Findings on physical activity to shorten telomere

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Abstract. Physical activity and increased physical fitness are known to decrease the likelihood of morbidity and mortality from a variety of causes (reduced cardiovascular disease, insulin resistance and hypertension), with concomitant increases in longevity. Telomere length is a primary biomarker of cellular aging that has recently been associated with cardiovascular disease, insulin resistance and hypertension, and morbidity and mortality. This is because as telomeres shorten, there is more stress on body tissues to function correctly. Researchers believe that exercise helps reduce damage by free radicals, allowing your body to invest its resources in maintaining health instead of repairing damage.

Normal cells, after a finite number of mitotic divisions, they stop growing or they simply die. This happens mostly because of the shortening of telomeres (specialized chromosomal ends). Telomeres are biological aging markers, found in all living cells, with the major purpose of protecting chromosomes. In other words, these are DNA packages placed at the chromosomal ends, preventing them from disintegration and delaying the process of aging. Once we get older, our telomeres shorten, cells become unprotected and they eventually die. It is said that telomeres shorten with 21 nucleotides per year.

Keywords: physical activity; telomeres; longevity;
Abstract. Human being is a bio-psycho-social entity. In case of psychosomatic diseases the implication of physical exercises is a necessity acting on the weaknesses of the diabetic, on his/her quality of life, being predisposed to a non-adaptive behavior in the case of stress. Consequence of a weak adaption being the onset of psychosomatic diseases- Diabetes Mellitus. Nowadays we live in a society that isolates human being more and more, so human organism produces biochemical responses in order to survive. Otherwise, metabolic dysfunction appears with the release of some chemical substances and hormones, the organism storing lipids/fats, especially in the abdominal area. The intervention of physical exercises regarding stress originating from diabetes is absolutely necessary, in order to improve his/her quality of life.

Physical activity fights stress that has a direct connection to stress. When stress causes rise of glucose levels in the blood, pancreatic cells react, producing insulin, a hormone that helps in the regulation of glucose levels in the blood. Through physical exercises the necessary education for improving the quality of a diabetic person is obtained, while his/her personal improvement determines the replace of a negative attitude. After the direct action of the diabetic person through physical exercises and his/her physical examination with the help of NEO PI-R, a positive effect on health can be established.

Keywords: physical activity; diabetic; psycho behavioral;
THE INCIDENCE OF SPINE DEFICIENCIES AMONG DISABLED STUDENTS FROM SPECIAL EDUCATION SYSTEM IN BUCHAREST CORRECTED BY KINETOTHERAPY EXERCISES

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Abstract

The aim of the research was to emphasize the incidence of spine deficiencies in students involved in the recovery program within the kinetotherapy classes carried out in special schools in Bucharest. We wanted to point out that among the three categories of children with disabilities enrolled in special education from Bucharest (children with mental retardation, children with hearing impairments and children with visual impairments) there are statistical differences related to the incidence of spine deficiencies.

Research sample consisted of students enrolled in special education from 14 schools. Thus there were formed three groups of students: students with mental retardation, students with hearing impairments and students with visual impairments. Also, students with mental retardation were separated in two groups depending on the degree of deficiency: students with mild/moderate mental retardation and students with severe/profound mental retardation. Another criterion for forming working groups was the school level. Thus, each category was divided into subjects enrolled in primary education and subjects enrolled in secondary education.

The comparison made between the groups revealed that in terms of the incidence of spine deficiencies there is correlation between the type of physical deficiency and the type and degree of disability.

Keywords: special education sistem; primary and secondary education; physical deficiencies
Musculoskeletal disorders etiology and incidence among dentists in Craiova

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Abstract

Musculoskeletal disorders are very common occupational health problems among dental practitioners.

The aim of this study is to evaluate the incidence of this illness among dentists of Craiova, and to investigate the etiology of musculoskeletal disorders.

Methods:

A self-reported questionnaire was delivered to a random sample of 102 dentists during two months, November and December 2015. The questionnaire includes 17 questions, separated in two parts: one general part about age, gender, specialty, years of experience, and the second part including questions about working postures, symptoms experienced in the last 24 months, the most affected areas, and the treatment followed.

Results:

The mean age was 35.9±4.9, with 78% females, and 22% males.

38.24% of dentists use no ergonomic position during work, orthostatic, and a high percent of practitioners, 78.43%, bend and twist in order to get some better access to the oral cavity. The study shows that 91.17% of dentists experienced symptoms in the last 24 months, most of them, 58.33%, localized in the cervical, thoracic and lumbar regions, and only 31.37% of them followed treatment.

Conclusions:

The incidence of MSD in dentist is high, especially in neck and back areas, and the frequency of symptoms can correlate especially with incorrect positioning during work.

Prevention programs for work related injuries in dental practice are needed, in order to reduce specific risk factors, so as to improve the practitioner’s health.

Key words: musculoskeletal disorders; questionnaire; dentists; ergonomic; risk factors.
The influence of the affected side in the improvement of the static and dynamic balance in post stroke hemiplegic patients

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Abstract

International statistics show that stroke has an annual occurrence of more than 16 million new cases, thus being a global health problem. It is the second death cause worldwide and one of the main causes of severe impairment. Hemiplegia severely affects the individuals’ capacity of performing the activities of daily living. It limits their social and professional integration and, as a consequence, their quality of life diminishes dramatically. Stroke is the main cause of falls in adults. Their static and dynamic balance is severely impaired, having a postural balance almost twice as large as that of age matched individuals with no physical impairments. The aim of this paper is to determine whether there is an influence of the affected side on the evolution of the static and dynamic balance in the functional rehabilitation process of post-stroke patients. The 8-weeks experiment was conducted in a hospital in Bucharest, on a group of 28 subjects, aged 45-65 years old and diagnosed with ischemic stroke. The results showed that both the static and dynamic balance improved but the influence of the plegic side in their evolution was not statistically significant.

Keywords: stroke; balance; hemiplegia; rehabilitation
The use of physiotherapy in post-traumatic temporomandibular joint healing. A clinical case

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Abstract. Using laser energy in different areas of medicine and sport to rehabilitate both athletes and people who practice sport is a topic of interest to specialists. With the use of medical lasers since the 1960s, numerous therapeutic procedures utilizing this form of energy have been described. In recent years, the use of laser biostimulation associated with kinesiotherapy for the recovery of post-traumatic injuries in the oromaxillofacial area has gained increasing ground.

Low level laser therapy (LLLT) is used to biostimulate healing of the traumatized temporomandibular joint.

The international literature describes numerous ways of using low level laser therapy (LLLT) in patients with TMJ trauma following sports activities.

This article illustrates through a clinical case the treatment of a traumatic sports temporomandibular joint injury. The case was documented regarding pre- and postoperative clinical signs, postoperative evolution and patient comfort related to laser biostimulation and kinesiotherapy procedures. Considering the objective criteria and their analysis, the results are favorable.

The combination of the two methods was validated as a reliable method to improve patient comfort during and after various procedures; due to its advantages, recovery and healing time was reduced.

Keywords: trauma, kinesiotherapy, laser therapy, recovery (; )
The Role of Recreational Activity for Formation of Quality of Life

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Abstract. Problem Statement. The understanding of individual behavioral patterns and mechanisms of quality of life formation are necessary for the creation of effective prevention programs. Purpose of Study was to determine the role of physical activity during leisure time on the formation of appropriate quality of life of practically healthy persons. Methods. 514 young people (46.7% female, age – 19.8 ± 1.5 years) and 100 elderly people (female, age – 65.0 ± 3.1 years) were surveyed. Health-related quality of life was calculated according separate scales with MOS SF 36. International Physical Activity Questionnaire was used for investigation of physical activity level. Findings and Results. Male and female had low level of moderate and high intensity physical activity. The female had higher indices of low-intensity physical activity in leisure time compared with male. The elderly persons had the lowest rate of physical activity in leisure time. The duration of moderate physical activity was 2.1 hours/week, high intensity only 0.8 hours/week. The higher level of recreational physical activity correlated with better quality of life independently the respondent’s age. The higher quality of life was observed according scales Physical Functioning, Vitality, General Health, Social Activity and Mental Health for respondents involved to physical recreation. Conclusions. The level of physical recreation of Ukrainian respondents is low and significantly decreases with age. The physical activity in leisure time provides high health-related quality of life. Keywords: physical activity; quality of life
A Comparative Study on the Improvement of Coordination Capacity in Partially-Sighted Children Versus Children with Visual Blindness

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Abstract. According to the reports of World Health Organization (2006), at a global level, in 2002 there were 161 million people diagnosed with visual impairments caused by eye diseases. Of them, 124 million people were suffering from amblyopia, and the remaining 37 million, from visual blindness. The study purpose is to detect possible differences in the coordination capacity of partially-sighted children versus children with visual blindness. We also aim to identify, using test-based measurements, the subjects’ response to the application of a programme for the education-rehabilitation of coordination through rhythmic gymnastics exercises. The research methods used are represented by: bibliographical study, observation, case study and graphical method. The assessment of coordination capacity was achieved through: Romberg test, eye-hand coordination test and spatial-temporal orientation test. Results highlight that the coordination capacity level has improved in all subjects, regardless of their degree of visual impairment. Thus, in the Romberg test, it has been recorded progress in 60% of children with visual blindness and 20% of those with amblyopia. In both the eye-hand coordination test and the spatial-temporal orientation test, progress has been recorded in 80% of subjects with amblyopia and 60% of those with visual blindness. Conclusions prove that the means of rhythmic gymnastics can influence the subjects’ coordination capacity. Therefore, rhythmic gymnastics can be successfully applied for the education of coordination capacity in visually impaired children. Improved coordination capacity entails an increased quality of life in persons with special educational needs, which represents a desideratum of national and international social policies.

Keywords: amblyopia; visual blindness; coordination capacity; rhythmic gymnastics.

1. Introduction

Health is defined by the World Health Organization (WHO, 2006) as “a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity”.

Visual impairment refers to the presence of any deficit or deviation from normality in the structure or function of visual analyser, which is present after the correction of vision by wearing glasses, and the value of visual acuity is 20/70.

Visual impairments are divided into two categories:

a) amblyopia – etymologically, the word comes from Greek, where it means poor vision and represents a decrease in visual acuity which allows the individual to cope independently with the environment;

b) visual blindness (cecity) – etymologically, the word cecity comes from Latin, where it means blindness and represents the partial or total loss of visual acuity, an issue which requires the presence of a third person (human, animal) for carrying out everyday activities.

According to the reports of World Health Organization (2007, p. 2), in 2002, there were globally 161 million people diagnosed with visual impairments caused by eye diseases. Of them, 124 million people were suffering from amblyopia, and the remaining 37 million, from visual blindness.

The WHO mentions that up today, to prevent blindness, major efforts have been made for treating ocular diseases, which led to the healing of over 100 million children. The total number of countries involved in this therapeutic approach is about 30 (World Health Organization, 2009). Also, to prevent visual blindness,
regular ophthalmological examination is required, so that, if some eye disorder is detected, to establish a
differential diagnosis and also a complex treatment as early as possible, according to the needs of the patient.  
*The study purpose* is to detect possible differences in the coordination capacity of partially-sighted children
versus children with visual blindness. We also aim to identify, using a number of test-based measurements,
the subjects’ response to the application of a programme for educating-rehabilitating coordination through
exercises specific to rhythmic gymnastics.  
*The objective* of this study is the improvement of coordination capacity in children with amblyopia and
visual blindness.  
*Tasks:*  
• making up the group of subjects;  
• selecting and adjusting the tests for the assessment of coordination capacity level in children with
amblyopia and visual blindness;  
• selecting the hand apparatus included in the development of the research;  
• designing the therapy programme applied to the subjects and performed with the selected hand apparatus;  
• collecting, processing and interpreting the data in order to highlight the results and draw the conclusions.  

2. Materials and methods

The research methods used in conducting the study are the following:  
• *Bibliographical study method*, aimed at examining some materials existing up today in the fields of
physical education and sports, and special psycho-pedagogy as well.  
• *Observation method*, focused on establishing the existing motor differences between children with
amblyopia and those with visual blindness.  
• *Case study method*, used to emphasize the response of visually impaired children following the application
of exercises with hand apparatus specific to rhythmic gymnastics. The research group is made up of 5
children with amblyopia (subjects 1-5) and 5 children with visual blindness (subjects 6-10); the diagnoses
of subjects are shown in Tables 1 and 2.  
• *Graphical method*, which involves charts for assessing the level of coordination capacity in visually
impaired children. Thus, we can emphasize the possible differences between children with amblyopia and
those with visual blindness.  

Table 1. Diagnoses of subjects with amblyopia

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Age (years)</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject 1</td>
<td>9 years</td>
<td>Hypermetropic astigmatism.</td>
</tr>
<tr>
<td>Subject 2</td>
<td>9 years</td>
<td>BE - Congenital horizontal nystagmus; Convergent strabismus; Forte hyperopia with forte functional amblyopia.</td>
</tr>
<tr>
<td>Subject 3</td>
<td>9 years</td>
<td>Forte myopia; RE - Cataract; Hyperkinetic syndrome, behavioural disorders; Expressive language disorders; Marshall syndrome.</td>
</tr>
<tr>
<td>Subject 4</td>
<td>10 years</td>
<td>RE - Evisceration, prosthesis, NLP; LE – Normal; Moderate delay in mental development; Mixed severe delay in the development of expressive and receptive language.</td>
</tr>
<tr>
<td>Subject 5</td>
<td>9 years</td>
<td>BE - Papillary hypoplasia; Convergent strabismus; Gyratory horizontal nystagmus.</td>
</tr>
</tbody>
</table>
Table 2. Diagnoses of subjects with visual blindness

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Age (years)</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject 6</td>
<td>9 years</td>
<td>BE - Proliferative retinopathy; BE - Surgical aphakia; RE - Vitrectomy; LE - Corneal transplant, vitrectomy.</td>
</tr>
<tr>
<td>Subject 7</td>
<td>10 years</td>
<td>Leber congenital amaurosis</td>
</tr>
<tr>
<td>Subject 8</td>
<td>10 years</td>
<td>NLP, total retinal detachment; LE - Uveitis sequelae, surgical aphakia; Mental retardation.</td>
</tr>
<tr>
<td>Subject 9</td>
<td>9 years</td>
<td>Congenital nystagmus, optic nerve hypoplasia; Neuro-psychomotor retardation; Autistic spectrum disorders; Post hypoxic brain injuries.</td>
</tr>
<tr>
<td>Subject 10</td>
<td>9 years</td>
<td>LE - NLP; BA - Optic nerve atrophy.</td>
</tr>
</tbody>
</table>

Legend: LE – left eye; RE – right eye; BE – both eyes; NLP – no light perception.

Research subjects and location: The subjects were selected among the 3rd grade pupils from Special Middle School for Visually Impaired of Bucharest.

The group of subjects was made up based on some criteria, as follows:

- **Inclusion criteria:**
  - diagnosis: amblyopia and visual blindness;
  - age: 9-11 years (3rd grade);
  - good physical condition;
  - ability to understand the instructions.

- **Exclusion criteria:**
  - age: under 9 years;
  - age: over 11 years;
  - poor physical condition;
  - inability to understand the instructions;
  - participation in studies on similar topics.

To conduct the study, we had in view the research ethics rules. The subjects were included in the study based on the written consent of the school leadership and parents.

Assessment tests

The level of coordination capacity was assessed using the following tests: Romberg test, eye-hand coordination test and spatial-temporal test.

To establish the score for each test, we developed an assessment scale, taking as a benchmark the results obtained by the subjects in a first testing conducted prior to the application of the respective testing.

- The Romberg test is a clinical test conventionally used for “investigating static balance in sitting position, lower limbs close together, upper limbs oriented in the anterior plane (elbows extended)” (Cordun, 2009, p. 210). It is performed with the eyes open and with the eyes closed (without sensory control), an alternative that we have applied to the investigated subjects; during a minute, it is assessed the total number of deviations and steps. This variant was chosen to ensure equal situations for the research subjects (amblyopia versus visual blindness).

**Score scale:**

1 point = ≥ 20 deviations;
2 points = ≥ 10 deviations;
3 points = ≥ 5 deviations;  
4 points = < 5 deviations;  
1 point is added for each stepping.  
Total score represents the sum of points obtained for the number of deviations and the number of steps. An increased total score indicates more severe disorders in the static balance.  
• The **eye-hand coordination test** consists in throwing three rhythmic gymnastics balls into a space delimited by a hoop. The hoop is positioned at a 3-meter distance from the launching area, and the time to perform the test is 1 minute.  
**Score scale:**  
0 points = subject does not reach the target in the three attempts and fails to fall within the time frame;  
1 point = subject does not reach the target in the three attempts, but falls within the time frame;  
2 points = subject reaches the target once in the three attempts and fails to fall within the time frame;  
3 points = subject reaches the target once in the three attempts, but falls within the time frame;  
4 points = subject reaches the target twice in the three attempts and fails to fall within the time frame;  
5 points = subject reaches the target twice in the three attempts, but falls within the time frame;  
6 points = subject reaches the target three times in the three attempts and fails to fall within the time frame;  
7 points = subject reaches the target three times in the three attempts, but falls within the time frame.  
• The **spatial orientation test** involves marking on a line two points, A and B, found at a 2-meter distance. Starting from point A, the subject with visual blindness must cover the 2 meters so as to stop in point B. Scores were awarded as follows: exceeding point B was marked with +, and not reaching it was marked with cu -. Measurements were performed in centimeters.  
**Score scale:**  
0 points = exceeding/not reaching point B by +/- 100 cm;  
1 point = exceeding/not reaching point B by +/- 75 cm;  
2 points = exceeding/not reaching point B by +/- 50 cm;  
3 points = exceeding/not reaching point B by +/- 25 cm;  
4 points = reaching point B (0 cm).  
The tests (3) were applied to children with amblyopia and visual blindness, in dynamics. The initial assessment was carried out before applying the movement therapy programme and was focused on determining the level of coordination capacity. The final assessment was applied after the investigated subjects had learned to handle three hand apparatus (rope, hoop and ball).  

**The applied programme** aimed at conducting 10 lessons which included exercises with the following hand apparatus: rope, hoop and ball. The intervention was made in the fundamental part of the physical education and sports lesson. Table 3 shows the means used.

<table>
<thead>
<tr>
<th>Week no.</th>
<th>Means</th>
<th>Dosage</th>
</tr>
</thead>
</table>
| **Week 1** | **Exercises for getting familiar with the selected hand apparatus:**  
- Learning the apparatus grip – rope;  
- Learning the apparatus grip – hoop;  
- Learning the apparatus grip – ball. | 5 minutes  
5 minutes  
5 minutes |
| **Week 2** | **Exercises performed with hand apparatus – rope:**  
- Standing, rope grip with one end in each hand, the apparatus is carried to the frontal plane;  
- Standing, rope grip with one end in each hand, the apparatus is carried to the sagittal plane;  
- Backward movement, executing snake-shaped drawings on the ground. | 3x8, 1-minute break between series  
3x8, 1-minute break between series  
5 minutes |
<table>
<thead>
<tr>
<th>Week 3</th>
<th>Exercises performed with hand apparatus – hoop:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Standing, swing on the frontal plane, hoop grip with the right hand;</td>
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<tr>
<td></td>
<td>- Standing, swing on the frontal plane, hoop grip with the left hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop is passed from one hand to the other;</td>
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<tr>
<td></td>
<td>- Standing, hoop is rolled on the ground with the skillful hand.</td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>5 minutes</strong></td>
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<tr>
<th>Week 4</th>
<th>Exercises performed with hand apparatus – ball:</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>- Standing, swing on the sagittal plane, ball is held with the right hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, swing on the sagittal plane, ball is held with the left hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, bounces are performed with the right hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, bounces are performed with the left hand.</td>
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<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td><strong>3x8, 1-minute break between series</strong></td>
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<table>
<thead>
<tr>
<th>Week 5</th>
<th>Exercises performed with hand apparatus – rope:</th>
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<tbody>
<tr>
<td></td>
<td>- Standing, rope grip with one end in each hand, the apparatus is wrapped around the body;</td>
</tr>
<tr>
<td></td>
<td>- Standing, circular horizontal swing overhead, performed to the right, rope grip with one end in each hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, circular horizontal swing overhead, performed to the left, rope grip with one end in each hand.</td>
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<tr>
<td></td>
<td><strong>5 minutes</strong></td>
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<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<thead>
<tr>
<th>Week 6</th>
<th>Exercises performed with hand apparatus – hoop:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Standing, hoop rotation around the vertical axis from support to the ground, performed with the right hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation around the vertical axis from support to the ground, performed with the left hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop is held with double grip overhead, passing through the hoop;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation on the frontal plane, around both hands, to the right;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation on the frontal plane, around both hands, to the left.</td>
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<tr>
<td></td>
<td><strong>3 minutes</strong></td>
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<td><strong>3 minutes</strong></td>
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<td><strong>3 minutes</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<table>
<thead>
<tr>
<th>Week 7</th>
<th>Exercises performed with hand apparatus – ball:</th>
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<tbody>
<tr>
<td></td>
<td>- Standing, bounces are performed with alternating hands;</td>
</tr>
<tr>
<td></td>
<td>- Travelling with bounces performed alternately;</td>
</tr>
<tr>
<td></td>
<td>- Travelling with bounces performed with the right hand;</td>
</tr>
<tr>
<td></td>
<td>- Travelling with bounces performed with the left hand.</td>
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<tr>
<td></td>
<td><strong>4x8, 1-minute break between series</strong></td>
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<tr>
<td></td>
<td><strong>3 minutes</strong></td>
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<td></td>
<td><strong>3 minutes</strong></td>
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<td><strong>3 minutes</strong></td>
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<table>
<thead>
<tr>
<th>Week 8</th>
<th>Exercises performed with hand apparatus – rope:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Standing, circular swing on the frontal plane, performed to the right, rope grip with one end in each hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, circular swing on the frontal plane, performed to the left, rope grip with one end in each hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, stepping forward over the rope with the right foot;</td>
</tr>
<tr>
<td></td>
<td>- Standing, stepping forward over the rope with the left foot.</td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 9</th>
<th>Exercises performed with hand apparatus – hoop:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Standing, hoop rotation forward on the sagittal plane, around the right hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation forward on the sagittal plane, around the left hand;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation on the transverse plane (overhead), around both hands, towards the skillful side;</td>
</tr>
<tr>
<td></td>
<td>- Standing, hoop rotation on the frontal plane, around both hands, towards the skillful side.</td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
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<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3x8, 1-minute break between series</strong></td>
</tr>
</tbody>
</table>
3. Results

In Tables 4, 5 and 6, we present the data collected from the assessments in dynamics, performed based on the tests described at point 2 (Materials and methods).

The Romberg test (Table 4) emphasized progress in all the investigated subjects, either by a decrease in the total number of deviations or by a decrease in the number of steps. The decreased scores in the final assessment emphasize an improvement in the tests performed, as a response of the subjects to the application of the therapy programme using the means of rhythmic gymnastics. Thus, the level of coordination capacity has improved from one assessment to the other.

Table 4. Romberg test

<table>
<thead>
<tr>
<th>Subject</th>
<th>Initial assessment</th>
<th>Final assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Deviation distribution</td>
<td>Total number of deviations</td>
</tr>
<tr>
<td>1</td>
<td>6 l</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>15 l</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>9 r + 3 l</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>12 r + 11 l</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>5 r + 5 l</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>4 r</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>9 r + 12 l</td>
<td>21</td>
</tr>
<tr>
<td>8</td>
<td>11 r + 13 l</td>
<td>24</td>
</tr>
<tr>
<td>9</td>
<td>4 r + 11 l</td>
<td>15</td>
</tr>
<tr>
<td>10</td>
<td>4 r + 3 l</td>
<td>7</td>
</tr>
</tbody>
</table>

Legend: r – right; l – left.

The eye-hand coordination has recorded, for most subjects (1, 3, 4, 5, 7, 8 and 10), progress in the dynamic tests, which is supported by the increased scores. For three of the studied subjects (2, 6 and 9), although they have benefited from therapy, the score is stationary, which can be explained by their sporadic participation in the rehabilitation sessions.

Table 5. Eye-hand coordination test

<table>
<thead>
<tr>
<th>Subject</th>
<th>Initial assessment</th>
<th>Final assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of failed attempts</td>
<td>Number of successful attempts</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
The spatial-temporal orientation test highlights, through the values in dynamics, an improvement supported by the subjects’ scores in the two assessments. Seven subjects (2, 3, 4, 5, 7, 8 and 9) have progressed from one assessment to the other after participating in the activity proposed within the study and performing various actions with hand apparatus specific to rhythmic gymnastics.

Table 6. Spatial-temporal orientation test

<table>
<thead>
<tr>
<th>Subject</th>
<th>Initial assessment</th>
<th>Final assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Distance travelled to point B (in centimeters)</td>
<td>Score</td>
</tr>
<tr>
<td>1</td>
<td>- 20</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>- 30</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>+ 100</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>+ 20</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>+ 50</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>- 48</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>- 10</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>+ 100</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>+ 26</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>+ 44</td>
<td>2</td>
</tr>
</tbody>
</table>

Using the graphical method (Charts 1, 2, 3, 4, 5 and 6), we present a comparative evolution of the results obtained at the assessments in dynamics – subjects with amblyopia versus subjects with visual blindness.

Chart 1. Romberg test for children with amblyopia

Chart 2. Romberg test for children with visual blindness
In the two charts (1 and 2), there are noticed the scores obtained by the children with amblyopia and with visual blindness, respectively, in the static balance assessment using the Romberg test. In the case of subjects with low vision (Chart 1), we find that only the subject no. 4 has recorded progress from the initial assessment to the final one after the application of the rehabilitation programme. In Chart 2, the progress is more obvious, three subjects with visual blindness (6, 8 and 9) recording a low score in the final assessment, which proves that the therapy programme has improved the tested component of coordination capacity. In reality, all subjects have progressed, which is revealed by both the decreased number of steps and the decreased number of deviations.

Charts 3 and 4 show the scores obtained by the subjects with visual impairments (amblyopia and visual blindness) at the assessments in dynamics of their eye-hand coordination capacity. The subjects with amblyopia (1, 3, 4 and 5) have recorded progress from the initial to the final assessment after learning to handle the three apparatus. As regards the children with visual blindness, two of the 5 subjects (6 and 9) have achieved the same score in both assessments, the other subjects (7, 8 and 10) managing to improve their eye-hand coordination, which is emphasized by the increased score recorded in the final assessment compared to the initial one.
In Charts 5 and 6, there are shown the scores obtained by the subjects with amblyopia and visual blindness at the assessments in dynamics of their spatial-temporal orientation ability. Seven of the 10 subjects (2, 3, 4, 5, 7, 8 and 9) have progressed after participating in the rehabilitation programme achieved with hand apparatus specific to rhythmic gymnastics. Thus, four children with amblyopia have recorded an increased score in the final assessment compared to the final one, and in the case of children with suppressed function of visual analyzer, only three subjects have managed to improve their orientation ability after performing the actions proposed within the study.

4. Discussions

After testing the visually impaired children, we find that most subjects (either with amblyopia or with visual blindness) have improved their coordination capacity level, which is demonstrated by the results obtained in the three tests applied.

As for the Romberg test (with the eyes closed), although the total score resulting from summing up the number of deviations and steps is quite constant at the assessments in dynamics, the intrinsic analysis of this aspect reveals that participation in the rehabilitation programme using the means of rhythmic gymnastics has led to a decrease in the number of steps (expressing a more serious balance disorder) and an increase in the points awarded for the number of deviations, which expresses an improvement of static balance. 60% of children with visual blindness have recorded progress, but in those with amblyopia, the progress has been of only 20%. The explanation results from the fact the examination condition represents a concrete situation in the lives of these subjects.

The exercise programme has better effects on the eye-hand ability, which is reflected in the score obtained for this assessment by the subjects who have regularly attended the therapeutic programme (70%). In the eye-hand coordination test, 80% of subjects with amblyopia and 60% of those with visual blindness have recorded progress, values that we also find in the processing of results from the spatial-temporal orientation test.

The constant presence in the therapeutic programme of the subjects with visual impairments (amblyopia, visual blindness) is reflected in their increased spatial-temporal orientation ability. This assertion is supported by the poor results obtained by two of the three subjects who have been absent from the applied programme (20%).

5. Conclusions

The means of rhythmic gymnastics have a favourable influence on the components of coordination capacity represented by: static balance, accuracy in movement execution and spatial-temporal orientation ability. Rhythmic gymnastics can be included into the programmes designed to educate coordination capacity in subjects with vision impairments, from amblyopia to visual blindness.

An increased coordination capacity is reflected in the quality of life of people with special educational needs, which improves substantially, a goal also promoted by national and international social policies.

References


Abstract

Purpose: The purpose of this paper was to determine the prevalence of overweight and obesity among different kinds of population groups. A secondary aim was to determine the level of the leisure-time physical activity performed by these groups.

Introduction: This work observes four groups of people who are exposed to different psychological and mental strain in their jobs and who report various physical activities in their leisure time.

Methods: A questionnaire was used to determine the level of leisure-time physical activity. The respondents consisted of administrative workers, students and officers/teachers from the Military University of Ground Forces in Vyskov as well as divers who were participating in a 2-month diving course at the Military Academy in Vyskov. Overweight and obesity in respondents determined using BMI. This was supplemented with ten skinfold measurements. The obtained data were statistically evaluated.

Results: The BMI of most of the respondents was defined as normal. Only the group of administrative workers were sometimes found to be overweight. The frequency of leisure-time physical activity in administrative workers was found to be almost zero, while students perform on average some kind of physical exercise 3-4 times per week, and officers and divers once or twice per week.

Conclusion: Having compared all groups of respondents, we found that administrative workers who perform sedentary jobs, and for whom leisure-time physical activity would be extremely beneficial, perform the least amount of physical exercises of all of the groups. This dilemma could be solved through educational programmes which would highlight the importance of physical activity for human health.

Keywords: workers; overweight; obesity; BMI; skinfold thickness
IMPLICATIONS OF FOOD STYLE IN THE EPIDEMIOLOGY OF BREAST CANCER IN ROMANIA

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Abstract. Over the years, studies have shown inflammatory effects of various foods but also the beneficial effects of others. This study aims to demonstrate the relationship between diet and breast cancer development and is based on interviews with 300 women diagnosed and undergo mastectomy surgery.

Methods:
- bibliographic study of literature
- Food frequency questionnaire

Results: incorrectly food style before diagnose the disease consisted in: antioxidant dietary restrictions on food group and dietary fiber from vegetables and fruits, excessive intake of animal protein and foods with high calorie foods, daily excessive consumption of milk and derivatives, abuse of white flour foods, constant consumption of food additives. Also the negative influence of higher body weight at puberty.

Conclusions:
- the negative impact of overweight in childhood about a possible estrogen excess.
- obesogenic role of bakery products based on white flour constantly consumed
- pro-inflammatory role in overall animal protein food and especially milk and dairy foods
- insufficient intake of foods with antioxidant role creates conditions for the emergence of neoplastic diseases

Keywords: breast cancer, questionnaire, anti-inflammatory foods, pro inflammatory foods
INFLUENCES OF PILATES APPARATUS EXERCISES ON THE IMPROVEMENT OF COXARTHROSIS CONDITION

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Abstract. Exercises using Pilates apparatus can be adapted to any person, regardless of age, physical fitness or motor experience, since they act for the muscle toning, posture optimization, improvement of various disorders and physical imbalances, improvement of body and mental balance, development of suppleness. In parallel, they stimulate active, conscious participation, the desire for correct execution and success. One of the joint dysfunctions that can be improved through Pilates apparatus exercises is osteoarthritis of the hip joint or coxarthrosis, in the phases in which surgical intervention is not recommended. The natural course of this disease leads to progressive decrease in hip mobility, permanent pain and incapacity to carry out everyday activities without help. For this reason, it is very important for the patient to slow down as much as possible the rapid progression of the disease. Its prophylaxis can be achieved by avoiding the risk factors, especially obesity, joint stiffness and sedentary lifestyle. The purpose of the paper is to present a system of exercises designed for people with coxarthrosis, so as they get and maintain body weight within normal limits, develop joint mobility and strengthen the muscle groups that stabilize it. This paper is based on our practical experience and the case study of a male subject diagnosed with bilateral coxarthrosis, who, after more than 1 year of exercises on Pilates apparatus, has significantly improved his physical fitness.

Keywords: apparatus; Pilates; coxarthrosis; improvement
Interventions for prevention and rehabilitation of hamstring injuries

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Abstract. The hamstring muscles have very important role in the stabilization of body posture, movement of the lower extremities and trunk movements in relation to the thigh. Hamstring injuries are common among athletes, especially in sports like soccer with sprinting demands, kicking, and sudden accelerations. Hamstring strains are frustrating for the injured athletes because the symptoms are persistent, healing is slow, and the rate of re-injury is high. This indicates a need to develop prevention strategies for hamstring injuries. The aims of this review are introducing hamstring strains, associated risk factors, and providing rehabilitative recommendations for injured athletes to prevent re-injury. Information was gathered from an online literatures search using the key words hamstring injuries, soccer injuries, injury prevention, hamstring rehabilitation, and stretching exercises. Screening of references and hand searches of relevant journals were also employed. All relevant studies in English were reviewed and abstracted. It has been shown that hamstring strains account for 12-16% of all injuries in athletes with a re-injury rate reported as high as 22-34%. The hamstrings have a tendency to shorten. Tight hamstrings with limited range of motion and flexibility may lead to postural deficiency and deformities. It also makes the hamstring susceptible to re-injury. Risk factors such as age, strength imbalance, previous injury and flexibility should be considered. In conclusion, prevention intervention may minimize the risk factors of hamstring injuries. Training modalities should emphasize on eccentric strength training, and prevention of fatigue. There is wide disagreement about the impact of stretching exercise on prevention/rehabilitation of hamstring injuries.

Keywords: Hamstring injuries; soccer injuries; injury prevention; hamstring rehabilitation; stretching exercises
Abstract. Balanced nutrition helps maintain the health of adolescents and plays an important role in supporting their sports performance. Study objectives: comparative assessment of the alimentation in sportive and not sportive adolescents. Methods: The study was conducted on a sample of 183 adolescents from the Sports High School of Iassy (94 students) and G. Ibrăileanu High School (87 students) from Iasi. On these teenagers was applied a questionnaire frequency of food consumption (insisted in the intake of cheese, fish, fruit, sugar and confectionery) and one on the frequency of daily physical activity. Processing of the results was performed with the Pearson's test. Results and Discussion: At the Sports High School often exceeds the time of 60 minutes of physical activity per day, and calculated on the differences being statistically significant at p> 0.0001 (GI = 4, $\chi^2 = 94.638$). The dominant of cheese intake is 2-3 times (37.70%) or 1 time (32.78%) per week where we found statistically significant differences (p <0.05, GI = 4, $\chi^2 = 7.208$). Fish is especially present only 1 time per week (50.81%) so the differences are all statistically significant (p <0.05, GI = 3, $\chi^2 = 1.248$). Fruits are especially present in the daily menu (61.20%), the differences obtained are statistically insignificant (p <0.05, GI = 4, $\chi^2 = 5.415$). Sugar / confectionery products are mainly consumed daily (38.79%) or 2-3 times (28.41%) per week. Calculated differences are statistically significant at p > 0.05 (GI = 4, $\chi^2 = 9.852$) and highlight the growing contribution from confectionery to the students of G. Ibrăileanu High School. Conclusions: intense sports activity requires adequate nutritional support. To the students from the Sports High School in Iasi eating habits didn't appear to adapt to the needs of the body.

Keywords: sport; balanced diet.
A sociological perspective of the Healthy Communities pilot initiative– impact upon the parents of disabled children

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Abstract

This study, part of an international project, commissioned by Special Olympics International and coordinated by the University of Cape Town, aims at revealing the social impact of the Healthy Communities pilot programme that Special Olympics Romania has been developing since 2012. This initiative is an on-going, community-integrated network which facilitates access to health and well-being services, education and daily support for athletes with intellectual disabilities, via six healthcare medical disciplines.

In this paper we are interested in identifying the opinions of parents with disabled children regarding access to medical services. In this respect, the focus group method was used, aiming at providing accurate information about all the side-problems encountered in the process of accessing health services for disabled children. The study, which took place in June 2015, focused on 15 parents at sporting events in Bucharest and Targu Mures, which held the Special Olympics National Games. We chose to apply the focus group method to gather information so we could comment on parents’ beliefs, attitudes, concerns and worries about the health of their disabled children. We also wanted to capture data on how parents perceive and know how to use available health services for their children. The study also looks at the way healthcare professionals provide services to people with intellectual disabilities and how those services could actually be improved.

A qualitative approach lead us to the idea that although important progress has been made, there are still many health aspects which remain unaddressed by mainstream medical services, which are often unable to adapt to the special needs of this segment of the population.

Keywords: Healthy Communities programme, medical services, intellectually disabled children, social impact
Methodological, methodical benchmarks and motor performance in the preparation of gymnasts with intellectual disabilities - level B

Gabriel POPESCU

Abstract. Compulsory level A & B routines provided in the Code of Points - Special Olympics International- 2014 of artistic gymnastics, represent a positive motivational and methodological alternative for fast initial training of future gymnasts with intellectual disabilities. The objectives, content, physical and motor requirements of the 4 apparatus: vault, low bar, low, wide beam and floor, in relation to the athletes' potential impose a special strategic, methodological, operational and original approach. Through the systematic training of two experimental groups consisting of 10 boys and 10 girls with intellectual disabilities, selected within the 4 associations of Bucharest (ages 14 – 30), that lasted 6 months (1 October 2015 - 31 march 2016, one 2 hour training session/week) we were able to objectify methodological and methodical benchmarks for motor performances during the initial training of gymnasts with intellectual disabilities. The experiment was concluded with a competition. The results obtained, as well as the progress in physical and technical tests, statistically confirmed, have validated the method and ways of training, reference elements for each apparatus, and individual and group performances

Keywords: intellectual disabilities; artistic gymnastics; Special Olympics; level B, training.
Study on the ways of increasing the adherence of school age children in thoracolumbar scoliosis treatment

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Abstract. Introduction: Scoliosis is a condition frequently encountered in school age children, which unfortunately does not benefit in our country from appropriate prophylactic measures. Also, currently there are few statistical data on the incidence of this pathology among school age children in Romania compared to those referring to its incidence in the EU countries. Materials and methods: We have achieved this study starting from the assumption that enhancing the adherence to the thoracolumbar scoliosis treatment mostly in children, can be achieved by using modern communication technologies. Thus, out of the 55 children diagnosed with scoliosis in “Motivation” Rehabilitation Clinic in 2014, only 17 underwent continuous treatment. For 2015, we changed our approach related to the treatment algorithm and, at the end of the 10 free sessions, we provided each child with a written programme of 30-minute exercises that they had to perform at home, three times a week. We checked its execution by sending the children and their parents SMS messages. Depending on the responses, we tried to guide parents in finding an incentive for their children, to become more dedicated to the rehab programs. Also, we introduced a video monitoring system through which parents could watch, in the waiting room, how their children were working.

Results: At the end of 2015, 37 of the children were performing the programme at home and 80% of the parents were appreciating as extremely useful the communication established and the monitoring system as well.

Conclusions: We can increase the treatment adherence for this pathology by using modern communication technologies, provided that we customize and permanently adapt this dialogue to the needs of each child.

Keywords: scoliosis; treatment; communication; efficiency
Mathematical modeling of the sport phenomenon and correlation between anthropometric parameters and cardiac endurance in athletes juniors

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Abstract. Study of the conditions and factors that determine the phenomena of acceleration and delay in the child development emphasize the influence of civilized life, improve nutrition, prevention and treatment of diseases etc. According to some authors, growth and development accelerated of children and youth would cause the decrease in cardiac resistance.

The aim of this paper is applying of mathematical models and the laws of variation in analyzing the impact growth and development accelerated is having on cardiac of endurance to junior athletes, practitioners of sports games. Have participated a total of 124 junior athletes, practicing football game, members of sports clubs in Bucharest, aged 6-12 year

Anthropometric parameters, height, weight and scale arms were measured by weighing respectively measurement. Cardiac endurance values were determined by Ruffier index, data for the calculation of the index and the value of O2 the saturation in arterial blood were monitored by Smart Link V software.

The data were processed by mathematical modeling, using different types of mathematical regressions, then graphically visualized and characterized by the characteristic equation of the study the variational calculation of these parameters. These graphics and represent the law of variation of these parameters correlated, including trends indicate the confidence level of the study.

The results show the presence of some significant correlations between anthropometric parameters and cardiac endurance in athletes juniors aged from 6 to 12 years.

The growth and development accelerated of children aged between 6 and 12 years, practitioners of sports games (football) can be one of the causes of decrease of cardiac endurance.

Keywords: mathematical modeling, cardiac endurance, anthropometric parameters.
Design and rationing tests for creative and motor abilities to people with simple disabilities (14-16 years)

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Ahmeed adnan
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Abstract. The attention to people with disabilities is the most prominent signs of developing societies in human and social side. The research problem comes from the lack of tests to look at creative capabilities through movement for people with simple disabilities. Therefore, the goal of researchers to build and rationing of tests to measure the creative motor skills and originality kinetic supposed "There are levels and standard grades for tests the creative capabilities of the research sample, which included 120 members in Al rajaa Institute for mental disability. The tests and statistical means are selected to achieve the goals of the research and it's hypotheses and come to several results the most important tests reached by researchers can evaluating the level of the creative abilities are still under consideration (motor ability, motor flexibility and motor originality). Therefore, we recommend that physical education teachers to use these tests in institutes competent to classify students.
The effects of psychotherapy in guided recovery in Basketball

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Abstract. One of the main problems of modern sport is the subsequent recovery, a practical way of optimising training in order to sustain the performance and preserve the biological health of the athlete. In modern basketball, basic motor abilities specifically requested are coordination, speed and strength-speed. Moreover, any basketball game involves complex mental strategies such as intellectual, volitional, emotional and psychosocial ones. In accordance to specific requirements of the basketball game, the main directions of recovery post match are aimed in particular to functional tasks such as neuropsychiatric, metabolic and neuromuscular ones. The hypothesis of this research was the realization that the use of systematic and organized recovery techniques specific to the basketball game in junior II, results in an efficient recovery, reflected through an optimisation of individual recovery indexes. The research was conducted during the 2015-2016 competitive period between two groups of junior basketball II (experimental and control group). Both groups have worked in accordance with game plans developed by their coaches after liaising with federal specialist regulations. For the experimental group, specific means of recovery used were Schultz autogenous training and stretching. Tests used to assess the body's post effort recovery were the clino-orthostatic reflex index (IRCOS), miotonometry and the Dorgo recovery index. In conclusion, we are able to confirm the hypothesis that a systematic use of specifically chosen recovery methods designed for the basketball game leads to an improvement of the tested index values, a fact which can be clearly seen within the experimental group.

Keywords: recovery, basketball, Schultz autogenous training, stretching, IRCOS, dorgo index, miotonometry
Vestibular Rehabilitation in Unilateral Vestibular Loss

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Abstract. This paper demonstrates the role of kinetotherapy by means of vestibular rehabilitation (VR) in rehabilitation of patients with unilateral vestibular loss. Vestibular neuritis is a viral sudden lesion of the vestibular nerve which induces a severe unilateral vestibular lesion.

Material and methods: 19 patients with acute vestibular neuritis were included in the study. They were divided in two groups, matched regarding age and sex distribution. Central compensation of the unilateral vestibular loss (UVL) was enhanced by appropriate treatment protocols - betahistine 24mg tid alone in the first group and by betahistine 24mg tid and vestibular rehabilitation customised programs in the second group. The benefit of the seven weeks’ treatment was assessed by posturography (sensory organisation test) and dizziness handicap inventory (DHI).

Results: Bimodal rehabilitation programs brought great improvement in stability (SOT scores) as well as in health-related quality of life (HRQoL).

Conclusions: Kinetotherapy by vestibular rehabilitation programs are recommended for treatment for unilateral vestibular loss.

Keywords: vestibular neuritis; kinetotherapy; vestibular rehabilitation
Abstract

Background. Obesity is a metabolic nutritional disorder induced by multiple factors, such as genetics, socio-economical status, family etc. Historically considered an aesthetic benefit, obesity was first regarded as a disease only in the twentieth century, along with the proliferation of medical studies that have highlighted the systemic echo of obesity on the human body. There are practically no body structures, devices, systems or organs which aren’t affected by obesity. Under these conditions, obesity is, in most cases, a decisive or contributory factor for the occurrence of numerous comorbidities, which progressively deteriorate the health of individuals.

Given that in recent years in our country there is an alarming increase in the incidence of obesity in both genders in all age groups, the author attempts to highlight the role of physiotherapy, not only in weight loss but also in preventing and ameliorating affections caused by obesity.

Objectives. A kinetic program adapted to both age and fitness level in overweight patients can help reduce body weight and its’ comorbidities in optimal conditions.

Method. This experimental study was conducted during October 2014 – September 2015 on a sample of 30 subjects aged 21-80 years consisting of overweight females with weight indexes initially varying between 30 and 45.

Findings. After data processing, one can observe that, by applying a kinetic program adapted to the residual effort capacity, as well as a 1000-1200 Kcal per day diet, both the body mass index and obesity-related complications were improved.

Conclusions. The studied parametric values showed beneficial impact in overweight patients during 6 months of systematic and individualized kinetic program, in the subjects of the experimental group.

Keywords: obesity, BMI, comorbidies, diet, physiotherapy
Improving sporting performance by using custom made mouthguards

Marian Vladimir Constantinescu

Due to the increased competitiveness in sporting performance during training or sports competitions it is found an increased frequency of accidents, mainly in the orofacial region. The authors make a synthesis of accidents occurred at the last Olympic sports competitions and shows the accidents on sports categories and frequency.

To prevent the sports accidents in the orofacial region, a range of extra or intra-oral devices have been devised. The authors make a review of the most commonly used devices in the international sports activity, presenting the advantages and disadvantages of each device.

They are shown the possibilities of optimizing the sports performance through the use of intra-oral appliances in the competition activity in performance sportsmen (blood oxygenation level-dependent (BOLD), corticotropin-releasing factor (CRF), enhance isokinetic muscle strength and improving anaerobic performance).

The authors describe the methodology, the materials and technique used to achieve a custom-made mouthguard that ensures an increase of the human performance during training and sports competitions, noticeable and measurable.

Keywords: mouth protectors, enhanced human performance, customized intra-oral appliance, optimized athletic performance, successful elite sporting performance.
Biomechanical Therapy for Structural Health Problems

Cristian Rachitan

Biomechanical Therapy addresses: Structural health problems resulting from trauma and Congenital or Heredity Structural health problems present at birth. Restoring the structure of athletes at all levels, Biomechanical Therapy substantially enhances their performance.

Structural abnormalities originate from two avenues: trauma and structural abnormalities which can be present at birth. The structural problems described above, if present in the body of an athlete, prevent the individual from achieving the best physical performance. Athletes often suffer recurring injuries which are the greatest enemy to the career of a high level athlete. Very often, these recurrent injuries force the athlete to prematurely terminate their athletic career.

Facing the above, Dr. Rachitan put together his therapy which has proven to be highly effective. His biomechanical therapy method comprises three elements, each making its own contribution to the final result which is the recovery of the impaired structural component.

1) Hand manipulation (to relax soft and semi-soft tissue, reposition bones in case of luxation or subluxation)

2) Passive and active stretching and breathing exercises (to reestablish the elasticity of the muscles and flexibility of the joints)

3) Strengthening exercises to rebuild lost muscle tone and reestablish balance with the antagonistic muscles

Keywords: biomechanical therapy method, structural health problems
MODERN METHODS OF FUNCTIONAL REHABILITATION AFTER ISCHEMIC-TYPE STROKE

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Abstract. Stroke occurs against an associated pre-existing poly-pathological background, having major effects on the human being, which are significantly reflected at the socio-economic level. The post-stroke sequelae are the leading cause of disability worldwide and have a huge impact on the individual’s functionality and quality of life, mainly because the social component is strongly affected. Stroke is an acute, severe neurological condition resulting from the ischemia of a brain area or from cerebral haemorrhage. In ischemic-type stroke, the most common causes of blockage in the blood supply are represented by atherosclerosis with thromboembolism and cardiogenic embolism. Other causes encountered might be: reversible cerebral vasoconstriction, cerebral vasospasm, dehydration, systemic cancer, haematological diseases, vasculitis etc. The stroke diagnosis is achieved through the following: neurological examination, computed tomography scanning without contrast or nuclear magnetic resonance, Doppler echography and arteriography. However, the stroke diagnosis is clinical, being supported by imaging techniques. Imaging also helps to determine the stroke subtypes and aetiology.

Keywords: stroke; constraint-induced therapy; robotic devices