.

That is why their early detection and the establishment of the appropriate treatment are able to stop the evolution towards the structural forms and to obtain the correction.

Unfortunately, there is an increasing incidence of incorrect posture. There are also people for whom body posture is only an aesthetic attribute, the cause being primarily the lack of information. It should be noted that incorrect postural attitudes that persist over the years can create a high degree of discomfort, pain, often disability, and can lead to pathological forms that are difficult to recover only through physical therapy.

In the dictionary, posture is defined as follows: POSTURE (<fr. Posture) - Stabilization of different components of the skeleton, one against the other, in a certain bodily attitude, conducive to the development of an action. There are two major postural systems: the antigravity posture, which ensures the maintenance or restoration of body balance in a fundamental orientation in relation to weight (physical vertical). It allows bipedal position and is a reference base for spatial orientation and vertical spotting; directional posture, which modifies antigravitational postural architectures, organizing itself in relation to environmental stimuli (Larousse, 2006).

The body's posture is influenced by three factors: heredity, pathological conditions and habit. The general appearance of the body (or, rather, its physical configuration) is - according to Sbenghe T. (2005) - the result of three factors: a) the attitude of the body, which is determined by the ratio between the parts that make up the musculoskeletal system. principal of the evaluation; b) body growth, as a result of quantitative accumulations, in terms of height, weight and size, depending on age and sex; c) global development in relation to age. In applying this therapeutic procedure, the following recommendations must be taken into account: the application of the posture should be based on the patient's full acceptance and cooperation; he must be informed that corrective positions are not always comfortable, but must be accepted for their beneficial effects; the corrective posture sometimes has an analgesic role, in which case the patient must understand and cooperate for the serial application of this therapeutic procedure; the duration of maintaining the positions is variable, depending on the nature, severity and evolutionary stage of the disease. Corrective positions (free, free-assisted or fixed) are addressed only to the soft parts.

Posture is a function of the body based on the synergistic and coordinated action of the elements of the musculoskeletal system and the central and peripheral nervous system to maintain: body stability, balance and constant relationships between body segments and the body and the environment (Cordun M., 1999).

The characteristic position to a human being is orthostatic, it shows an antigravity posture. Using neuromioartrokinetic interventions for conservation leads to a transformation of the posture or a correct and normal attitude also called the position of the orthostathic alignment.

Preventing the occurrence of postural deficiencies represents the primary prophylaxis (also known as primary prevention) and can be achieved by keeping a correct attitude of the body, self-control both in daily routines and professional ones. It is a regrettable reality the fact that part of students presents different physic deficiencies. They practice medical gymnastic in different groups, differentiated by their diagnostic. Different techniques that are applied in these groups lead finally to a delay of the evolution, the amelioration and correction of the physical deficiencies.

The scope of this paper addresses the need of correction and improvement of the students postural deficiencies through implementation of a therapeutic program, based on a large range of techniques which are going to be adapted to the particularities of each and every subject during the sport lectures.

The aim of these corrective exercises during sport lectures was to generate a reflex action that trigger a correct, upright body posture both in student’s static or dynamic activities.

Another objective of the sport lecture was related to the muscular tonus of the posterior plan of the trunk and reestablishing the correct posture of the shoulders, shoulder blades through shortening the musculatures designed to secure the pectoral arch.

The following research methods were used: Specific documentation, Testing and measuring methods, Mathematic methods of statistics, Methods using graphs and diagrams. Functional evaluation comprised the following tests for measuring and posture assessment as well as the amplitude of the movement. At the beginning and at the end of the recovery period following tests were conducted: Tests Ott and the distance fingers to the ground floor.

Research organization

The research took place in the gyms of the University of Bucharest with 40 students enrolled in the medical gymnastics course, between October 2018 and May 2019, broken down into three stages: in the first stage, somatic evaluation, on second stage of the development of the kinetic therapeutic intervention program and the last stage: final evaluation and processing of test data and interpretation of results obtained.

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To determine the efficiency of the differentiated activity carried out with the experimental group, we used a control group, who preferred the traditional medical gymnastics lesson, within the basic course. Both groups consisted of 20 students.

The training project consists of medical gymnastics programs.

- The evaluation included the following tests for measuring and evaluating posture. and range of motion.

At the beginning and at the end of the recovery period, the same tests were performed:

The examination of the mobility of the dorso-lumbar spine included the following tests:

- Ott's sign,
- finger-ground index .

The content of the kinetic program

The kinetotherapeutic program has as starting points three landmarks:

- local postural reeducation
- regaining suppleness
- regaining strength

The intervention program included: Techniques, procedures and methods used in physiotherapy.

Posture and body alignment correction uses as techniques and methods (Albu, C., 2007):

1) correct or hypercorrected posture, maintained by various fixation methods;
2) passive movements, assisted and active movements;
3) isometric contractions;
4) various proprioceptive facilitation techniques.

Techniques, procedures in medical gymnastics:

• corrective positions for the correction and prevention of deviations;
• corrective gymnastics for training both the spine and the upper and lower limbs;
• chest and abdominal breathing exercises.

The results obtained

In order to analyze the obtained results, the arithmetic mean of the values of the subjects' parameters was calculated. Following the application of the experiment, the following changes were registered:

Table 1. *Mean values of the Ott test*

Ott test	T1	T2	T. dependent	p
Experimental group	2,58	4,72	2,76	< 0,05
Control group	2,46	3,90	1,14	> 0,05

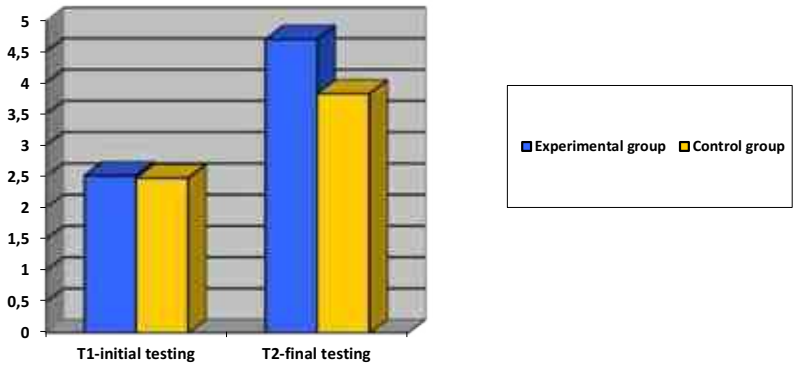

Fig.1 *the Ott test*

At the initial test the average values are close to both groups; at the final typing, significant differences are observed between the two groups: 4.72 in the experimental group compared to 3.90 in the control group. The degree of homogeneity is high in both groups. In the experimental group there is a significant increase between the final and the initial test ($p < 0.05$). The null hypothesis is accepted for both groups.

Table 2. *Average values of the "Finger-Ground" Index*

Finger-to-ground index	T1	T2	T. dependent	p
Experimental group	-6,29	-2,49	2,79	< 0,05
Control group	-5,64	-4,59	1,07	> 0,05

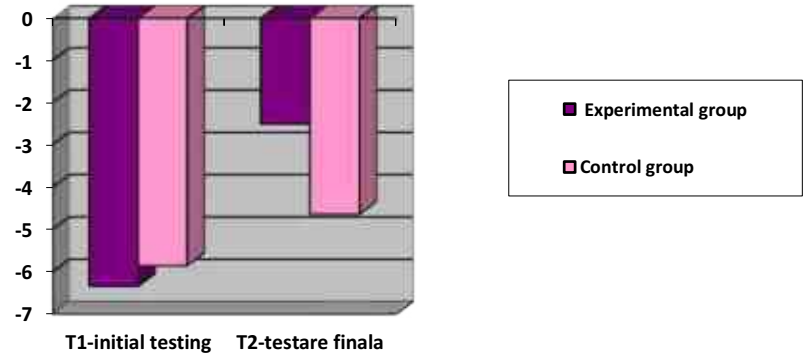

Fig.2 *The "Finger-Ground" Index*

At the initial test the average values are close to both groups; at the final typing, significant differences are observed between the two groups: -2.49 in the experimental group compared to -4.59 in the control group. The

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degree of homogeneity is high in both groups. In the experimental group there is a significant increase between the final and the initial test ($p < 0.05$). The null hypothesis is accepted for both groups.

Conclusions

From the results obtained from the experiment, I highlight the following conclusions:

At the initial test, the average values are close to both groups; at the final typing significant differences are observed between the two groups: In the experimental group there is a significant increase between the final and the initial testing ($p < 0.05$). The null hypothesis is accepted for both groups.

The kinetotherapeutic means used helped to maintain the functional parameters at limits close to normal.

The means used have physical therapy functional parameters from close to the normal range.

The structuring of a well-dosed and individualized physiotherapy recovery program and its application with perseverance and continuity has determined the improvement of joint mobility and the increase of muscular strength.

The intervention plan applied in the physical education lessons included the following techniques: correct or hypercorrected posture, maintained by various fixation methods; passive, active and active movements; isometric contractions and various proprioceptive facilitation techniques. The applied kinetic programs were varied and diversified, being organized and developed in accordance with the individual needs and were oriented in the following directions: to develop, to prevent, to compensate, to correct. Consistent practice of recovery programs prevents the aggravation of acquired deficiencies, stopping their evolution. We recommend that students continue their recovery programs outside of the physical education lesson to consolidate the results obtained.

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