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THE DEVELOPMENT OF COMMUNICATION AND CREATIVITY THROUGH DANCE GROUP CHOREOGRAPHY AT THE PHYSICAL EDUCATION CLASSES

Dezvoltarea socializării şi creativităţii prin realizarea coregrafiilor de dans în grup la lecţiile de educaţie fizică

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Abstract

Background. The development of the informational means led to the diminishing of communication skills between people. These useful means of information are needed in the conditions of the current life but they also contribute substantially to the self-isolation by working from home, by distance communication, and this fact can be noticed in the antisocial behaviour of teenagers.

Objectives. By approaching this matter at the dance classes we have the possibility to develop the human relationships and to determine the possibility of collaboration and the development of creativity through the specifics of the discipline and the suggested subjects. In achieving the objectives we pursued in this research 3 categories of: aptitude factors, intellectual factors and personality factors. All these categories of factors were capitalized in the context in which the subjects had to make cha-cha-cha choreography on the basis of the acquired, physical and methodological knowledge.

Methods. Teaching – learning – consolidation – improvement were the working methods at first.

The observation method: we used the formative-participatory methods.

The modeling method: we used creative exercises and exercises of body expressiveness in relation with the nature of the movements and the music.

Results. The evaluation took place under competition conditions in order to stimulate the collaboration between the members of the groups. The results showed that the 2nd, the 3rd and the 5th group, where the subjects managed to collaborate, to socialize and to form a common idea and a common aim, had better structured choreographies and had more creativity, as they got 7 points out of 10. For the 1st, 4th and 6th group, where the subjects didn't collaborate much, the creativity couldn't develop.

Conclusion. By working in groups, all subjects have made progress regarding their social abilities.

In groups where the emulation was faster, there were better executions, the members of the group synchronized and the choreographies were more creative.

In the dance classes for groups of students it's about a creative potential which have developed through the learning process but also through other activities which took place independently.

Keywords: socialization, creativity, dance, physical education

Introduction

The vertiginous development of information tools has lead to the decrease of people's ability to communicate directly. These useful means of information are necessary for the real, actual life, but at the same time contribute substantially to the self-isolation by working at home, by remote communication, thus this is felt through antisocial behavior of young people.

In the last decades, creativity has been recognized as a personality factor and is considered to be one of the variables of major importance for the evolution of culture and society. Creativity is tested through the ability of students - student groups - to design a cha- cha- cha choreography, to combine learned dance steps as logically and naturally as possible. The 5-course team becomes creative if teammates agree and collaborate for a unique solution. The odd number is important because group solutions have to be found for a correct settlement as well as for collaboration and change of formation.

Reference domain

According to Dincă, M. (2001), the term creativity is controversed when it comes to psychology. This notion joined both mental and personality processes. In addition to this term are comming the discussions about appreciating the creativity, but also the society's role in manifesting of the creative personality. Barron (1968) talks about 4 factors:

- fluidity: rapidity and easiness of associating between images, words, sounds, etc.,

- flexibility: the capacity to reorganise the thinking in relation to the new situations, the ease of transfer,
- originality: independence of rationality, of integrating different elements on the sanme perceptive field,
- elaboration: the capacity of transforming and combining the data in the process of mental construction.

Torrance, (1992 quotet by Dincă, 2001) offers us work definitions:

- fluidity– means more ideas,
- flexibility: new solutions when the situation changes,
- originality: unusual ideas,
- elaboration: the details.

During the academic year through the learning process we use working tools in order to develop execution and creative skills. According to Moraru, (2013, quoted from Levieux, F., 1985) the execution components refer to amplitude and suppleness, energy made correctly during the movement, and variation in action speed, coordination and dissociation of movements, fluency of movements, rhythmicity, spatial and temporal orientation . Creative components aim at imitation, imagination, improvisation, memorization, communication, bindings or original artistic compositions.

Different capacities and varied motivations within a group determine different ways of approach. Thus, having the role of a leader, the teacher has the obligation to always diversify the activity, so that the group's involvement and creative activity will not decrease.

Some landmarks for designing and planning the work for artistic groups after Grigore & Manos, (2011):

- Establish the objectives of the activity
- Divide the proposed technical content into units of learning and establish temporary references
- Establishing optimal learning-consolidation-improvement strategies
- Designing and planning
- This design and planning process has taken into account the internal timetable for evaluating and marking students.

The purpose and tasks of the research

We followed with preponderence three types of factors:

1. *Intelectuals* – flexibility and creative imagination
2. *Skills* – motric intelligence which appears as a special appreciation which implies in its structure cognitive elements (sensories, logics), the motric memory and the learned motric skills. It manifests by adjusting the known dance moves to the ever changing conditions of performing, movements of the body, coordination and the amplitude and elegance of the moves on the rhythm and tempo of the music. The subjects have been exposed to these categories in the context that they had been given a deadline to create a 64 beats cha-cha-cha choreography performed by a 5 person group in competition conditions using their motric, theoretical and methodological knowledge. (National Federation of Sport Dance, Syllabus comparativ cha-cha-cha, 2018)
3. *Factors of personality*: attitude, motivation, social factors, social environment. All these categories of factors were subjected to a context in which subjects were given the term to conceive on the basis of theoretical and methodological knowledge a cha- cha- cha choreography in 64 times run in the form of a competition in a group of 5 students.

Hypothesis

If the subjects, organised in smaller groups are leaded by a common purpose, for example, a cha-cha choregraphy based on contest terms, then, they have a better performance and this determins a better socialisation and creative development.

Methods.

Teaching – learning – consolidation – improvement were the working methods at first.
The observation method: we used the formative-participatory methods.

The modeling method: we used creative exercises and exercises of body expressiveness in relation with the nature of the movements and the music. To these we can add heuristic methods, which provide creative, participative and anticipative learning.

Organization of research:

The study was conducted over a university year with 28 lessons, 14 in sem. I and 14 in sem. II. The working group was made up of 30 subjects representing only girls, students in the faculties of the University of Bucharest. The subjects were enrolled at the sports dance course and met throughout the school year at the same lesson so that the experiment could be materialized. All subjects were in the first year of college and did not know each other before. The course organized according to the school curriculum once a week was held in the gymnasium of the Faculties of Foreign Languages and Literatures. All the subjects were beginners, they had not taken dance lessons before.

Organization of groups:

The groups were randomly selected. Each subject drew a ticket with numbers from 1 to 6 from an urn. The five subjects who had the same number formed a team. We formed 6 groups of 5 students.

Group 1 - white
Group 2 - red
Group 3 - green
Group 4 - yellow
Group 5 - blue
Group 6 – purple

Creativity task:

It consists in the creation of two 64 beats cha-cha-cha choreographies on the 4/4 tempo, performed by a 5 person group under conditions of competition. These choreographies must include dance steps and moves learned and exercised at the dance course and they must be repeated two times, consecutively. The last move of the choreography must allow the group to perform it from the beginning. The subjects are to stop after the second performance in a final position.

The initial test—the choreography has been rated under competiton conditions in the last course of the first semester.

The final test— the choreography has been evaluated at the University Cup, Dancesport event with the same members of the group. The evaluation has been done by the DFES professors specialised in dancesport.

The evaluation criterias and penalties

1. The choreography must fulfill the following criteria:

- to be logic and to have variety
- Presentation (expresivity) - self confidence, to have a way with people, to share energy
- Musicality - coordination between steps and music rythm
- Partenership - collaboration between team members, different formations
- Creativity - steps combinations must be different, various, amazing arm movements, changing formations as well as not repeating them.

Penalties

- lack of variety 0,20 p
- excesive repetition of the same steps 0,20 p
- lack of expressivity 0,10 p
- lack of self-confidence 0,10 p
- incoordination between music and dance steps 0,20 p

- lack of rythm– movement coordination- 0,10 p
- less than three changes of formation 0,20 p
- lack of interaction between formation members 0,20 p

A bonus for creativity which must not exceed 1 point

2. Execution

- Coordination – capacity of recreating the steps using the whole body, direction exercise and individual and group ones.
- Dynamism—the intensity of the performance, the energy of the dance moves
- Technique— correct movements of the body
- Sinchronization– wirh the music and the team mates.

Penalties:

– lack of coordination 0,10 peach time
– lack of orientation and changing direction 0,10 p each time
– lack of amplitude of movements or filling music 0,10 p each time
– lack of movement amplitude and speed 0,10 p each time
– bad posture 0,10-0,20 p each time
– lack of syncronisation in presentation and at the end 0,10 p each time

Each group has organised 2 programmes—formations—which have been performed in competition conditions, as can bee seen in the graphic representations 1 and 2 showcased below.
The results of the competition:

Table no.1. Their results and interpretation - choreography by Cha-cha-cha

Group	Contest Sem I Notes	Ranking	Contest Sem II Notes	Ranking	The average of the 2 contests Notes	Final Ranking
Group 1- white	4,30	VI	5,80	IV	**5.05**	**V**
Group 2 – red	6,80	II	8,30	II	**7,55**	**II**
Group 3 – green	6,40	III	8,40	I	**7,40**	**III**
Group 4 - yellow	4,70	V	5,20	VI	**4,95**	**VI**
Group 5 – blue	7,10	I	8,20	III	**7,65**	**I**
Group 6 – violet	5,20	IV	5,60	V	**5,40**	**IV**

Results

The evaluation took place in competition conditions with the target of stimulating the interest of intergroup colaboration. The results showcase that groups 2,3 and 5, in which the subjects managed to develop a collective creativity, to socialise and come to a common idea and purpose were the ones who came up with better structured choreographies and showed more motivation, obtained final grades ranging 7 to 10 points.. On the other hand, groups 1,4 and 6, in which the subjects kept their opinions personal and showed a low level of collaboration, creativity was unable to develop. Under competition conditions the subjects had a individual approach even though success depended on collaboration and each of the subjects contribution.

Conclusions

All of the subjects made progress in regards of their abillities of socialising and working in a group.

In the groups where emulation occured faster, the preformances were better, having a good synchronisation and creative choreographies.

The small groups, instructed by dancesport courses and educated in the sense of creative attitudes, end up being extremely productive and communicative, and there appears a team spirit when faced with competition.

Within the framework of dancesport courses for students we can talk about a creative potential that has developed both through the process of learning and within the framework of other

independent activities.

Imagining strucures of moves and asembling them in the shape of a choreography has stimulated greatly forms of collective creation.

This thing was possible because objectives, instructional targets and atitudes are closely linked with a certain common mentality, with the activity regimen and interpersonal, social relationships that havbe been built within the framework of the groups.

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DESIGN OF LEARNING UNITS FOR SCHOOL PHYSICAL EDUCATION WITH 6TH GRADE STUDENTS

Proiectarea unităţilor de învăţare la educaţia fizică şcolară cu elevi de clasa a VI-a

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Abstract

Background. From the unitary documents of the teacher of physical education, the didactic design acquires a personalized and individual character, regarding the distribution of the learning units in lessons and throughout the school year, the joining of the learning units into lessons, the placement of the test events for the sunmative evaluation and of the tests stipulated by the National School System of Evaluation, as well as those established by the teacher in the structure of the school year.

Objectives. This research aimed at the following objectives: to present the theoretical documentation of the didactic design in school physical education, particularly the learning units; to carry out the half-yearly test events evaluation; to make the didactic design of the learning units necessary for the teaching-learning-evaluation of the education contents of the motor qualities and skills specific to basketball game; to apply the evaluation system of the test events; to analyze the effectiveness of the didactic design, the achievement of the learning units in basketball and the motor skills of the 6th grade students; to draw conclusions and develop practical recommendations.

Methods. This scientific approach entailed the organization of a study in the Secondary School no. 28 of Bucharest, with a group of 24 students of the 6th C grade; the study was conducted over the 2017-2018 school year, the first semester. The following research methods were used in this paper: study of the specialized literature, method of pedagogical observation, method of the experimental study, method of tests, statistical-mathematical method and graphical representation of results. This study also includes the final results of the specialty inspection for obtaining the teaching certification level II by the first author, highlighting the efficiency of the didactic design of the learning units used during the instructive-educational process of teaching-learning-evaluation of the 6th C grade students. There were also applied 4 test events selected from the National School System of Evaluation for 6th grade students, regarding the speed evaluated by 50 m speed running, explosive power evaluated by standing long jump, endurance evaluated by endurance running (girls – 600 m and boys – 800 m) and sports game – basketball.

Results. The study results prove the efficiency of using the actuation techniques for the development of body segments muscles tonicity, the achievement of motor actions with different efforts and structures and progressive degree of complexity specific to basketball and the integration of the learnt technical procedures into simple tactical actions of the basketball game. The application of the test events evaluation system in 6th grade students highlighted the level of development of the running speed, a low level of the explosive power of the lower limbs, endurance running 600 m girls and 800 m boys and the level of learning the motor and technical-tactical actions specific to the basketball game.

Conclusion. Performing the didactic design of the learning units in school physical education for the 6th grade students contributed to the achievement of the reference objectives of the education contents of "power" motor skill in basketball and to proposing the recommendations needed to improve the teaching-learning-evaluation process at this level.

Keywords: basketball, strength, evaluation, contents, learning units, test events

Introduction

The activity of physical education and sport, through its formative valences, is a good socialization environment for students because at this age their integration into a complex collectivity (class, group, team), develops the personality in all aspects and helps them to integrate better into society (Ghişescu & Moanţă, 2015).

The reform of the Romanian education system has generated conceptual, methodological and organizational mutations at the level of Physical Education and Sport discipline, as in the other disciplines. The „New Games Movement" modern orientation or the tendency to practice all physical exercises in the form of game and competition proves the beneficial effects of introducing the game (dynamic, preparatory, athletic) in the lesson of physical education in order to develop the personality of the children and to integrate them faster into society (Popescu & Porfireanu, 2003).

Didactic design reflects how the teacher of physical education conceives the achievement of the reference objectives for each grade – 9th, 12th and 13th (Colibaba-Evulet, 1995). A final preliminary stage of the didactic design is the analysis of the provisions listed in the National School System of Evaluation and the selection of the evaluation tests and tools (SNEE, 1999). Depending on the

education cycle, some categories of contents stipulated in the curricula can be set up in learning units and can be distributed over lessons throughout the school year. In principle, the design of each unit includes a predictive evaluation at the beginning of its approach and a summative evaluation in its end (Dragomir & Scarlat, 2004; Marinescu, & Popescu, 2008). Taking into account these elements, we consider it appropriate to introduce a new system of evaluation, differentiated per curricular cycles, consistent with the reference objectives and the specific competences stipulated in curricula for each grade (Dragomir & Scarlat, 2004; Grimalschi & Boian, 2011; Potop & Marinescu, 2014).

Basketball game is a „specific way to show oneself and also to practice the body activity and the physical exercise by playing (Colibaba-Evuleţ & Bota,1998). The practitioners, included in two teams of five players each, temporarily in a relationship of implied adversity typical of sports games, called sports rivalry, fight to win on a special court provided with baskets; each team attempt to make more successful throws of the ball through the basket of their opponents under the conditions set up in the game regulations" (Predescu, 1999).

The high level of basketball practicing has been achieved thanks to the process of learning and improving the tactics and technique of the game. The initiation into the game secrets from an early age on the one hand and the identification of the most suitable methods and means on the other hand are the factors that constitute, along with the material conditions, the premises of a fruitful activity (Ghiţescu & Moanţă, 2013).

The main characteristics of the basketball game in school are based on the idea that basketball is a sports game that can be practiced by children and young people, boys and girls as well or even by older people both for competitive purpose and recreational physical activity for fitness or fun. (Hrişcă, Predescu & Negulescu, 1987; Marinescu & Tănase, 2011).

The basketball game stresses and develops equally the entire complex of bio-motor abilities (conditional and coordinative ones) due to its rich motor content and the great variety of necessary movements (Anastasiadis, 1995; Predescu & Moanţă, 2001).

Purpose. The main goal of this paper is to highlight the effectiveness of achieving the didactic design of the learning units specific to "power" motor skill and to basketball sports game abilities at the level of 6th grade students.

Hypotheses of the paper: Performing the didactic design of the learning units in school physical education for the 6th grade students will contribute to the achievement of the reference objectives of the educational content of "power" motor skill in basketball and to proposing the recommendations needed to improve the teaching-learning-evaluation process at this level.

Material and Method

This scientific approach entailed the organization of a study conducted in the Secondary School no. 28 of Bucharest, with a group of 24 students of the 6th grade C, during the 1st semester of the school year 2017-2018.

The following research methods were used for this paper: study of the specialized literature, method of pedagogical observation, method of experimental study, method of tests, statistical-mathematical method and results graphical representation method.

This study also includes the final results of the specialty inspection for obtaining the teaching certification level II by the first author, pointing out the efficiency of the didactic design of the learning units used during the instructive-educational process of teaching-learning-evaluation of the 6th C grade students.

There were also applied 4 test events selected from the National School System of Evaluation for 6th grade students, regarding the following motor skills: speed evaluated by 50 m speed running; explosive power of legs evaluated by standing long jump; endurance evaluated by endurance running (girls – 600 m and boys – 800 m) and sports game – basketball.

The design of the learning units within this study referred to "power" motor skill for the 6th grade, with a number of 12 allocated lessons and 15 minutes exercising time for the explosive power and the segmental power (preparation to work in circuit) and the learning unit "basketball" for 6th grade with 33 lessons allocated and 25-40 minutes exercise time during lessons for the instructive

content: traveling passes, movement by added steps, stopping and pivoting, running and dribbling throw to the basket, travel on the court, bilateral play etc.

Results and discussions

Tables 1 and 2 present the results of the evaluation of the learning units in 6th grade for girls and boys as well, regarding the 50m speed running, legs explosive power, endurance running and basketball sports game.

Table 1. Results of evaluation of learning units at 6th grade level – girls (n=18)

Statistical indicators	50 m speed running (sec)	Legs power (cm)	Endurance running (sec)	Basketball (points)
Mean	9.27	107.5	342.17	8.28
SEM	0.16	3.92	13.57	0.27
SD	0.72	16.65	55.97	1.13
Cv%	7.75	15.49	16.36	13.62

Note: SEM – standard error means, SD – standard deviation, Cv% – coefficient of variation.

Table 2. Results of evaluation of learning units at 6th grade level – boys (n=6)

Statistical indicators	50 m speed running (sec)	Legs power (cm)	Endurance running (sec)	Basketball (points)
Mean	8.45	140	336	9.00
SEM	0.22	9.31	25.80	0.45
SD	0.54	22.80	63.21	1.09
Cv%	6.49	16.28	18.81	12.17

Note: see table 1.

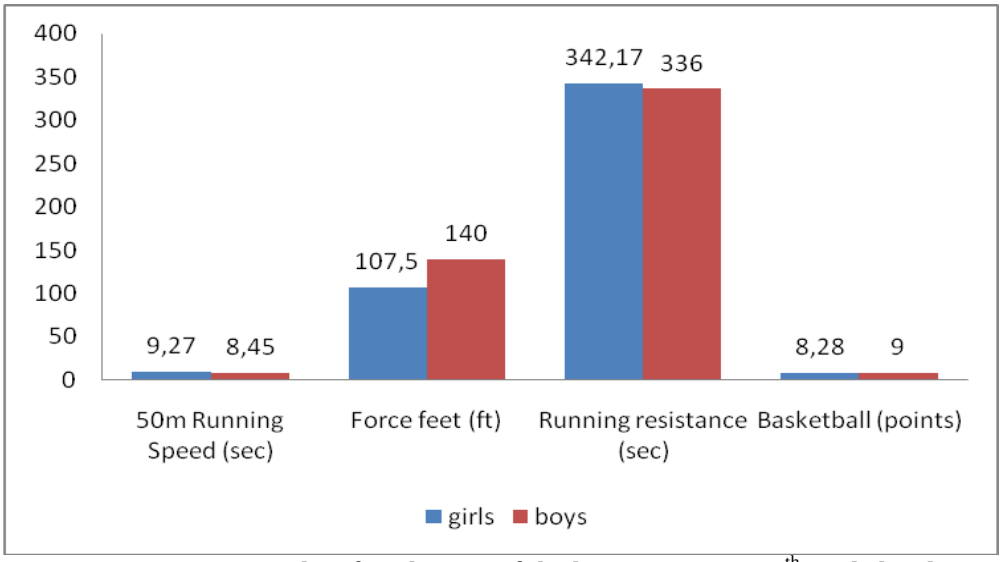

Fig. 1. Results of evaluation of the learning units at 6th grade level

The results of the comparative analysis highlight the following matters: at the speed test event, evaluated by 50m speed running there is a value of the mean of 9.26; ±0.16 sec in girls and 8.45; ±0.22 sec in boys; in both cases there is a high homogeneity between subjects; legs power, evaluated by standing long jump has a value of the mean of 107.5; ±3.92 cm in girls and 140; ±9.31 cm in boys and a moderate homogeneity in girls and boys as well; endurance evaluated by endurance running on 600m for girls has a mean of 342.17; ±13.57 sec; the endurance running on 800m for boys has a mean of 336; ±25.80 sec and a moderate homogeneity in girls and boys as well; basketball game, evaluated according to the content of the training has a mean of 8.28; ±0.27 points in girls and 9.00; ±0.45 points in boys and a moderate homogeneity in both girls and boys.

Following up the didactic activity related to the design of the activities (creative ones in the didactic design of the lessons-activities, correlation of the components of the didactic activity, strategies and evaluation) it was noticed that the requirements of 6th grade curriculum were observed; the content and the level of physical stress was adapted to the proposed objectives and topics; the activities (behavior of the teacher, use of didactic strategies, integration of education means into the lesson, creativity in lesson conducting, guidance of students' actions and thoughts, management of the didactic time, achievement of performance etc) had a high quality level, combining the specific terminological mastery with non-verbal communication elements. The didactic projects were put into practice, respecting the planned content. The didactic time was covered keeping a balance between motor density and pedagogical density while the time allocated to each part (link) of the lesson was observed and resulted in a good motor density, managing the didactic type correctly.

The evaluation of the school performance (methods and techniques for evaluation of the learning results from the prospective of the established objectives) was made with an individual and collective common evaluation after each exercise; the summative evaluation was used at the end of the lesson, by assessing synthetically the way to fulfill the tasks, which allowed to develop some ameliorative measures for students' training.

The level of students' training was evaluated on the basis of direct observation, tests events and longitudinal evaluation; the students had well-assimilated motor skills and abilities and well-developed motor qualities. They responded promptly to the instructions of the teacher, trying to work as accurately as possible throughout the lesson, participating consciously and actively and performing the required elements happily.

The monitored lessons proved a very good knowledge of the students; the teacher was close to them, giving them advice how to fulfill the tasks during the lessons; the teacher has a very good relationship with students, colleagues and parents.

Conclusions

The results of the study highlight the level of the test events evaluation in the 6th grade students regarding the running speed, legs power, endurance running and the assimilation of the contents of basketball game in both girls and boys.

Making the didactic design of the learning units in school physical education for the 6th grade students contributed to the achievement of the reference objectives of the education contents of "power" motor skill and basketball game and to the elaboration of the recommendations necessary for the improvement of the teaching-learning-evaluation process at this level, which confirms the proposed hypothesis.

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BALANCE DEVELOPMENT THROUGH ADVENTURE ACTIVITIES IMPLEMENTED IN THE PHYSICAL EDUCATION LESSON

Dezvoltarea echilibrului prin activităţi de aventură implementate în cadrul orei de educaţie fizică

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Abstract
Background. Adventure activities have been part of the physical education lessons of other countries for a long time now, yet they are still missing from the Romanian curriculum, despite the fact that it has been proved they help in the character development of the participants.
Objectives. This paper analyses the effects of a modul based on initiatives and low rope activities (activities specific to adventure education) on the development of the dynamic and static balance on a group of 10-12 years old students.
Methods. The adventure education module was implemented on students learning at a private school in Cluj – Napoca between November 2016-March 2017 during an extra hour of physical education that they had every week. The control group had an extra hour of physical education every week as well but they have done tipical physical education activities instead. The testing of the students was done before and at the end of the program for both groups, usingJohnson'sModified BASS Test for Dynamic Balance.
*Results.*The results have shown a semnificative increase in the dynamic balance of the experiential group while no semnificative results were recorded for the control group. Furthermore, theaverage score of the static balance of the experiential group has shown a significantly greater increase compared to the control group.
Conclusion. We can conclude that this type of adventure activities (initiatives and low rope activities) help with the development of both dynamic and static balance when used with students age 10-12 years old, and as such they have their place in the arsenal of the physical education teacher at least for the development of those abilities.

Keywords: balance, initiatives, low rope activities, adventure education

Introduction

Adventure education is a form of education based on practical experiences. Priest (1999) has said about it that is that branch of education that targets the development of inter and intra-personal relationships using activities that pose a challenge and have an element of risk. This method of education has been used since 1941 when Kurt Hahn opened the first Outward Bound School (McKanzie 2003; Hattie, Marsh, Neill & Richards 1997) and is now implemented in many countries around the globe (Ewert&Sibthorp, 2014), finding its place in the curriculum of a large number of schools, both state owned and private.In a study done on schools from Colorado, more than 40% of them had an adventure education program and most of them had it implemented as part of the physical education curriculum (Evans 2000, apud Johnson 2012) .

Research done in the field of adventure education has shown that 62% of the teenagers that took part in such programs had something to gain from it (Cason & Gillis 1994). After analyzing the research done up to that moment, Hattie, Marsh, Neill & Richards (1997) managed to identify 40 differentoutcomes liked to this form of education and they grouped them in 6 categories: academics, leadership, self concept, personality, interpersonal skills and adventuresome.

The choice of activities is very important in the efficiency of the adventure education programs (Walsh&Gollins 1976**;** Ewert&Sibthorp 2014) but research does not show what activities are best for reaching certain outcomes.Furman (2011) was saying that adventure programs use activities like canoeing, cycling, skiing, rafting, horse riding, caving and mountain or rock climbing, and most often backpacking, however all those activities are impossible to implement in the curriculum of most schools.Rohnke (1989) considers that a goodadventure programis created of various activities grouped into icebreakers, deinhibitizers, trust activities, games, initiatives, low and high rope elements. The rope courses use a series of towers, cables, platforms and obstacles to create a physically challenging environment for the participants (Priest and Gass 1997). Rohnke, Rogers, Tait & Wall (2007 apud Gillis & Speelman 2008) said that rope courses have originated in the military training done in 1941. Apperently they were especially used with sailers as they were simulating

working conditions aboard ships (Martin, Cashel, Wagstaff & Breuning, 2006 apud Gillis & Speelman 2008). The *low rope activities* are suspended courses that take place at low hight above the ground and as such the safety measures can be covered with a few mats and spotting. In the absence of specialised staff, these activities are safer to use in a school environment compared to the high rope courses. *Initiatives* are problems that chalange the participants and need to be solved with the help of all the team (Fletcher & Kunst, 2006) and usualy have more than just one possible solution. The easiest initiatives are usualy timed and the participants need to find a solution that will give them the best possible time.Some initiatives qualify as low rope activities as well. *Icebreakers and trust activities* are ussualy used at the beginning of a course with participants that do not know eachother well to create a bond between participants.

The activities are followed by a period of processing where the participants are encouraged to consider how can the learned lessons be applied in other contexts (Goldenberg, Klenosky, O'Leary & Templin 2000).The advantage of the rope courses is that they are flexible and can be adapted to the space and equipment available and to the outcome targeted **(**Goldenberg, Klenosky, O'Leary, Templin 2000**;** Moote, Wodarski 1997**).**Research shows thatrope courses are able to develop self–efficacy, attitudes about the physical condition and group dynamics, and to a certain degree they also help in the development of self-esteem or self concept, personality, behavior and academics(Gillis &Speelman, 2008).These outcomes will make rope courses a great asset for the educational system.

In the US, rope rourses have been implemented in public schools since 1971, through Project Adventure, a nationally awarded education currciculum (Bisson 2009).

Study

The main task of the study was to check if a program of adventure education based on initiatives and low rope elements can help in the development of balance for a group of middleschool students. For this we had to answer to a few research questions:

1. Do the students taking part in the program have a better balance as measured by our instrument, at the end of the program compared to the beginning of the program?
2. Do the students taking part in the program show a bigger improvement in their balance as compared to their collegues not taking part in the program?

The test selected for the measurement of balance is the *Johnson Modification of the BASS Test of Dynamic Balance.* The test is frequently used in the field for the measurement of dynamic balance (Hobbs 2008**),** and there are reasons to believe that it is a good measurement for static balance as well (Tsigilis, Zachopoulou&Mavridis, 2001). In the book „Companion Guide to Measurement and Evaluation for Kinesiology" David Tomchuck (2011) presents the test as measuring both balance components.

The test consists in a set path made out of 11 markings, 2.5 cm x 2.5 cm, that needs to be crossed by the subject while fallowing certain rules. The path is laied down acording to Fig.1. The subject needs to place himself with one foot on the first marking and then try to traverse the path while stepping on each sequent marking with the alternate foot. On each step he needs to try to cover the marking completly with the front of his sole, keep his heel of the ground and hold his balance for 5 seconds (Wood, 2008). The subject takes 5 points for every marking completly covered and up to 5 points (1 for every second) for holding his balance on every step. He will not recieve the 5 points for covering the marking if he is unable to stop on the marking in a balance position. The timing of the balance stops if the subject toutches the ground with any other part of his body beside the front of the sole of the balancing foot, moves his support foot from its location, places the second foot on the support leg, or goes past 5 seconds. If the subject makes a landing error, he needs to regain his position and try the balance section as well (Tomchuck 2011). Some researchers have modified the scorring system and have agreed to give 3 points to the subject if he covers partially the marking with his sole and does not make a landing error (Tsigilis, Zachopoulou&Mavridis,2001).

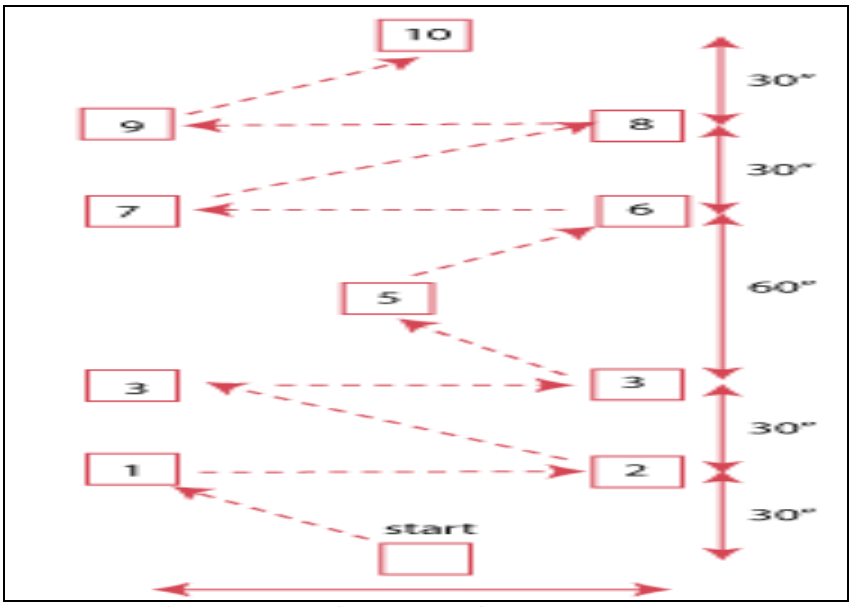

Fig.1 Layout for Johnson Modified Bass Test for Dynamic Balance (Wood, 2006)

The study was done with a group of children aged 10-12 year old studying at a private school in Cluj Napoca in 2016-2017. From the 3 classes involved in the study, one of them was randomly chosen to be the control group while the other two took part in the program of adventure education. As a result of this process of selection the experiment group ended up with 29 students, 13 girls and 16 boys, while the control group ended up with 14 students, 6 girls and 8 boys.

The students from both groups were tested at the beginning of the school year, in September 2016 and then again at the end of the program of specific activities, in March 2017.

The modified BASS test was done inside the school's gym. The path was marked on the floor with the help of a ruller and whiteboard markers and then appropriate size markings were cut from paper duct tape and placed at the corect locations according to Fig.1. The distances between marks were measured acording to Tomchuck (2011). A second identical course was layed out to make the practice session more efficient. The test and the scoring system were explained and a demonstration was done by one of the PE teachers. The students were than allowed to practice and students showing a lack of understanding were taken for further clarifications. After the practice session, each students had one official trial to try to score as high as he/she could. When there were mistakes in the patern or procedures, the students were asked to repeat from the last step. In order to ensure the corect recording of the score, the tests were filmed. The author was then able to check the video and adjust the score based on the landing or balance errors that escaped in his initial scoring. To make the balance count as accurate as possible, and to keep the students aware of their balance time, ametronome application was used from an Ipad , and the count was kept outloud during the test.

For this study the experiential group took part every week in 1 hour of adventure activities. This was done during one of their physical education lessons, that was introduced as additional to the 2 compulsory ones. The program started in November and ended in March and was only interupted during the school holidays as it was impossible to bring the students in for the activities. Meanwhile the control group had an additional lesson of Physical Education as well but the students took part in regular physical education activities instead.

The program of adventure activities consisted in *low rope activities, specific games and initiatives*. Since the participants knew eachother quite well and those activities are less physical, Ice breakers and trust activities have not been included in the program. The *specific games* have been used to warm up the students and prepare them for the activities. Some initiatives can be less physical demanding so in order to create our unit a selection was done from the activities available in the specialised literature. For the activities selected we than had to consider the resources required and we addapted them to the space and the resources available. Some activities had to be eliminated from the

program because they required a bigger space than the one availble to us or used specific materials that we could not improvise. Finaly the experience of the author has allowed him to create new activities to be added to the program.

Results

The data resulted from the test was analised with SPSS 2.0.

Out of the 29 students from the experiential group, 2 did not have a pair of scores, missing either the initial or the final test. In the control group a similar situation appeared and so the number of students in this grouped droped to 12.

The literature showed that there are two possible ways of scoring this test . One option supports the idea that not covering a mark completly is penalised and scored with 0 (Tomchuck, 2011) while the other considers that covering the mark partially should not be penalised completly and should be awarded a score of 3 (Tsigilis, Zachopoulou&Mavridis,2001). Since it was impossible to acces the original source for the Johnson modified BASS test, a decision was made to score the test both ways and to compare the results. Acording to Safrit & Wood (1995, apud Tsigilis et al. 2001) and to Tomchuck (2011) the test is assesing an aspect of static balance as well, so beside the final score of the test, a partial score was calculated for each participant adding the number of seconds of balance from each mark. Because this score of static balance is not affected by the stepping errors it stayed the same on both scoring alternatives.

The Sahpiro-Wilk test for normality showed us that the distribution of differences is normal for both the experiential and the control group in all the scores. The normality is not affected by what scoring alternative is used. The Skewness scores were also found to be acceptable.

The Boxplot graph showed that one candidate in the experiential group had a much bigger improvement in his static balance than the average, making this case stand out as an outlier. This case apeared as an outlier in the boxplot of the total score as well, but only in the scoring alternative that considered partial covering of the marks as a landing error. Outliers can easliy show up in studies with small number of participants (Popa 2008) but because we do not know if the student realy benefited from the program or was just not focussed enough during the initial test we decided to eliminate the case from the rest of the analysis.

The t test for the total BASS score showed a considerable increase in average of the dynamic balance of the experiential group for both scoring alternatives. For the scoring alternative that allows partial coverage to be scored (BASS3) the average difference was m=18.963, significant at $p<0.01$ ($t=6.016$, $df=26$). The 95% trust interval for the real average difference is between 12.484 and 25.442, witch means the increase in dynamic balance is real. The effect size calculated with Cohen's formula is d=1.18 witch acording to Cohen's instruction is considered big. For the other scoring alternative that does not consider partial scoring when steping (BASS0) the average difference was slightly smaller (m=15.462) but still significant at $p<0.01$ ($t=5.004$, $df=25$). In this case the effect size was d=0.98, still considered big by Cohen's recomandations. The control group did not have significant results for the score of the dynamic balance.When calculated using the mean difference between the experiential group and the control group divided over the cumulated standard deviation(Popa 2008), the effect size was the same for BASS3 (d=1.18) but higher for BASS0(d=1.10).

Table 1. Paired Samples T Test Results (final score – initial score)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Control group	BASS3[a]	,250	14,741	4,255	-9,116	9,616	,059	11	,954
	static balance	4,583	4,680	1,351	1,610	7,557	3,393	11	,006
	BASS0[b]	-2,500	17,563	5,070	-13,659	8,659	-,493	11	,632
Experiential group	BASS3[a]	18,963	16,379	3,152	12,484	25,442	6,016	26	,000
	static balance	10,846	9,698	1,902	6,929	14,763	5,703	25	,000
	BASS0[b]	15,462	15,754	3,090	9,098	21,825	5,004	25	,000

Note: *a: score calculated when partial cover of mark is rewarded with 3 points;*
b: score calculated when partial cover of mark is considered landing error.

For the static balance, both groups have showed significant results in the paired t-test as you can see in the Table 1. The independent t test has showed that in average the static balance has increased significantly more for the experiential group than for the control group (m=6.263, t=2.115, df=36, p=0.041). The efect size was calculated using Cohen's dfor independent samples and a score of d=0.74 was obtained. Acording to Cohen, values between 0.50 and 0.80 are considered a medium to big effect size.

Table 2. Independent Samples T Test Results for the static balance (experiential – control)

t-test for Equality of Means						
t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2,115	36	,041	6,263	2,961	,257	12,269

Conclusions

From the results prezented above it is quite clear that the experiential group has progressed in regard to their dynamic balance and their static balance and we can state that the adventure education program through its games, initiatives and low rope activities had a contribution to this development. The big effect sizes (d=1.18 for BASS3, d=0.98 for BASS0) are a confirmation of the importance of this progress.

Compared with the control group the experiential group had significant improvements in dynamic balance and the improvements in the static balance were significantly greater at $p< 0.05$ (t=2.115, df=36, p=0.041) witch might lead us to say that adventure education is better for development of balance than the regular physical education activities.

However considering the conditions of this experiment we should be carefull about comparing the benefits of adventure education with those of regular physical education. The experiential group still had 2 regular physical education classes every week so we cannot give full credit for the balance development to the adventure activities. In the same time the small size of the control group (N=12) can makes us wonder if this group is reprezentative for the population and the comparison between groups is relevant.

For a better understanding of the benefits of the adventure activities towards the development of balance, a research where all the physical education lessons are replaced with this kind of activities would be required.

This being said however, we can still see reasons for introducing the adventure activities in the arsenal of the physical education teacher to be used, at least alongside traditional activities, for the development of balance. Considering the research done on the outcomes reached by adventure education activities, especialy over the development of inter and intrapersonal skills, the benefits will trancend the objectives of physical education and will help in the development of our students as human beings.

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THE DEVELOPMENT OF RUNNING SPEED AND AGILITY OF COLLEGE SOCCER PLAYERS, THROUGH SPECIFIC PHYSICAL TRAINING

Dezvoltarea vitezei de alergare şi agilităţii la jucătorii de fotbal din mediul universitar, prin intermediul unui program de pregătire specific

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Abstract

Within the theory and methodology of the soccer game there is a permanent concern for identifying those efficient ways, means and methodologies, which ensure the accomplishment of the instructive-educational objectives and tasks specific to each echelon.

Involvement of children, young people and adults in the educational process specific to soccer discipline, essentially contributes to solving the priority tasks of physical education at national level. Therefore, soccer is considered a foreground program, provided at the level of school curricula of all degrees.

Soccer players must have exceptional speed and quickness levels that must be consistently trained. Agility training is used to improve acceleration, foot speed, quickness, switching gears, cutting, starting/stopping, change of direction, and reaction, but it also aids in preventing injuries by improving body control through proper movement mechanics.

Through its content and approach, this research aims to demonstrate the influence of a specific physical training program on speed and agility of college soccer players. Furthermore, the study emphasizes the importance of proper evaluation of these aspects, by using modern and effective tools, which contributes to a better understanding and completion of soccer training tasks.

Keywords: running speed and agility, specific physical training, college soccer players

Introduction

Within the theory and methodology of the soccer game there is a permanent concern for identifying those efficient ways, means and methodologies, which ensure the accomplishment of the instructive-educational objectives and tasks specific to each echelon.

Involvement of children, young people and adults in the educational process specific to soccer discipline, essentially contributes to solving the priority tasks of physical education at national level. Therefore, soccer is considered a foreground program, provided at the level of school curricula of all degrees.

Regardless of the actual way of doing it, soccer requires players to perform numerous actions that require strength, power, speed, agility, balance, stability, flexibility and endurance (Bloomfield et al., 2007; Gorostiaga et al., 2004; Helgerud et al., 2001) suggesting that the physical conditioning of players is a complex process (Milanovic Z., Sporis G., Trajkovic N., James N., Samija K., 2013).

In a 1996 study, V. Gambetta states that high-speed actions in soccer have been categorized as requiring acceleration, maximal speed or agility skills, whilst others described speed in soccer as consisting of running speed, reaction speed and acceleration speed during the first steps - referred to as quickness (Chapman et al., 2008). Both of these categorizations imply that speed, agility and quickness training method should be a useful component of fitness training in soccer (Pearson, 2001).

Soccer players must have exceptional speed and quickness levels that must be consistently trained. A 30 meter straight ahead sprint is not the only way to assess an athlete's speed. There is a difference between quick and fast.

The best athletes have a combination of both quick and fast characteristics and both elements must be trained (http://www.soccer-training-info.com/agility_training.asp). Lateral speed and agility work lays the foundation for an athlete in any sport. Agility training is used to improve foot speed, quickness, acceleration, switching gears, cutting, starting/stopping, change of direction, and reaction, but it also aids in preventing injuries by improving body control through proper movement mechanics.True soccer game speed means linear speed and agility. Whether it's the quickness exhibted with fast footwork and dynamic moves, or rapid changes of direction, you can't be lacking.

These are skills that can be trained through better movement mechanics and by improving the right physical qualities (http://www.stack.com/a/soccer-agility).

Purpose

Through its content and approach, this research aims to demonstrate the influence of a specific physical training program on speed and agility of college soccer players. Furthermore, the study highlights the importance of proper evaluation of these aspects, by using modern and effective tools, which contributes to a better understanding and completion of soccer training tasks.

Hypothesis

The use of a specific physical training program during the college soccer players'lessons will improve the level of performance in running speed and agility component.

Methods

The experiment took place from October, 9th 2017 until December, 19th 2017, during the first semester of the 2017-2018 academic year. 50 college students from 1st year of study were selected to participate in this research experiment, all being enrolled and taking part in soccer lessons.
The specific physical training program was applied at the beginning of each soccer session, during 45-60 minutes and it consist in the following three categories of exercises:

1) Cone drills:

The cons are distributed as shown in the image below (figure 1). The distance between each cone is 5 meters. The player starts on the first cone on the left and he must describe an M and an N letter as fast as he can, using forward, backward and lateral movements and fast changing of direction.

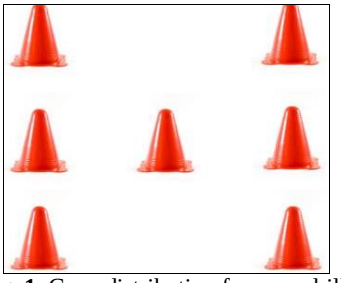

Fig. 1: Cone distribution for cone drills

2) Hurdle drills:

Using a 30 cm hurdles, five in a row, parallel to each other, the soccer player steps over them using different movements combinations: high and laterally steps. At the end of each exercise, the player carry out a 5 meters sprint.

3) Ladder drills:

For this exercises we used a standard speed and agility ladder (4m long, 0,5 m wide, 8 rungs, distance between rungs 40cm) and the following exercises:

- high-knee march forward;
- one foot in each box;
- two feet in each box;
- one foot in each box – lateral;
- two feet in each box lateral.

At the end of each exercise, the player carry out a 5 meters sprint. Each categorized exercise was completed three times/session, with a 30seconds up to a minute break between the drills.

The evaluation of the results obtained at the end of the semester has been established from January 4th, 2018 until January 20th, 2018, during the evaluation session and consisted in the application of running speed ang agility subtest of the Bruininks-Oseretsky Test, Second Edition. Activities in this subtest include:

Item 1: Shuttle Run
Item 2: Stepping Sideways over a Balance Beam
Item 3: One-Legged Stationary Hop
Item 4: One-Legged Side Hop
Item 5: Two-Legged Side Hop

Results

Statistical processing of the research results was accomplished using the BOT-2 ASSIST™, Scoring and Reporting System (software belonging to the Bruininks-Oseretsky Test, Second Edition) and EXCEL 2003 Software of Microsoft Company. The BOT-2 ASSIST™ converts total scores obtained by subjects after applying the Bruininks-Oseretsky Test, Second Edition into derived scores, which shows a common significance in terms of their interpretation from a subtest to another and from one age group to the other.

As part of our scientific approach, interpretation of the results was based on scale score, wich tells how far an examinees' point score is from the mean point score of examinees of the same age, taking into account the standard deviation of point scores in the population sampled.

Table 1*: Scale Score Mean - Initial and Final Testing Running Speed and Agility*

Testing	Mean	Median	Standard Deviation	Mode	Min.	Max.	Amplitude	Coefficient of variation
Initial	14.64	15.00	2.17	15	11	21	10	14.8%
Final	15.24	15.00	1.70	15	13	21	8	11.1%

Table 2*: t Dependent Bilateral Test*

Mean Testing Difference	Statistic Indicators Differences						Size effect
	Mean	Median	Standard Deviation	t critical	t calculated	P	
Final-Initial	0.60	0.00	0.73	2.010	5.824	< 0.001	0.82

The average scores for the *Running Speed and Agility* parameter are equal to 14.64 at the initial test, respectively 15.24 units at the final test. In both tests the dispersion of data around the mean is homogeneous. The magnitude of the effect (0.82) indicates large differences between the two average scores. The graphical representation of averages and scores recorded at Running Speed and Agility are shown in figures below:

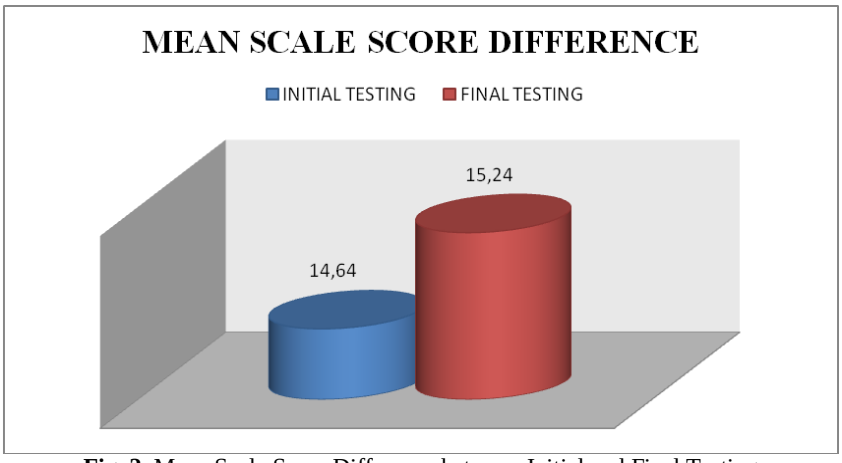

Fig. 2: Mean Scale Score Difference between Initial and Final Testing

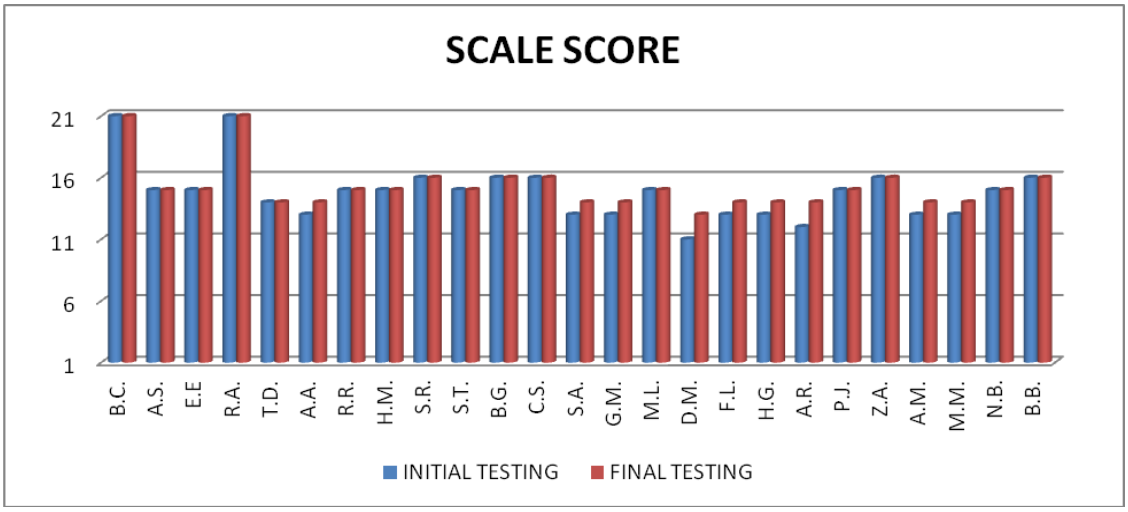

Fig. 3: Scale Scores - Initial and Final Testing

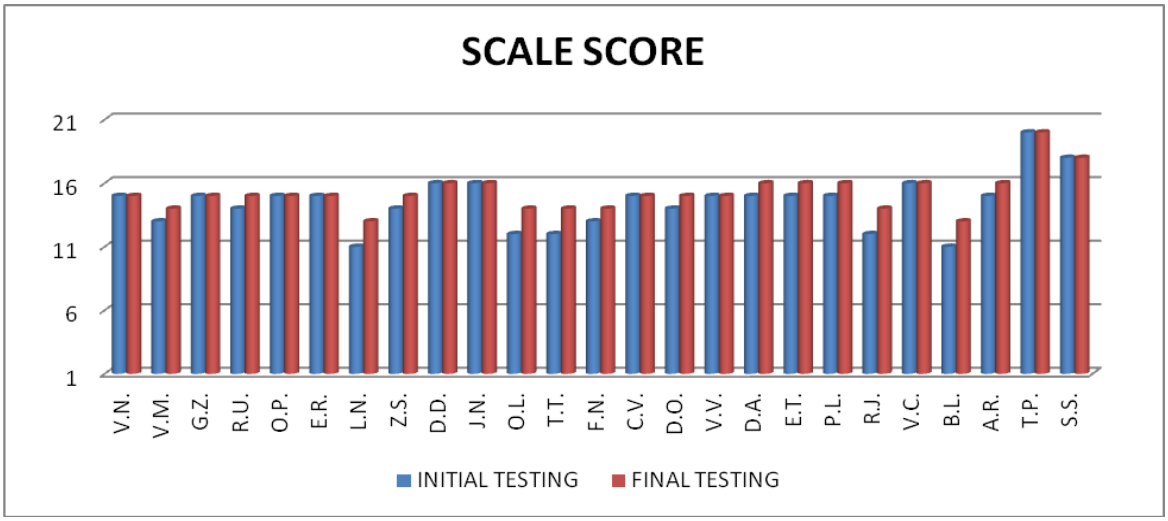

Fig. 4: Scale Scores - Initial and Final Testing

Conclusions

The results of the bilateral t-test show that $p < 0.001 < 0.05$. The difference between the mean scores in the two tests is statistically significant, the mean final test score being 0.60 units, which allows us to assert that the research hypothesis is accepted.

The results of the present study highlight the importance of implementing the proposed specific physical training program in order to develop and optimize the running speed and agility component, seen as an important vector in the training process of college soccer players.

Moreover, the objective evaluation of the recorded performances, by modern means, creates the premises of a complex approach of the instructive-educational process, with major influences on the progress registered by the students.

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STUDY ON THE INFLUENCE OF THE PRACTICING EXERCISES IN AN ORGANIZED MANNER ON THE EFFORT CAPACITY AND PSYCHOMOTOR SKILLS OF THE STUDENTS FROM THE UNIVERSITY OF BUCHAREST

Studiu privind influenţele practicării exerciţiilor fizice în cadru organizat asupra capacităţii de efort şi a unor aptitudini psihomotrice, la studenţii Universităţii din Bucureşti

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Abstract

Lately, both in the online space and in the literature, we are assaulted by materials that highlight the beneficial aspects of physical exercise on the body, in all its spheres - physical, psychic and social.

However, in the current socio-economic context, when the budget of time allocated to recreational sports activities is more and more a luxury, inaccessible even to the young students, we believe that sports disciplines practiced in an institutionalized manner are one of the few means they have at their disposal, which respond to their need for movement, group membership, social affiliation etc.

In our approach we assume that in theapplied programs, the content is attractive, accessible to students' level of motricity, the psychomotor peculiarities of young people are respected and the psychomotor skills assessed: strength, agility and speed are important components of the motor performance involved in the daily activities, not just in sports activities.

Therefore, in our investigation we proposed to verify the following hypothesis: The action systems specific to the chosen sport disciplines (table tennis and aerobics), applied in the lessons, lead to a better effort capacity, to higher indices of manifestation of the motor qualities force and speed and to the positive influence of psycho-behavioral states.

Keywords: effort capacity, psychomotor skills, students

Introduction

In the current socio-economic context, when the budget of time allocated to recreational sports activities is more and more a luxury, inaccessible even to the young students, we believe that sports disciplines practiced in an institutionalized manner are one of the few means they have at their disposal, which respond to their need for movement, group membership, social affiliation etc.

The World Health Organization states that "youth health is important for the well-being of this age group and also for the future of the public health."

We believe that practicing sports activities - whether organized or not, is an effect of a superior concept of health, physical and mental well-being, components of the quality of life, conception acquired through education and culture.

Physical inactivity, sedentaryism, inadequate lifestyle (with inadequate nutrition) are risk factors that must alert us to identifying, quantifying and preventing the disease in order to counteract the risk of illness.

The research organization

The research objectives

Establishing the spheres of influence of the physical exercises specific to Aerobic gymnastics and Table Tennis.

Determining the level of development of the different qualities necessary for practicing Aerobics and Table Tennis.

The hypothesis of the research: The action systems specific to the chosen sport disciplines (table tennis and aerobics), applied in the lessons, lead to a better effort capacity, to higher indices of manifestation of the motor qualities force and speed and to the positive influence of psycho-behavioral states.

The research stages

The data collection and the development of the training programs were carried out as follows:

The Experimental Group

The initial testing took place between October 14-18. 2013 and aimed at knowing the initial values of the research parameters - the dependent variable.

The final testing took place between May 19-23, 2014 in order to highlight the changes in the research parameters after developing the programs of the sports disciplines - aerobics and table tennis.

The Control Group

The initial testing took place between October 7-11, 2013.

The final testing took place between May 12-16, 2014.

The tests performed with both the experimental group and the control group were conducted in the gym of the Faculty of Foreign Languages, where there were optimal conditions for their development. The weeks in which the initial and final tests were conducted were not included in the training program.We proceeded on the experimental group for 22 weeks with the application of the independent variable - namely the specific content of aerobics and table tennis held in the Gym Pitar Mos.

The Subjects and the place of the research

To conduct the experiment, the sample was composed of 100 UB students, year I, aged 18-21 years, divided into two groups:

The experimental group consisting of 50 students enrolled at various faculties of the University of Bucharest who have opted for aerobics (25 students) and table tennis (25 students).

The control group consisting of 50 first year students at the Faculty of Foreign Languages, University of Bucharest, who do not participate in physical education lessons but who have sports concerns during leisure and who have accepted to be participants in this scientific approach. I mention that this group was created with the support of the Association of Students from the Faculty of Foreign Languages (ASLS), who understood the opportunity of our study and promoted our initiative among their colleagues, thus making it possible to form this group. We explained to these young people that during the research period they must continue their sports routines with the frequency and intensity they consider optimal and effective for achieving the goals they propose.

Both the initial and the final tests of the two groups, as well as the actual development of the training programs, took place in the Pitar Mos Sports Hall, which provided optimal conditions for our work.

The research methods

In our approach we used the following research methods:

- The bibliographic study;
- The observation
- The psycho-pedagogical experiment
- The statistical-mathematical method
- The tests method:

-The Ruffier Test

-Bruininks-Oseretskybattery of tests, Second Edition (BOT-2) - for the assessment of the psychomotorcapacity : subtest 6 – Running speed angagility; subtest 8 – Strength.

During our experiment we applied the specific programs of aerobics and table tennis courses.

Table Tennis is what is called a "sport for all". It can be practiced by young people and the elderly, by men and women, by those with a good or poor physical condition, by the healthy ones, but also by those with disabilities. In other words, any wishing person can practice and enjoy this wonderful game.

Placed in the top of the most popular sports disciplines by the students, table tennis is found in the educational offer of the Department of Physical Education and Sport of the University of Bucharest since its foundation.

Because the aerobics program is specifically aimed at girls, then it should focus on developing specific female qualities. Strength can also be improved in girls, within the aesthetic limits of the female line. Mobility is more pregnant, being a native quality of girls; in the opinion of some specialists, this is a compensation for the lack of force. The programs will also focus on the

development of other motor skills, namely speed, coordination, detention, aerobic resistance, as well as their combined forms. As forms of manifestation of the speed, the development of the speed of execution, repetition and reaction will be pursued in particular.

Aerobics is part of the educational offer of the Department of Physical Education and Sports, being one of the most appreciated sports disciplines for which the students of the University of Bucharest can choose, if we take into account the large number of participants enrolled each year at this course.

Results

Test Ruffier: COMPARATIVE STATISTICAL-MATHEMATICAL INDICATORS - EXPERIMENTAL GROUP - CONTROL GROUP - FINAL TESTING (table 1)

Table 1

Group	Average	Median	Standard Deviation	Module	Minimum	Maximum	Range	Coeff. of variation
Control	11.00	11.20	1.38	11.60	7.70	14.20	6.50	12.5%
Experiment	9.32	9.20	1.94	9.00	5.00	14.10	9.10	20.9%

Table 2 – The Homogenity Dispersion Test

	F	df_1	df_2	P
Test Levene	1.958	1	98	0.165

Table 3 – Unifactorial ANOVA Test

Source of variation	SS	df	MS	F	F critic	P-value	Size effect
Between groups	70.90	1	70.9	24.997	3.938	<<0.0001	0.51
Inside groups	277.95	98	2.8				
Total	348.84	99					

Table 4 - The robustness test for the equality of averages

	Statistic	df_1	df_2	P
Test Brown-Forsythe	25.00	1	88.35	<<0.0001

The average score for the average Ruffier index is equal to 11 in the control group respectively 9.32 in the experimental group. We notice that the average of the control group is higher by 1.68 units. Data dispersion is homogeneous in the control group and relatively homogeneous in the experimental group. According to the Levene test for homogeneity of dispersions, the two samples have equal dispersions, $p = 0.165 > 0.05$. the effect size (0.51) indicates large to very high differences between results. The unifactorial Anova test in the case of equal dispersions shows that there are statistically significant differences between the average scores of the subjects in the two groups, $p << 0.0001 < 0.05$. The research hypothesis is accepted that the differences between the average scores of the Ruffier indices in two groups are statistically significant. The graphical representation of the average scores and the scores recorded for this parameter are shown in Figure 1.

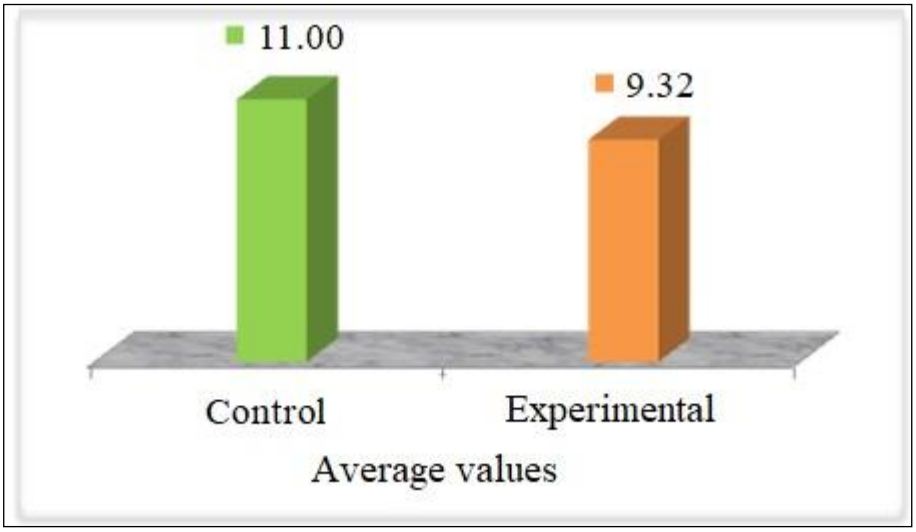

Fig. 1. The average values of the scale scores recorded in the Ruffier Test, the experimental group and the final group

THE SCALE SORES: RUNNING SPEED AND AGILITY (Subtest 6)

COMPARATIVE STATISTICAL-MATHEMATICAL INDICATORS - EXPERIMENTAL GROUP - CONTROL GROUP - FINAL TESTING (table 5)

Table 5

Group	Average	Median	Standard Deviation	Module	Minimum	Maximum	Range	Coeff. of variation
Control	15.24	15	1.70	15	13	21	8	11.1%
Experiment	16.94	17	2.10	16	14	24	10	12.4%

Table 6 – The Homogenity Dispersion Test

	F	df_1	df_2	P
Test Levene	1.879	1	98	0.174

Table 7 – Unifactorial ANOVA Test

Source of variation	SS	df	MS	F	F critic	P-value	Size effect
Between groups	72.25	1	72.2	19.781	3.938	<<0.0001	0.45
Inside groups	357.94	98	3.7				
Total	430.19	99					

Table 8 - The robustness test for the equality of averages

	Statistic	df_1	df_2	P
Test Brown-Forsythe	19.78	1	93.80	<<0.0001

The average scores for the RUNNING SPEED and AGILITY parameter are equal to 15.24 for the control group and 16.94 for the experiment group. We notice that the average score of the control group is less with 1.70 units. The data dispersion is homogeneous for the both groups. According to the Levene test for homogeneity of dispersions, the two samples have equal dispersions, p = 0.174>

0.05. The magnitude of the effect (0.45) indicates large differences between the results. The unifactorial Anova test in the case of equal dispersions shows that there are statistically significant differences between the results of the subjects in the two groups, $p << 0.0001 < 0.05$. The research hypothesis is accepted that the differences between the mean scores of the two groups in the final tests are statistically significant. The graphical representation of the average scores and the scores recorded for this parameter are shown in Figure no. 2, respectively figure no. 3.

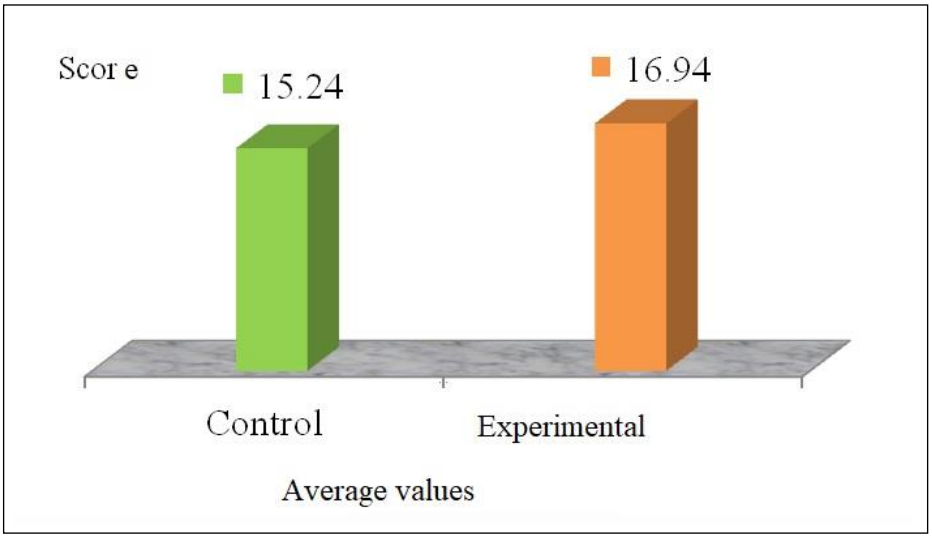

Fig. 2 – The average values of the scale scores, recorded in the two groups, subtest 6, final test

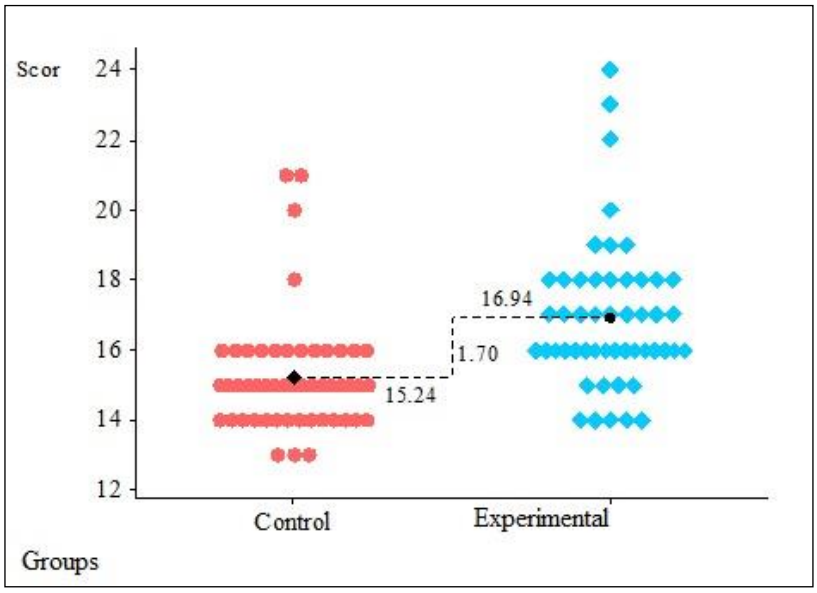

Fig.3 - The individual scores for the two groups, subtest 6, final test

THE SCALE SORES: STRENGTH (Subtest 8)

COMPARATIVE STATISTICAL-MATHEMATICAL INDICATORS - EXPERIMENTAL GROUP - CONTROL GROUP - FINAL TESTING (table 9)

Table 9

Group	Average	Median	Standard Deviation	Module	Minimum	Maximum	Range	Coeff. of variation
Control	14.70	14	2.40	14	11	22	11	16.3%
Experiment	16.28	16	3.08	16	10	25	15	18.9%

Table 10 – The Homogenity Dispersion Test

Test Levene	F	df_1	df_2	P
	2.322	1	98	0.131

Table 11 – Unifactorial ANOVA Test

Source of variation	SS	df	MS	F	F critic	P-value	Size effect
Between groups	62.41	1	62.4	8.170	3.938	0.0052	0.29
Inside groups	748.58	98	7.6				
Total	810.99	99					

Table 12 - The robustness test for the equality of averages

Test Brown-Forsythe	Statistic	df_1	df_2	P
	8.17	1	92.44	0.01

At the STRENGTH parameter, the average scores are equal to 14.70 for the control group and 16.28 for the experiment group. We see that the average score of the control group is smaller by 1.58 units. Data dispersion is relatively homogeneous in both groups. According to the Levene test for homogeneity of dispersions, the two samples have equal dispersions, p = 0.131> 0.05. The magnitude of the effect (0.29) indicates average to large differences between the results. The Anova unifactorial test for equal dispersions shows that there are statistically significant differences between the results of the subjects in the two groups, p = 0.0052 <0.05. The research hypothesis is accepted that the differences between the mean scores of the two groups in the final tests are statistically significant. The graphical representation of the average scores and the scores recorded for this parameter are shown in Figure no. 4, respectively figure no. 5.

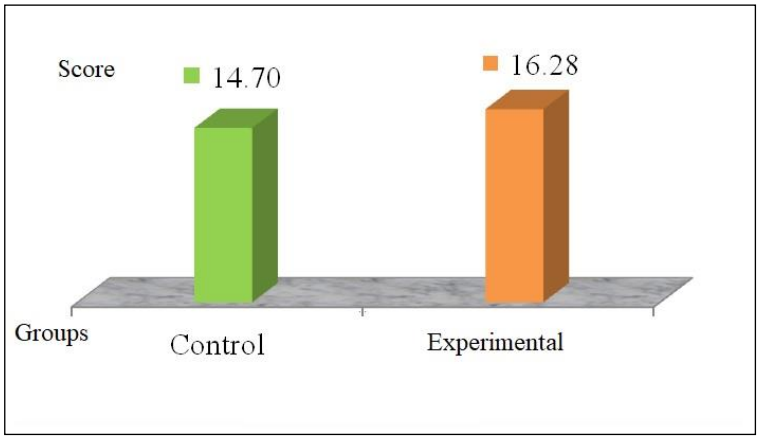

Fig. 4 - The average values of the scale scores recorded in the two groups, the subtest 8, the final test

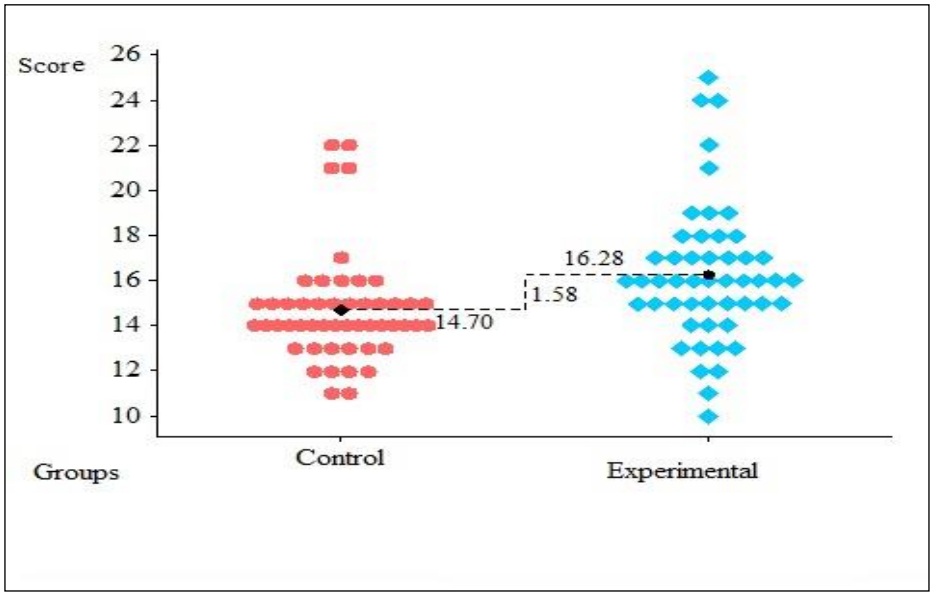

Fig. 5 - The individual scores for the two groups, subtest 8, final test

Conclusions from the research

The achievement of Aerobics and Table Tennis programs in Physical Education lessons have led to some changes in the functional parameters (the Ruffier Index) as well as to the superior manifestation of the speed / agility and strength, qualities that have been assessed.

The comparison of the results between the initial and final tests as well as of the data obtained in the final testing within the two groups highlights the efficiency of the operational structures included in the training programs, validating the research hypothesis.

The verification of the statistical hypotheses was based on the scale score obtained through the BOT-2 ASSIST ™ software, Scoring and Reporting System by converting the raw scores made by subjects during the tests.

After the final evaluation, there are statistically significant differences between the two groups (at the level of the score scale), both in the running and agility speed subtest, as well as in the strength subtest.

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PRE-ESTABLISHED FIGHTING EXERCISES IN FIVE STEPS FOR PHYSICAL EDUCATION LESSONS, SPECIFICALLY KARATE-DO, BUCHAREST UNIVERSITY

Exerciții de luptă prestabilită la cinci pași în cadrul lecțiilor de educație fizică cu specific karate–do în Universitatea din Bucureşti

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Abstract

Premises. During the physical education Karate-Do lessons and also for the grade examination for the yellow belt at the end of the first year of University, the students will include in their current practice the pre-established five steps fighting exercises (Japanese: Gohon Kumite). Progress in Karate-Do will be established the same as in others physical education disciplines, following the principle of accessibility, by applying the three classical rules of didactic practice: from easy to difficult, from simple to complex and from known to unknown. The first step of Karate-Do is to correctly learn the fighting techniques by exercising alone, without a partner (Jap.: Kihon). The second step is to apply them by fighting one or more adversaries (Jap.: Kumite).

By practicing the fighting exercises with a Karate-Do partner one can also attain the specific principals of physical education, by bettering physical development and motric capacities.

A very important factor during the physical exercises will be the mental side, the student developing in short time understanding for the other side, for the activity immersion, for controlling emotions and techniques, for focusing one's mind better and for will strength and developing a fighting spirit.

Objectives. Internalizing the basic techniques for attacking and defense, controlling the breathing techniques, moving the body in the right sequence. Mentally, we will look for controlling emotions, fighting spirit, trusting yourself and determination.

Methods. The method used for this presentation concerning the specific Gohon Kumite exercises, practiced by the Japan Karate Association will also be used by the students of The University of Bucharest in the first year of studies.

The fore mentioned practice techniques are available for all the basic techniques to help attain the desired objectives.

Conclusions. During the lessons with the students of the University of Bucharest, an important step is fighting one or more partners, following the Gohon Kumite exercises. By exercising these techniques, students will develop mental capacity, motric qualities, rhythm, breathing and following the right steps to attain the right techniques.

Corectly practiced, the Gohon Kumite exercises will form a solid base for the next fighting techniques needed in superior levels of instruction and knowledge, by helping the formation of a strong fighting spirit and a strong, focused mind.

Keywords: prearrange fight with partner, Gohon kumite, Karate do Shotokan

Introduction

During the physical education lessons of karate-do subject with the students of the University of Bucharest , a specific way of preparation is represented by the fight with an opponent in the form of the exercises of Gohon kumite. In the Japanese language *kumi* represents the idea of association, and *te* means hands. Therefore, kumite does not represent confrontation , but a labour done together with a partner of training based on a complete mutual respect. Kumite means a test of ability, courage and will in a situation of pre-established fight.

This form of exercising the training of karate-do specific fights represents precisely the level of physical growth, motive power and mentally of a student whon is practicing karate-do Shotokan. He is going to fight in resemblance with pre-established convention, respecting his opponents, following the ethics and the moral code of martial arts. Based on the corresponding feature of the based technique, a karateka could later express himself freely, in a form of fight called in the Japanese language: Jiyu Kumite, in which will be integrated the mental and physical sides.

In the pre-established fight, the technical dimention represents the stage of "initiations". She corresponds to the period in which the karate-do practitioner will obtain a certain technicality in the execution of different pre-established assaults. Thus, the student naturally acknowledges his weapons, methods which he can apply with effectiveness in accurate situations. Also, he will develop his speed, precision, reflections, the sense of distance, control and testing the rhythm. The karate-do probationer

prepares like so, physically and technically, with a partner who simulates the opponent for the "independent fight", in which no detail can not be neglected.

Method

Before beginning the execution of the specifc Gohon kumite exercises, the students are advised to constantly keep in mind the following indications:

- The correct execution of blockage techniques in kumite is very important. The once who attacks (Tori) has to start the attack with much determination and speed without doing thing obviously to the one who defends himself. The one who defends himself (Uke) has to identify the beginning of an attack, to block efficiently, and to counter-attack.
- The probationers have to understand and develop a sharp sense of distance and to estimate correctly the moment when to enter in the "fire" distance or how to attract his opponent to advance.
- The probationers have to learn to make the instantaneous move from defence to offensive, or vice-versa and to know how to adapt to the opponent's moves.
- The objective of an attack is a profound blow, decisive against the opponent, but not touching the target (sundome).
- Kamae (guard position) has to be relaxed, flexible and stable. The movements have to be in harmony with the movements and techniques of the opponent, during the attack the balance, rhythm, and control of breathing.

Gohon kumite is a fundamental exercise of the basic techniques which develop motric qualities (Japanese *migamae*) the mental preparation (*kigamae*) and the feet movements (*unsoku*).
It follows the accurate execution, as for the attack techniques (with the fists and the foot) as for the defence techniques.

The one which will initiate the attack after judging the correct fighting distance from natural stance (Japanese *yoi dachi*) will make a stept to the rear and in the same time will adopt the fighting stance with a center of gravity more if the forward leg (Japanese *zenkutsu dachi gedan kamae)*. There will be executed five attacks with precision and power. The one who attacks, try to resist the blocking techniques of the defender. He has to imagine that his attack will penetrate the defender. To9 avoid the leaning forward of the upper body it will be recommended to push the lower abdomen forward.

A great attention will be directed of he execution of the first block, which must be done firm and correctly, because the up-coming mistakes can not be improved during the next four steps. On the contrary,the defender will be soon overwhelmed by the attacker and will realize that every step he makes will amplify gradually the initial mistake. He will notice that because of wrong rhythm, of a distance wrongly appreciated or of a too fragile position, will not be able to react with a right counter-attack, vigorously and without timeouts.

The defender must block , full of trust and with a strong fighting spirit. When it blocks, it have to be kept in mind the idea that all the techniques are executed with the hips and the whole body, not only isolated with the arms. The technique executed with kime, will be maintained for a few moments, to learn the correct mode of contracting the muscles which interfere upmost in the execution of the technique.

Mentally speaking there will be followed : the controlling efficiency,tenacity,perseverance by consitent attack, self-trust and alertness.

Gohon kumite it will be executed in the beginning with a lower rhythm with pauses at the teacher's command. The rhythm wil be accelerated after a couple repetitions until this successions of techniques will become very fast and very "fluid" without losing the balance of the two practitioners or disfigure the technique. At a higher level of express, everything has to be executed with swiftness,safety and precision, without hesitation. This stage of performance can not be obtained in short time,but once gained, it will allow the advanced students to apply some interesting and attractive variants of execution. For example, the case of the student who starts the action : the attack can be done with different feet techniques, the attack with a succession of two-three fist hits at the same level; the attack with a succession of fists at different levels or re-attacking after an eventual blockage of the counter-attack of the one who is defending himself.


Fig. no.1


Fig. no. 2


Fig. no. 3


Fig. no.4


Fig. no. 5


Fig. no. 6


Fig. no. 7

Conclusion

During the karate-do lessons with the students of the University of Bucharest , a specific manner of preparation represents the fight with one or more opponents through the Gohon Kumite exercises. By practicing those exercises,the students can develop the motric qualities , mental attitude,the sense of rhythm, the control of breathing and the mastery of the movement forms in the techniques' executions.

Practised correctly, the Gohon Kumite exercises represent a solid base for the later fighting exercises from higher training. They create a stronger fighting spirit and help the mind to focus.

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PROBLEMATIC ASPECTS ON SELF DEFENSE

Aspecte problematice în auto apărare

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Abstract
Background. This paper starts a scientific investigation regarding the topic of Self Defense and Self Control encountered in the Psycho Physical aggression cases.
Objectives. Our objectives are to document the reason for which failure occurs during Self Defense and Self Control encountered in the psycho-physical aggression cases, even though certain subjects have experience in the combat disciplines coming from various Martial Arts.
Methods. Our methods of scientific study are social survey (on the people who have been involved in psycho-physical aggressions), reference method and the method of experts (specialists in various Martial Arts).
Results. The findings of our study is that there is a physical component and a psychic component in any aggression. The response to this double threat is also psychic and physical, since it is conditioned by complex psychological and motor parameters and pattern that cannot be fully mastered by the subject, because of the social conjuncture.
Conclusion. The difference between the offensive and the defensive is only motivational in nature related to the personal safety, as the specific utilitarian applicative combat techniques and procedures are identical in both cases.

Keywords: issues, self defense, self control, psycho physical, students,

Introduction

We begin by presenting our point of view on the issue of Self Defense and Self Control techniques extracted from various Martial Arts as it resulted from the scientific methods of study:

- the aggressor can easily turn into victim but also the victim can easily turn into the aggressor as well because of multiple factors of conjuncture! This interchange of roles always raises problems in applying the law of competent judicial bodies.

- although there is a distinction between mental and physical aggression, they are conditional one upon the other, generate, and feed each other.

- the vast majority of students from civilian universities and non physical education and sports schools feel they do not need knowledge of Self Defense and Self Control until it is too late and they will have already confronted with various violent aggressions.

- all university study curricula prepare specialists in various (civilian) fields, and then part of these young specialists engage in various military safety, security and defense structures. It is well known that in Romania, due to the high level of competition at the Police Academy, many citizens turn to civil law faculties, and then engage in the military environment by means of a competition. Also many other university specializations involve the same issues as psychology, sociology, journalism, communication sciences, economic studies, political and administrative studies, medicine and pharmacy, mathematics, computer science, chemistry physics, biology, etc. We believe that there is no civilian university specialization that would not provide qualified military personnel at a certain point in time.

- throughout the social professional career every current citizen often changes his / her workplace and even the field of activity. For this reason, the structure of university study curriculum should include practical compulsory Self Defense and Self Control lessons throughout the studies.

- there is a big difference between sports performance (medal winning, record breaking, etc.), and motor utilitarian applicative one. This is acquired by students in the Self Defense and Self Control classes taken from various Martial Arts, where each student competes with itself to enrich its personal knowledge and skills and personal psychophysical skills in combat. You must win the physical and mental fight against the aggressor, even in the adverse conditions in which you cannot fight! We quote here Otake, Master of Martial Arts, also quoted by Louis Frederic in the "Martial Arts Dictionary" published by Encyclopedic Publishing House Bucharest 1993 page 10: "If you start fighting you have

to win, but the goal is not to fight, The Art of War is the Art of Peace, and the Art of Peace is the hardest art: you must win without fighting " (Frederic L. 1993).

- for most students enrolled in the first year of university studies these introductory issues are foreign and incomprehensible. University study curricula open only the door to interdisciplinary knowledge of the studied field so that the student can pass the threshold and have solid foundations for continuous study throughout his/ her socio-professional activity (approximately between 25 and 75 years).

Self Defense issues have two key elements of utmost importance: "Applications" and "Use". In the case of applications, the problem is simple and it is easily derived from the eclectic extraction of specific techniques and means, as well as practical utilitarian procedures in Martial Arts used in Self Defense and Self Control. The problem is more difficult with the "Use" of these techniques because there are a multitude of situational factors that constrain us in applying Self Defense and Self Control techniques. These harmful factors will be detailed, exemplified and explained below by presenting the specific issues:

Behavior (of any social actor - social group) is the form of manifestation of the interaction to the environment. Behavior should be considered as: a simple Pavlovian conditioned reflex; an adaptation to the environment, and in extreme cases, "oppression cases" even as a motor - operative conditioning / self – conditioning. This conclusion arises naturally and easily from the social applications of cognitive behavioral psychology.

By its behavior, any individual undertakes membership of a particular socially individualized status in a particular social group / sub group and at the same time attracts the sympathy / antipathy from that social group / sub group or from other social groups / sub groups competing and / or in conflict. In this way the individual is obliged to permanently adapt to the social environment in a constant and changing way, being helped only by the neuro plasticity of the central nervous system.

Adaptation to the environment is individually and / or collectively the optimal response to the particular special situation that is characteristic of the place and the background of the action of the problem in time and space, to the particular type and properties of the social environment.

The adaptation therefore consists of three main steps (several author present in owns paper more than three steps) that make up the operational structure of human behavior:

1. The related link (motor - sensory command) based on motivation includes:

1.1 processes of extracting information from the environment

1.2 processes of interpreting information from the environment,

1.3 critical processes - vital processes for decision-making (the choice of the "optimal" action) the optimal variant that we consider optimal because being in the middle of events we cannot have a correct, complex and competent overview of the issue! In current practice it is noticed that most of these "optimal choices" are wrong because the entropy of any system tends to infinity and its yield is always subunitary!

1.4 Work plan to achieve "the goal" (quit the problem).

2. The related link (efferent link for execution) is divided into two categories of information operations:

2.1 Logical choice of work plan, schematics, and internal or external response reactions;

2.2 Adjusting the parameters of the psycho motor reactions triggered for Self Defense and Self Control (order, direction, duration, intensity, speed, emotions, behaviors, etc.).

3. The reverse connection link Feedback for Correction and Optimization of Execution has the role of ensuring the correct dynamics and the operation of the related link 2 (Command link 1) ***assigned by the corresponding link*** (Execution link 2).

The inverse connection has the following roles:

a) information on the result obtained throughout the fighting actions;

b) information on the cognitive and motor parameters involved in the fight.

We mention that these three environmental adaptation links are standard in any biological system and present the issue of critical moments from an anatomical point of view (e.g. : traumas and mechanical injuries), physiological (e.g. muscle cramps, respiratory arrests, etc.), psychological (e.g.

perceptions, sensations), imagination, representations, thinking, memory ("muscular memory" to perform an action), attention, aptitude, character, emotion, etc. All that are present throughout the confrontational events and give a particular, unique and especially unrepeatable behavioral psycho physical response. These critical moments occur throughout psychophysical confrontations with aggressors having volumes and intensity that are variable but continuous over time, and in the absence of their parameterization and control lead to failure. However, any attempt to fully parameterize these parameters will also lead to failure due to the limitations of the human nervous system.

Each individual responds personally and distinctly with a unique, unrepeatable and particular psycho - physical reaction to the studied event. As the scientific studies confirm, individuals say: they feel a pressure, their chest bursts open, they do not have air, there feel deep dizziness and nausea, their heart goes out, the legs feel like lead, the hands tremble, fall and fail to respond, there is a feeling of dilation and / or compression of time and space, the subjects feel deep dissatisfaction and / or anxiety, etc.

By this statement I have emphasized upon the multiple psycho - physical specific forms of manifestation of the general and specific stress present in all Martial Arts (uncertainty, ignorance, fear, anxiety, apathy, abandon and starting depression, etc.). To describe the current issue, we use the acronym S.A.D., that comes from: Stress, Anxiety, and Depression. This acronym is also correlated with the english word SAD.

In the following we share our point of view on the issue of psycho motor reactions in Self Defense and Self Control as extremely complex and complicated. Here are the phenomena of : start apathy, start depression, anxiety, etc., which are based on "exaggerated and intense nonspecific momentary fatigue" of the nervous system as a whole. We consider that this issue is partially studied by the literature so we show our point of view. This issue is due to the particular and unrepeatable conditions of combat that are unknown to the individual at the psycho physiological and somatic level. We call this issue "exaggerated and intense nonspecific momentary fatigue" because it cannot be removed in due time and leads to failure.

We detail the "exaggerated and intense nonspecific momentary fatigue" as follows:

To begin with, we present cases of athletes coming from ”non contact combat sports” (a paradox of modern days) that enter into full contact competitions and clank up (especially in the break between halves), being carried in one’s arms or in the chair in the tribune due to the impossibility of psycho physical expression (they cannot stand on their feet and can barely breathe) although many times they were not even hit by the opponent. These athletes usually do well in the first half (because of fear) and could have continued the fight if the break had not interfered ! but this intercalation of the pause leads to the occurrence of the psycho physical breakdown. At the end of the break between halves, they cannot rise from the chair due to over total and complex momentary demands (exaggerated and intense nonspecific momentary fatigue) at the physical and mental level.

Another phenomenon is that of athletes who automatically pass into a higher value class, and they were not prepared for that. The guilt here largely belongs to the coach - teacher who did not train them properly. See here the transition from junior to seniors, the passage from regional - local competitions to the national ones and eventually, international, continental and world competitions. This psychological sports typology clanks up because they do not have a psycho-physical training appropriate for the level of competition achieved. There is a phenomenon of sport abandon based on: fear (by a new and unknown opponent), increasing the hardness / intensity of the confrontation; increasing the duration of the confrontation, increasing the psycho physical stress level, increasing the metabolic stresses of physical effort, etc.

Similar to the issue of athletes in martial arts combat competitions is the issue of confrontations in real psycho-physical aggression in the urban or rural social environment. Although the individual has some hours and experience in Self Defense (she even has scale marks with colored belts in martial arts) he / she does not carry it off well into battle due to poor complex and interdisciplinary training, leading to multiple deficiencies in combat capabilities and abilities at psychophysical – psychomotoric level in the stressful, unfavorable, unfamiliar and unfavorable social environment!

Psychologists describe the reaction to an aggression through the following responses: running, fighting and inaction (Epuran M., 2013).

The first two actions (running and fighting) are easy to understand and apply, although they require complex capabilities and specific psycho-physical skills of combat.

The "decision" of inaction is the most problematic one for us and requires detailed explanations. In this case, we rely on the scientific theory of Over Training (in our case Over Sensory, motor and cognitive training at the level of sensations and perceptions) generating extremely exaggerated and intensive fatigue, which is extremely complex and unspecific, being momentary for the entire nervous system. This is a rapid and excessive demand by the accumulation of stress caused by exaggerated stimuli. In our case, the volume and intensity of the aggression, especially over time and in space, are much higher than the limit of observation, supportability and information processing. So, the psycho physical recovery capacity is also exceeded. In our case, exaggerated and intense nonspecific momentary fatigue is materialized by stopping the process and progress corresponding to defense against aggression together with the accentuated trend of psycho-physical regression (the disappearance of synapses and related neuro motor programs), correlated with the exaggerated increase of cortisol level (stress hormone).

The exaggerated and intense non specific momentary fatigue (is of short duration) and we consider that there are two typologies (Bompa T.O. 2013), just like over-training (extended over time).

Bazedovian (sympathetic - tonic) typology: which is predominantly characterized by excitatory processes in contrast to the inhibiting ones (predominance of failure generating anxiety) and intensification of motor control functions. The recovery during effort and post effort is insufficient, occurring with delay and it is not effective. This form of intense and nonspecific exaggerated momentary fatigue is easy to diagnose because the subject feels it through numerous psychological, physiological and motor parameters. Parameterization and control of this type of psychological, physiological and motor fatigue during confrontation (this type of exaggerated and intense non specific momentary fatigue) is done by timing the fight and by repeatedly playing out time to promote rebuilding and recovery during the effort. Brief: the technical - tactical and psycho - physical actions of the battle are reduced in volume and intensity. In combat sports competitions, it is often the case that at least one of the athletes plays out time, stalls the fight, goes to clinics repeatedly, etc.

Adisonian (parasympathetic - tonic) typology is far more problematic and complex, characterized by the predominance of inhibitory functions and psychophysical weakness along with the absence of neuro motor control, because the nervous system does not know what to do without even information from the stimuli in the environment. Because of this absence of any motor neuro command, exaggerated and intense nonspecific momentary fatigue based on Adisonian typology is impossible to detect and stop during the fight. The "knock out" phenomenon thus occurs during combat fighting, when the volume and intensity of stressors exceeds the observance, supportability and processing threshold. The individual cannot control itself, with only uncontrollable unnatural actions based on fear, panic, and instinct of survival. These actions are based on the ideomotor effect (both physically and mentally), the subject in the matter being unable to mobilize itself for a fair decision in the fight. This form of exaggerated and intense nonspecific momentary fatigue is impossible to diagnose because in normal state (relative rest) there is no psychological tension which could suddenly increase to infinity outside the observable range. Masters of Indo Philippine Martial Arts styles that specialize in fighting with white weapons support the specific issue of attacks based on inducing exaggerated and intense nonspecific momentary fatigue based on adisonian typology (para sympathetic - tonic) through the English phrase "hidden shadow smoking drill ". This expression has an ambiguous translation in Romanian, reason for which we shall not translate it. These masters also claim that the most dangerous attack in Martial Arts is "lack of attack" because it generates to the adversary, by correlation with visible aggressions, a particular psychophysical problem generating failure. Bruce Lee defines this issue by the phrase indirect progressive attacks.

We consider exaggerated and intense nonspecific momentary fatigue is super sensory, motor, cognitive behavioral training at the level of sensations and perceptions. This is explained in the form of two theories that we present only at the theoretical level (Bompa T.O.2001).

Biochemical theory: Exhaustion of reserves simultaneously with the increase of metabolic waste.

Neuro psychological theory: In the brain in the cerebral cortex, fatigue is felt in the form of a specific sensation (unique, exaggerated, intense, non specific momentary, thus of an unknown sensation), which results in the decrease to the cancellation of the number and frequency of motor neuron α discharges which innervate the striated muscle fibers of the skeletal muscles (extra fused fibers); as well as motor neurons **γ** that transmit nerve impulses to the special category of modified, very short and thin ribbed fibers (intra fused fibers, components of neuromuscular spindles, to regulate muscle contractions). In addition, the number of these motor neurons **γ** represents about half of moto neurons **α**, and therefore neuro muscular stimulation by specific nerve impulse tends asymptotically to zero as well as the yield in combat in critical conflict situations.

The exaggerated and intense nonspecific momentary fatigue can be defined from a clinical point of view (Alexe N. 1993) as follows:

1. Central fatigue - total neuro psychic fatigue: The brain transmits motor inhibiting signals to neurons and a reduction in psycho physical effort follows. This is the explanation for road accidents when drivers "fall asleep" behind the wheel because the body has automatic defense mechanisms that interrupt suddenly and directly any other activities.

2. The peripheral fatigue is divided into two types depending on its manifestation

2.1. Mental neuronal peripheral fatigue : It occurs, in two ways : drivers who have long been in a straight line (so they have certain behavioral cognitive patterns based on automatism) and does not notice that the road makes a curve, and when a ”special super powerful stimulus” appear suddenly the driver react base on uncontrolled ideomotric effect. Thus, drivers fall into the protective guardrail because of not paying attention to the road.

2.2. Muscle peripheral fatigue : painful muscular - hardened muscles syndrome much discussed upon by sports medicine. Fighting in physical Self Defense is short (10-30 sec.) and there is no time to consume muscle energy resources depending on the volume and intensity of the movements. Painful muscular hardened muscle syndrome is manifested by continuous muscular pain as a result of exercises which the subject was not used to, of a biomechanically mistaken movement, or of a specific and/ or non specific physical activity (e.g.: badly executed bodybuilders training or the practice of agricultural labor by townspeople, etc.). If the above factors are correlated, the muscles become painful, rendering impossible any action in the critical and problematic situations of the physical confrontation that required combat action, thus defending the failure.

Besides the physical issue (discussed above), we have the psychological issue presented below as follows by assessing the conservative and protective attitude towards the risks and the situational and problematic dangers containing psychological aggression (Platonov K.K. 1964).

The issues of critical Self Defense and Self Control are situations of great uncertainty that cannot be controlled but only avoided. Thus we bring to the attention of the general public the issue of situational manipulation documented by works of applied psychology, communication and manipulation techniques. As reference works, we chose the works: "*Fun Psychology*" (which was anything but fun) author Platonov K.K. (1964) and "150 experiments in psychology for the knowing the other", which has the suggestive subtitle "*Mechanisms of everyday behaviors*" by Ciccotti S. (2007), this subtitle being exactly what we are interested in.

From this second paper we will give some compelling examples. The work has the great advantage of being a collection of human behavioral problems based on an extensive bibliography of many modern and contemporary modern psychological scientific experiments. We believe that these problems of the mechanisms of daily behavior have been presented by various psychology specialists through television series from the applied psychology field, mainly to reduce the number of antisocial incidents in society and physical and psychological violence.

“Thus we can list: contrast effect, absolute (sensory) thresholds, the impact of need over perception, the blindness to change, and attentional blindness, the influence of action over perception, the word on the tip of the tongue, the connection between gestures and thinking, post factum cognitive deformation, the subjective perception of time, the illusory correlations, the illusion of control, confirmation of hypotheses, prophecies that are self fulfilling, the fundamental error, the effect of

computer flattening on judgment, the influence of red color on human performance, hand grip and impression formation, female selective visual attention, the influence of tattoos on the attraction and credibility perceived by others, the influence of stereotypes on judgments, the heuristics of the judgment, the influence of racial prejudices on the "race effect", the influence of stereotypes on our behaviors, ricochet effects, the impact of prejudices, the reciprocity norm and the chocolate square, the impact of customer attractiveness on sales behavior, power and obedience, differentiating social roles, cognitive dissonance, the impact of the crowd's turmoil on the trainers' decision, conformism, minority influence, 64. why we must not accept being touched - physical contacts and purchasing behaviors, door to one's face technique, foot against the door technique, aiding behavior, the impact of sight, the impact of choosing between utility and pleasure, the relationship between sanction and the risk of being involved in a fatal accident, the influence of money on behavior, the effect of emotional state on the activity, emotional attribution, intrinsic motivation, reactance, yawning and empathy, attachment style and human poaching, the influence of motivation on perception, the smile: differences males / females and the formation of the impression.

We will detail only our point of view about "why we should not accept to be touched - physical contacts and purchasing behaviors" because the space of this work is short. In all manipulation manuals, experiments are presented on how you can be deceived by an individual (not to mention organized groups) just by a simple smile, head movements, eye fixing, touch, so that it is enough that your attention be abstained and distracted (from the issue of self-defense and self-control for personal safety) so there is the possibility of being hit, stolen, etc." (Ciccotti S. 2007).

There must always be a compromise between security (through an isolation as profound as possible towards social hazards) and the pro social actions and behaviors of Homo Sapiens Sapiens generating of insecurity. We cites of Nelson Mandela who say: in jail the illusion give you comfort. Humans adopt certain personal attitudes towards risk by assimilation, building and learning their own and personal behavior in society based on the conditioning / self conditioning that Skiner described in his work.

Against antisocial and / or criminal phenomena, current students (future specialists in various fields of activity) need to know how they are subjected to, but also exposed to, various psychic and physical attacks.

In fact, all aggression and violence have both components:

- the physical composition used in a restricted and discreet environment
- the mental component used mainly in the current urban social environment (ironic insinuations, various psychological aggressions, etc.).

From this point of view, we believe there is a double standard in law enforcement, because:

- the accumulation of psychological aggressions (that are allowed and unanswered) causes the subject to abduct with violent physical punishment. Responding to a psychic aggression with a psychic aggression always generates increased confrontation violence and will result in physical aggression irrespective of circumstances. See here the case of "beating with water" between senator Marius Marinescu and deputy Anca Constantinescu and the case of Mirel Palada against Mihai Goţiu.
- small gags and physical aggressions are unsanctionable and gather together resulting in aggression with high physical violence. The issue of legitimate self defense is easy to interpret from the point of view of equality and equivalence of aggression ! See here also the case of the murder in the house of the couple Adrian and Romanita Iovan. Responding with physical aggression over another physical aggression raises the issue of legitimate defense that is very easy to interpret according to interests. Typical and classic examples in this case are altercations in the public transport means generated by pocket thieves who are victimized when caught in the middle of the criminal act or cases when during the arrest the offenders blame the cops for various aggressions.

This double standard represents the strongest aggression because the bullied subject (usually ordinary citizen) acts in critical situations at the limit and with maximum stress, but without the law protecting it, as it is not even a representative of the law. There are well known cases in Romania when police officers applied the law at a time during the service to "wake up to reality" being charged by criminals for various irregularities and violations of the law, because they are "considered aggressors of the accused person" by the internal police discipline research !

To motivate the inaction in various cases of violence, we consider it useful to add to our research the phenomenon of cognitive dissonance at the level of the individual social psychological space, when multiple social and / or anti social forces that have null result are involved in the case. The nullity of the result of the actions of the social forces generates cognitive dissonance and thus any kind of psycho motor action, even cognition, is lacking, the person concerned will be blocked and will experience profound stress and inexplicable tension for it that generates failure. This results in a "perfect and model modern zombie" that can be easily assaulted and victimized due to the state of continuous and complex internal and external conflict, determined by the impossibility of thinking, judging and decision making on the choice of useful and saving alternatives present (but being covered by various factors and phenomena) in cases like this. The issue of timely monitoring of all volume values and external aggression intensity will also always fail due to limited capabilities of the nervous system.

A person's situation before an aggression phenomenon can be described in terms of attraction (closeness) or rejection (avoidance) to be solved for personal interest. Strength, speed, endurance, skill, experience, perceptions, extrinsic / intrinsic personal motivations, general and / or momentary psycho motric possibilities, etc. determine the individual, to come closer, or to move away from the stimulus that has a positive nature - refreshment (+), or negative character - repulsive (-). Typically, the favorable resolution of conflict and risk situations presents a mix of skills and chances. This observation is of great importance for the way a person is appreciated by others, or he/she appreciates himself/herself.

Conclusions

The issues of critical Self Defense and Self Control are situations of great uncertainty that cannot be controlled but only avoided ! There must always be a compromise between security (through an isolation as profound as possible towards social hazards) and the pro social actions and behaviors of Homo Sapiens Sapiens generating insecurity. Attitudes towards risk can be hierarchized from undertaking / not undertaking the risk into problematic situations, entering it in those situations, and solving them in one way or another, even going to the undertaking / not undertaking the failure.

From the points of view presented above by us we consider that only a certain type of psycho physical comeback restrained from the numeric, value, technical - tactical, practical and procedural point of view is required, which is hardly accessible to the citizen (student) assaulted in the present case. The problem of performing any Self Defense technique both physically and physically involves:

- risks and sacrifices in the defensive by performing the offensive (there is a paradox of sacrificing the personal safety gained due to the lack of interaction with the environment just to gain safety within the interaction with the environment!)

- complex and varied psycho physical development issues of defensive comeback. We consider that these issues of exaggerated and non specific momentary fatigue factors represent and are the technical scientific tactical-strategic tactic basis that underlies Russian Martial Arts generically called ”СИСТЕМА СПЕЦНАЗ - РУССКИЙ РУКОПАШНЫЙ БОЙ ” Systema Spetsnaz - Russian hand to hand fighting.

Undertaking the defensive and offensive combat actions in Self Defense and Self Control implies risks and involves the adaptation and individualization of the solution according to probability parameters of the failure versus success. We show here the formula of total probability: P (F) + P (S) = 1 where the following equivalent formulas ensue : P (S) = 1 - P (F) and P (F) = 1 - P (S) We used the notations: P (F) = probability of failure, P (S) = the total probability of success, 1 = the total probability on the event field. The difference between offensive and defensive is here only of a motivational nature on the personal safety because the specific utilitarian applicative techniques and procedures are identical in both cases.

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SPORT SECTION

IMPROVEMENT OF LONG SHOTS ON GOAL IN AN ELITE FOOTBALL TEAM

Perfecţionarea şuturilor la poartă de la distanţă în cadrul unei echipe de fotbal de performanţă

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Abstract
Background. As we know, football is worldwide considered, by specialists and not only by them, the most beloved sports discipline practiced by a huge number of young people all over the world. In this regard, the paper aims to demonstrate the usefulness and necessity of conducting studies and researches meant to improve the successful completion of the attacks for goal scoring in elite football.

Objectives. As an act of scientific research, this paper has certain objectives set as benchmarks: determining the real image of the technical-tactical profile of the team (in terms of long shots) based on the official games records regarding the attack actions mentioned above; centralization of the attacking phases and their achievement (per player, per completion, per player) and the way to improve and implicitly adapt the contents of the training session; correlation of the tactical tasks established by the coach with the actual possibilities of F. C. Voluntari team players and counting of these issues; making the players aware of how they fulfill the tactical responsibilities of an official game and giving immediate feedback by systematically presenting the tactical actions performed by the players in each game.

Methods. The following methods were used to conduct this research: study of the specialized literature documents; discussion method; method of observation and recording, statistical-mathematical and graphical representation method. The study was carried out in "F. C. Voluntari" Football Club. The observation, discussions, obtained data and records took place throughout the Championships of Division B, 2009-2010 edition. The measurements referred to: recording by observation and assistance in official and friendly games, both in and out, during the team training sessions as well; data comparison; determination of the share of "shots for goal " of the players included in this team. The records began in the 2nd stage, on August 17, 2009 and were concluded on May 24, 2010, in the 28th stage of that competitive season. There were made 15 sheets monitoring the number of shots: by distance, by execution pattern (from stationary moments and from action), all over the game, divided into 2 halves and 5 record protocols during the training sessions.

Results. The analysis of the results proves the evolution of the shot on goal technique which is essentially determined by the discovery and highlighting of biomechanics data and which influenced decisively the performance level all over the years. The changes occurred in the shot technique were supported in parallel by special modifications of the training, especially with regard to the development of motor skills (strength, speed) aiming to increase the efficiency. The study demonstrated that the team of F. C. Voluntari Bucharest, implementing the programs for long shot improvement in their training sessions, achieved the expected results and reached the objectives set for the current season. A higher efficiency of the shots made from action was found out, namely: 65.1% of the shots were made from action and only 34.9% from stationary phases.

Conclusion. In order to achieve performance, the practice of the shots on goal is an essential factor of the football game. This can be done in special training sessions, using the records of the games.

Keywords: football, shot on goal, technical-tactical training, improvement, performance

Introduction

The most popular sports game, football, generally has the same characteristics as the other sports games. Football is a harmonious combination between natural movements such as: running, kicking the ball, jumping and also the simple, accessible and attractive motor skills. At the same time, the game takes place on a background of intense mental stress which has a pronounced educational character (Cernăianu C. 1997; Apolzan D. 1999; Miu Ş. & Velea F. 2002).

Adapted to football, the game concept represents the essential features that characterize the way a team plays and is elaborated in accordance with the particularities of the players at the same time with the modern characteristics (Rădulescu M. 2007; Dima M. & Rădulescu M 2009).

It also must meet the requirements that refer to the ever increasing rapidity of the game, the improvement of the individual technique, the improvement of the players in their positions but also their use with maximum efficiency in other two or three positions, the variety and mobility of the game systems while the training concept should focus on the methodical orientation regarding the ways to develop the game concept through the efficient use of the general and specific methods and means (Nicu A 1999; Sotiriu R. & Sotiriu D. 2008).

The game technique is a system of integrated and automated movements and skills used to achieve an offensive or defensive objective (Bompa T.O. 2003). Technique is the foundation on which the game develops and improves. The specific character of the football game, which mostly involves executions with the leg, makes the game technique more difficult to learn because the hand skills were developed predominantly throughout the phylogenetic evolution (Dumitrescu Gh. 2016).

From the different classifications of the technique we bring in the one used by the National Academy of Physical Education and Sport (Motroc I. & Cojocaru V. 1991), where the technical elements are divided into: technical elements with the ball, technical elements without the ball and technical elements specific to the goalkeeper's game.

Regarding the technical elements with the ball in terms of ball transfer, the kicking of the ball involves technical procedures which are achieved by powerful and long kicks. The main utility of this procedure is materialized by the shot on goal, through powerful and accurate kicks from variable distances that can be very long (Dumitrescu Gh. 2016).

The pattern of the game itself is formed of the following components (Colibaba-Evuleț D., Bota I. 1998): tactics, technique, physical capacity, mental capacity and theoretical knowledge. All these are capacities of different levels, demonstrated by each player and each team. In this regard, tactics is a coherent system of actions selected, planned and prepared to be used in the game of the team depending on the competitor and the competition conditions, for a shorter or longer time, in order to achieve the established performance objectives.

Tactical training is one of the most dynamic components and is largely determined by the physical, technical, psychological and theoretical training which are influenced, in their turn, by the tactical training (Bârsan M. 1980a; Cojocaru V. 1995; Hoştiuc N. 2002). Given the great increase in the number of national and international competitions, the sports tactics gains a growing importance because the sports events are carried out at high and maximum intensities and the organizational forms have become more and more diverse. Regarding the action directions of the tactics according to Weineck (1980), the sports games are characterized by the variability of actions and the methods to solve tactical problems (Demeter, A. 1972; Dragnea A. 1996; Drăgan A. 2002; Dragnea A. & Mate-Teodorescu S. 2002).

The technical and tactical training of the footballers is a current topic of great interest in the Romanian football. This is enhanced by the fact that during the achievement of sports performances, the difference can sometimes be made on the basis of surprising moments, such as the long shoot for goal (Bârsan M. 1980b; Ionescu I.V. 1993; Constantin D. 1995). Therefore it is important to clearly outline this aspect of the training in football (training session or official game) and to reduce the casual variations as much as possible (Ciolcă S.M. 2006). As football encompasses more and more factors, exigencies grow. In the competitions between clubs or countries, the players prove to be increasingly gifted and more "polished" by work and passion (Motroc I. & Cojocaru V. 1991).

In this context, the basis of the performance football is to ensure in perspective the players' high capacity for performance at the current game level and according to its spectacular evolution (Iliescu A. 1968; Petrescu T & Deheleanu O. 2001). Thus, the role of the preparation of some moments of the game involves knowing the bio-psycho-social particularities of each player, especially the contradictions between the aptitudes (genetic and acquired ones) and the dynamics of the personality, with direct implications on the content and methodology of the training (Epuran M. 1975).

Purpose. This paper aims to demonstrate the usefulness and necessity of conducting studies and research meant to improve the attacks finishing with goal scoring in elite football.

Hypotheses of the paper

If a series of rationalized means is applied systematically and methodically for improving the football game, then the efficiency of the attack phases is influenced with effects in the finishing.

The development of the special motor skills can help the players to act quickly in any situation occurred during the game.

If the attack actions (long shoot) are monitored, it will be possible to intervene more coherently in the technical and tactical training of the players and to determine their tasks per position.

Material and Method. This scientific approach led to the organization of a study conducted in F. C. Voluntari. The following methods were used to make this research: study of the specialized literature, method of conversation, method of observation and recording, statistical-mathematical method and graphical representation method. The following objectives were targeted:

a) Outlining a real image of the technical-tactical profile of the team (concerning the long shots) based on the recordings of the official games in terms of the attack phases mentioned above.

b) Centralization of the attack phases and how they were performed (per player, per completion, per player) and how to improve and implicitly adapt the content of the training.

c) Correlation of the tactical tasks specified by the coach with the concrete possibilities of achievement of the F. C. Voluntari players and compatibilization of these issues.

d) Raising awareness of the players about how they fulfill their tactical responsibilities in an official game and giving immediate feed-back by systematically presenting their tactical actions achieved in each game.

The observation, discussions, records and data gathering took place during the Championships of Division B, 2009-2010 edition. The measurements referred to the registration by observation and assistance to the official and friendly games both in and out and during the team training sessions as well; data comparison enabling the determination of the share of "shots for goal " of the players included in this team. The records began in the 2nd stage, on August 17, 2009 and were concluded on May 24, 2010, in the 28th stage of this competitive season. There were made 15 sheets monitoring the number of shots: by distance, by execution pattern (from stationary moments and from action), all over the game, divided into 2 halves and 5 record protocols during the training sessions.

Results and discussions

In table 1 are listed the results of the records regarding the share of the long shots on goal in terms of number of total shots, from a distance of 8-16m, 16-25m and 25-40m, from stationary moments and from action.

Table 1. Results of the records of long shots on goal (mean; ±SD, n=15)

Technical-tactical actions	**FIRST HALF**		**SECOND HALF**		**TOTAL**	
	Inside goal	Outside goal	Inside goal	Outside goal	Inside goal	Outside goal
Shots	5.13; ±2.64	5.67; ±1.63	4.47; ±2.36	5.00; ±2.00	9.60; ±4.51	10.67; ±3.08
Distance 8-16m	2.33; ±0.89	2.53; ±1.24	2.40; ±1.24	2.20; ±0.77	4.73; ±1.94	4.73; ±1.58
Distance 16-25m	1.73; ±1.09	2.00; ±1.60	1.53; ±1.13	1.87; ±1.30	3.13; ±1.73	3.87; ±2.61
Distance 25-40m	1.20; ±1.01	1.33; ±0.89	1.00; ±1.00	0.93; ±0.96	2.20; ±1.74	2.27; ±0.96
From stationary moments	2.40; ±1.06	2.60; ±1.24	2.20; ±1.15	1.67; ±0.62	4.60; ±1.80	4.40; ±1.64
From action	3.07; ±1.54	3.60; ±1.45	2.87; ±1.77	3.13; ±1.18	5.93; ±3.03	6.73; ±2.43

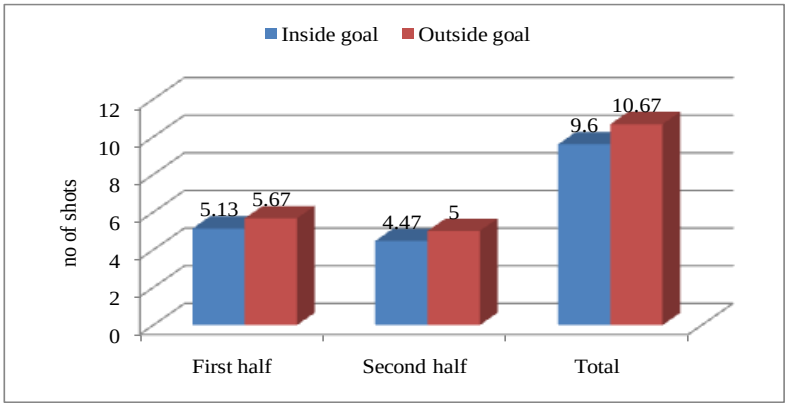

Fig. 1. Long shots on goal

The results of the recorded data analysis (mean; ±SD, n=15) highlight the value of the *shots* in the first half inside the goal – a mean of 5.13; 2.64 shots and 5.67; ±1.63 shots outside the goal, in the second half the mean value is 4.47; ±2.36 shots inside the goal and 5.00; ±2.00 shots outside the goal; the total value per match is 9.60; ±4.51 shots inside the goal and 10.67; ±3.08 shots outside the goal (fig. 1).

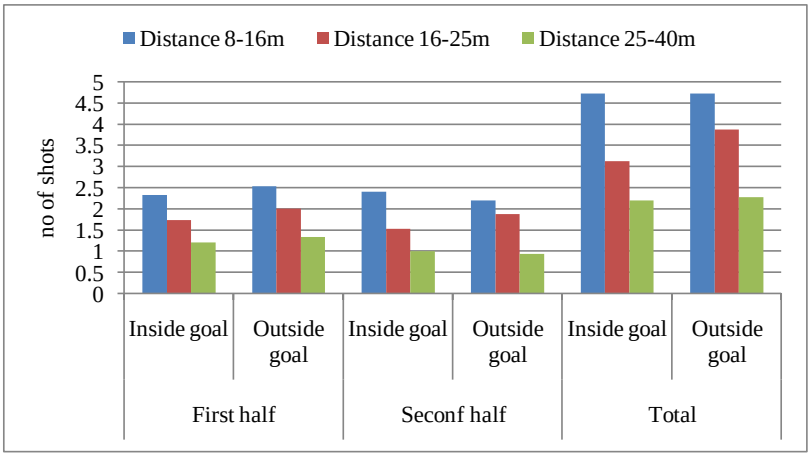

Fig. 2. Long shots for goal outside and inside the goal

Results of the shots taken from a distance of 8-16m: in the first half there is a mean of 2.33; ±0.89 shots inside the goal and 2.53; ±1.24 shots outside the goal; in the 2nd half, the mean value is 2.40; ±1.24 shots inside the goal and 2.40; ±1.24 shots outside the goal; for total match, the value of the mean is 4.73; ±1.94 shots inside the goal and 4.73; ±1.58 shots outside the goal (fig. 2).

Taking shots from a distance of 16-25m: in the first half there is a mean of 1.73; ±1.09 shots inside the goal and 2.00; ±1.60 shots outside the goal; in the 2nd half, the mean value is 1.53; ±1.33 shots inside the goal and 1.87; ±1.30 shots outside the goal; for total match, the value of the mean is 3.13; ±1.73 shots inside the goal and 3.87; ±2.61 shots outside the goal (fig. 2).

Taking shots from a distance of 25-40m: in the first half there is a mean of 1.20; ±1.01 shots inside the goal and 1.33; ±0.89 shots outside the goal, in the 2nd half, the mean value is 1.00; ±1.00 shots inside the goal and 0.93; ±0.96 shots outside the goal; for total match, the value of the mean is 2.20; ±1.74 shots inside the goal and 2.27; ±0.96 shots outside the goal (fig. 2).

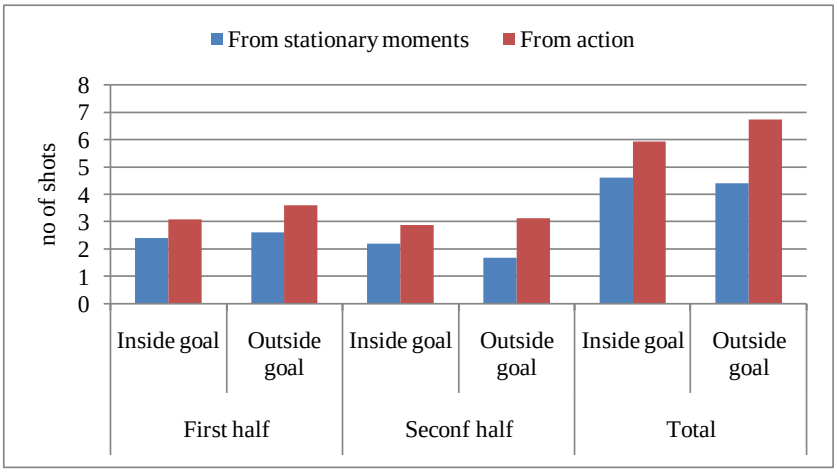

Fig. 3.Shots on goal from stationary moments and from action

Results of the shots taken from stationary moments (fig. 3): in the first half there is a mean of 2.40; ±1.06 shots inside the goal and 2.60; ±1.24 shots outside the goal; in the 2nd half, the mean value is 2.20; ±1.24 shots inside the goal and 1.67; ±0.62 shots outside the goal; for total match, the value of the mean is 4.60; ±1.80 shots inside the goal and 4.40; ±1.64 shots outside the goal.

Results of the shots taken from actions: in the first half there is a mean of 3.07; ±1.54 shots inside the goal and 3.60; ±1.45 shots outside the goal; in the 2nd half, the mean value is 2.87; ±1.77 shots inside the goal and 3.13; ±1.18 shots outside the goal; for total match, the value of the mean is 5.93; ±3.03 shots inside the goal and 6.73; ±2.43 shots outside the goal.

Conclusions

The evolution of the shot on goal technique is essentially determined by the discovery and use of the biomechanical data and has influenced decisively the level of performances over the years.

In the future, a more in-depth biomechanical analysis is proposed meant to highlight what is more effective in the tactical action finished with the shot on goal.

The changes occurred in shot technique were supported in parallel by special modifications of the training, especially with regard to the development of motor skills (strength, speed), in order to increase the efficiency.

This study demonstrates that the team of F. C. Voluntari Bucharest, using the training programs for improvement of the long shots, achieved the expected results, reaching their goals for the current season.

A higher efficiency of the taken shots was found out as follows: 65.1% of the shots were taken from action and only 34.9% from stationary phases.

The practice of the shots on goal is an essential factor for performances achievement in football game. This practice can be carried out in special training sessions, using the records of the games.

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FUNCTIONAL TRAINING - MEANS OF OPTIMIZING BODY COMPOSITION

Antrenamentul funcţional- mijloc de optimizare a compoziţiei corporale

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Abstract
Background. Research on the composition of the human body dates back to antiquity. In 440 BC, Hippocrates promote the idea that the human body is composed of four humors. A similar theory was also supported by Chinese researchers, suggesting the existence of five elements in the human body, and health is the consequence of a balance between them. These theories do not have a scientific foundation, but can be taken as a reference point in the history of research on body composition.
The assessment of body composition provides important data about the person health, especially the body mass index. If it is not within certain parameters it may indicate the presence of a disease.
Functional training is a physical conditioning activity with beneficial results in reducing body weight by decrease body fat and increasing strength and strength indices.
Objectives. This study aims to analyze the influence of functional training on body composition at a group of subjects after a five-month exercise program.
Methods. Experimental research was conducted on a group of 40 female subjects aged 19-25, between October 2017 -February 2018. The evaluation was performed using a body analysis tool that provided data on the body mass index and percentage of muscle mass and adipose tissue.
Results. The results demonstrated significant differences between initial and final testing, these data confirming the effectiveness of the exercise program used.
Conclusions. Functional training is effective only if the effort is adequate and the exercises are appropriate to the physical condition of the participants.

Keywords: body composition, functional training, muscle mass, body mass index

Introduction

Research on the composition of the human body dates back to antiquity. In 440 BC, Hippocrates promote the idea that the human body is composed of four humors. Also in Greece is the famous opera, Doryphorus, of the sculptor Polykleitos, which represents the perfect proportions of the body. A similar theory was also supported by Chinese researchers, suggesting the existence of five elements in the human body, and health is the consequence of a balance between them. These theories do not have a scientific foundation, but can be taken as a reference point in the history of research on body composition.

The discovery made by the famous scientist Archimedes (287-212) is one of the most famous hydrostatic laws. And it has numerous applications in different areas. Considered to be a starting point for underwater weighing.

A short chronological sequence of studies on body composition:
• 1863 E. Bischoff analyzes the water content of human dead body;
• 1871 J. Quetelet Belgian scientist, BMI inventor;
• 1896 H. Katz studies the chemical composition of the muscles;
• 1909 W. Coleman discovers a link between creatine levels in urine and muscle mass index;
• 1916 D. Bois discovers the equation that determines the body surface;
• 1963 first symposium on body composition;
• 1968 first book on this topic, etc.

The study of body composition is essential for specialists in various fields to research the human being. From the above-mentioned data, we can see that preoccupation existed hundreds of years ago. Similarly in every field, due to the evolution of the technique, the research has expanded more and more so that the new information has contributed to the appearance of a large number of articles, books and congresses on this subject. This may suggest that the subject is still developing and can be regarded as a distinct discipline in the future.

Health status and body composition

Medical studies highlight a link between body composition and various conditions. A high percentage of adipose tissue is associated with the risk of developing metabolic diseases: 2 diabetes, obesity or cardiovascular disease**.**

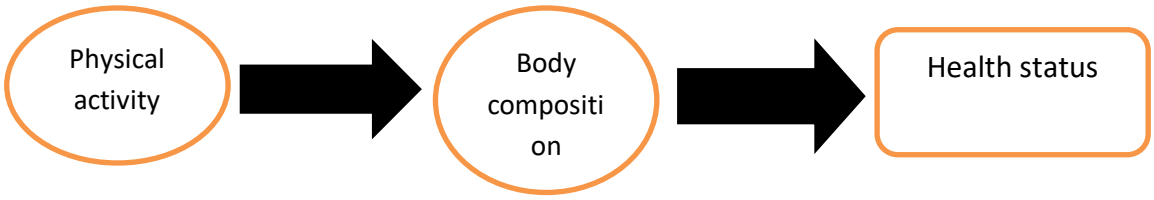
BMI greater than 30 is an aggravating factor for cardiac morbidity, and other people with chronic illnesses regardless of age or gender.

BMI below 19 in women and less than 20 in men may also indicate the presence of certain diseases (hyperthyroidism, eating disorders, hormonal disturbances, etc.). Other effects of a deficient body composition include low immunity, vicious body attitudes, low work capacity.

An imbalance of BMI, under or over, normal values may affect the health and physical condition of the person.

Based on body composition, we can also make classifications of the three constitutional types:

• Mesomorphic, athletic constitution with well-developed muscular mass;
• Endomorph, robust type, predominates adipose tissue;
• Ectomorph, longilin type with poorly developed muscles



Assessment of body composition

The methods for determining a body composition are numerous, but only two of them have been scientifically validated: hydrostatic weighing method and X-ray measurement method, DXEA (dual energy X-ray absorption). In sports practice they are less used due high costs. Other effcient methods are the measurement of adipose tissue and bioelectric impedance (BIA), a method used in this paper.

Physical activity, functional training

To achieve daily demands, the human body has to be trained by physical activities that require its muscular, respiratory and cardiovascular system.

This work focuses mainly on functional exercises as a means of improving the muscular and energetic system. Exercises providing benefits in the short term, but the most significant changes are those over a long period of time: increasing the active mass by improving strength indices, improving vicious bodily attitudes, improving immunity, weight loss by lowering body fat.

Some research points out that decreasing by more than 1 kilogram a week with only a calorie restricted diet is not possible because the loss consists of water and active mass.

Functional training was initially designed for the physical recovery of athletes. Over the last 20 years it has become more and more popular, and it is currently in continuous progress. In any exercise, emphasis is placed on the position of the body movement, and implicitly on the stabilizing muscles, it is also important to involve as many segments as possible, and depending on the individual's particularities, the exercise is adapted to facilitate preferential work on certain parts of the body that are deficient (esthetic, functional, motric).

A study published in the 2009 in Journal of Strength and Conditioning Research made a comparison between classic strength training and functional training. The results of the study showed obvious benefits for the group of subjects who had functionally trained compared to the other group. Subjects in the first group had a 38% increase in strength compared to the classic trained group.

Objectives of the paper

This experimental study aims to analyze the influence of functional training on body composition in a group of subjects after a five-month exercise program

Methods

Experimental research was conducted on a group of 40 female subjects aged between 19 and 25, between October 2017 and February 2018, with 1 and 4 sessions per week. A total of 30 subjects are students of the University of Bucharest, and 10 are members of the PilatesGym gymnastics club.

The basic part of the training program applied to the subjects consists of aerobic exercises from different disciplines (athletics, martial arts, dancing) with a 40 "active work and 10" active break; and exercises to tonify the main muscle groups, dosing - 2x8 reps.

Evaluation was performed objectively using a body analysis tool that provided data on body mass index, percentage of muscle mass and adipose tissue.

Table 1: initial test values

The IMC average	The average percentage of fat percentage	The average percentage of muscle mass	The average of age
21,9	28,9%	27,93 %	22 years

Table 2: Final test values

The IMC average	The average percentage of fat percentage	The average percentage of muscle mass	The average of age
21,11	27,76%	28,43 %	22 years

Results

Of the total of 40 subjects, most normoponderal except one subject with grade I obesity (BMI - 35) and four underweight subjects.

The differences between the initial and the final values are: for the percentage of adipose tissue: -1,14; muscle mass percentage + 0.5 and for BMI: - 1.14;

The results showed significant differences between initial and final testing, these data confirming the effectiveness of the exercise program used.

Conclusions and recommendations

- the program presents a combination of cardiovascular exercises combined with toning exercises of the main muscle groups;
- during training, subjects had active breaks with breathing and relaxation movements;
- in the cool down, the subjects did stretching exercises, breathing and analytical relaxation;
- training is effective only if the effort is adequate and the exercises are appropriate to the physical condition of the participants.

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THE CONTENT AND THE FEATURES SPECIFIC TO TOP PROFESSIONAL TENNIS

Conţinutul şi caracteristicile specifice jocului de tenis, la nivelul marii performanţe

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Abstract

This paper focuses on the necessity and the importance of knowing how to play professional tennis, as well as on the features specific to top tennis players' evolution during practice hours. Thus, we could evaluate correctly the role, the importance and the impulse given to developing sport performances through a scientific, complex and effective activity in perfect accordance with the latest ideas and techniques in the sport field especially designed and implemented by the players' coaches.

In order to actually define and use the set of specialized means destined to increasing tennis performances, we must establish a set of selective criteria.

This scientific research creates a demanding and objective filter regarding the vital importance of selecting and using different sets of means which are specialized from the structural and functional point of view according to the top requirements of professional tennis.

Keywords: tennis, sport performances, coach, means and techniques,

Introduction

Nowadays, the special conditions of official tennis competitions are very different from all the other sport competitions and they consist in:

1) the competitionsystem throughout the year (10-11 months/year);
2) the number of competitions, which are scheduled weekly (4-5 matches per week);
3) major time differences for tennis players;
4) diversity of courts (clay, grass, bitumen, hard);
5) differenttype of opponents (offensive, defensive players, a combination of the two)
6) the stake of the match consisting in winning a Grand Slam (the big 4 tournamentswhich take place on 3 continents, with 3-5 sets per match and the winner gets to play 7 matches, meaning approximatively 30 sets);

All these aspects about professional tennis competitions show us the importance of this theme, containing many observations, specific registrations and analyses of the game types.

Following an analysis of the professional tennis in terms of game content, the following conclusions can be drawn:

- The offensive approach of the technique duringtactical momentsof the match;
- Initiating, maintaining, combining and finalizing the efficiency factors when hitting the ball;
- Hitting the ball in front of the body,
- Increasing the ball circulation speed, as follows: serve = 210 – 248 Km/h, lateral side (in the back of the court) = 130 – 150 Km/h, decisive volley = 180 – 190 Km/h
- Increased dynamic of court movement (ball positioning and court repositioning);
- playing without the ball (inthe active phases of the game): starting, running, stopping, lunges, changing directions, positions permanently adjusted to passing areas and the technique used; which means that the average distance covered by tennis players is 3000-4500 m for 2 out of 3 sets matches, respectively 7500-8000 m for 3 out of 5 sets matches;
- opening large offensive attack angles and using them effectively;
- choosing effective measures for adjusting to the surface or to the opponent's playing style (e.g.: left-handed player) or todifferent typologies;
- higher percentage of points won and a smaller percentage of errors,
- improved level of resistance to effort, stress, adjustment skills and body recovery, health, food, medication,
- Mentality, motivation, courage, desire to become a real champion, taking risks while playing etc.;

The main feature of tennis game in terms of performance is first of all given by: the dynamism of the game, a better physical training of players, better functional skills of the body, to which there are added a rich and complex arsenal of more efficient technical-tactic versions, adjusted to the individual particularities of each player and to more and more various game conditions.

The issue of practice and official matches has always been of real interest for tennis specialists and technicians who have discovered throughout time and applied with maximum efficiency all currently known game techniques and strategies.

This complex, detailed and scientific project has also included other connected sciences such as: biomechanics, physiology, psychology, pedagogy, the theory of game practice etc. which due to their active involvement in the particular training have removed the routine and the hazard by replacing them with the scientific exactness.

The modern professional game is characterized by a high level of dynamism, rapidity in taking decisions and actions, precision and a high level of technical-tactical ability.

Another major characteristic of modern tennis players is that presently they all have different morph-functional, psychometric and technical-tactical skills which make a great champion, including the following, but without limited to them: a massive body structure, athletic figure, physical skills – force-speed combined with resilience as well as excellent psychological control.

Tennis game consists of a set of technical-tactic procedures performed on various specific movements and ball hitting techniques according to the rules, tasks and principles of the game.

The content of elite professional game is determined by several factors, including the following: the quality of game surfaces, the tennis player's level of training, the efficiency of ball actions during the match, the rhythm, the stake, the player's physical condition, his/her motivation, the crowd's reaction, the weather conditions etc.

Those tennis players that master this entire set of effective technical procedures and tactical strategies (serve and return, finalizing the net point, increasing the ball's speed and opening the attack angles) are the ones that become champions in the modern area of international tennis competitions.

Another main characteristic of modern tennis consists in the fact that the technique is more and more rational and dynamic, individual and complex, which is closely related to the dynamic of the game tactics and to exceptional psychological-physical skills.

Another characteristic of modern tennis is that professional tennis requires the appropriation, perfection and use of a better technique, based on the dynamic laws and biodynamics laws on composing the forces of the body in various actions for preparing and hitting the ball.

The technique and the tactics include the following dynamic elements, among other opportunities:

- Positions and manners of court movement,with a high percentage in reaching the ball very quickly and making a very active game without the ball;
- Ball positioning and repositioning in the court**,**which are essential for hitting the ball, must be executed without much physical effort but with maximum efficiency;
- Physical rebalancing after hitting each ball**,**aspect which assures the technical comfort as well as the psychological rebalance between actions, which are key factors for success,
- Synchronizing each part of the body in relation to the ball,handling the racket and successfully coping with bad conditions;
- The action of compensatory movements with regard to the body parts that are not involved in hitting the ball*;*
- anticipation, correct reactions, good thinking, imagination, courage, stubbornness, attention, tenacity, fighter's mentality etc.;
- Adjustment and readjustment of major functions of the body to effort;
- The tactics, as well as the game technique are influenced by the instruments used by the tennis player(type of rackets, strings, ball even the shoes worn during the match);
- The manners of initiating, maintaining, changing or combining the efficiency factors whenhitting the ball(direction, speed, length and effect),which most of the times are key factors during official tennis matches.

Another main feature of modern tennis consists in the player's capacity to obtain the perfect

impact between the racket and the ball in front of the body with a maximum and constant level of force and speed repeated throughout the match.

The technique of tennis is very much influenced by the major role of the torso as a connection between the actions carried out between the inferior and superior part of the body while the abdominal muscles play a major role in assuring all the specific movements in a complex way.

The interaction between the players involves no physical contact between them, as they are separated by a net which separates the court equally.

When maneuvering the ball, the players use the game racket manufactured of different tough materials and they hit the ball with the strings well stretched.

Tennis players must observe the tennis rules for both the serve and the return as well as while actually playing, thus avoiding errors.

When participating to practice sessions and playing official matches, tennis players are very much solicited both physically and psychically.

The complexity of the game increases according to how the tennis players master the game, meaning he/she has to possess excellent technique, have a strategy of his/her own and a tactics which must always be adjusted to the opponent's particular technical-tactical skills as well as possess physical/psychological resilience, not to mention an exceptional physical condition as an athlete.

There is no limited time duration for a match. Tennis matches can last from 1 hour to 4-5 hours and tennis players play both indoor and outdoor.

Sets are composed of games which in their turn are formed of points. A game is considered won when a player obtains 4 points, respectively 15-0, 30-0, 40-0 (the ideal score), the last point marking the end of a game. There can be cases when both tennis players score equal points. The last equality is called deuce, namely 40-40and in this situation one player must obtain 2 consecutive points, namely the advantage and the decisive point in order to win the game.

Several games compose a set consisting of minimum 6 games won by one of the players. One set may be formed of several games and in case each player has won 6 games, the game continues until one of the players wins 2 more games (or they can play a tie-break).

The number of sets is different for female and male tennis players.

The match starts only after the ball is hit by the so-called serve procedure. Each player shall serve one game alternatively. In the beginning of each game, a player stats serving from the right side of the court, then they serve from both sides of the court, namely left-right, until a game is won. When serving, the player has two shots: first serve and if she/he failed, the second one must be in.

From the physiological point of view, the game is characterized by rapid metrical acts alternated with great precision, with strong shots and a permanent adjustment to change. The players' effort has variations of intensity (the moments of maximum intensity alternate with average effort).

There are five different tennis competitions: ladies' single, men's single, ladies' double, men's double and double mixed.

Ladies play two sets out of three while men play two sets out of three or three out of five, depending on the type of the tournament.

As matches take place before thousands of spectators, the atmosphere is very nice and emotional, not to mention they are characterized by more and more offensive tactics, plus modern techniques involving multiple and effective choices, most of the times adjusted to each player's particularities.

The aesthetic message of tennis is no less than that of other sports, as tennis has a certain charm given by the modern courts where it is payed, the materials used by players as well as the specially arranged court, to which it is added the player's outfits which have become more and more complex in terms of colors and fabric. Nowadays, spectators can admire elegant moves combined with intelligence, force and total commitment.

The entire dynamics of the game can take both the player and the crowd through a carousel of emotions and is a real delight for both the eye and the spirit.

The great champions' fine, elegant and complex tennis is the creation of unique personalities, authentic talents who can succeed in turning any action into an act of virtuosity.

It is well known that all all-time great champions did not emerge by chance. They are the

result of hard work with hundreds of thousands of hours of relentless practice, with numerous physical and psychological challenges which go beyond the human limits.

The connection between the coach and the tennis player is very important as well as the teams of specialists who work side by side in order to create and apply different modern and effective ideas and scientific programs.

By the age of 18, more and more young tennis players turn pro. They show excellent physical, technical-tactic and psychological skills, they cope with the tournament's pressure very easily, they master the secrets of offensive game with precise strategies and tactics well-adjusted to their own skills.

In this context, the Romanian tennis specialists are invited to intensify their efforts and work together to re-update all the levels of training and official game, especially for young and talented players in order tocreate a national modern and effective concept in terms of physical and technical-tactical training, for promoting and helping such players to go as high as possible in international rankings.

All these characteristics of modern game show the necessity and the complexity of physical training which must be a real asset in addition to the technique and strategy.

The numerous information and the nowadays context of professional tennis helped us formulate the characteristics of modern tennis by identifying the game components doubled by the content of the training or, better said, the entire training system.

If we include the essence and the features of tennis game into the training system, we can reach the conclusion that these very features are the basis of modern training, which is the object of both coach's and player's activity and lately the result of a team of specialists in the medical field, nutrition and modern technology.

The methodology and modern training system includes all operational knowledge which the training concept disposes of, which in its turn solves a complex issue and a valuable scientific character including the following:

- the character, content, organizational manners and finality of the player's physical, technical-tactical and psychological training concept, ***for all levels of performance;***
- the dynamic, structure and scientific criteria on approaching the physical and psychological effort during training and special game;
- the criteria, stages and finality of players' selection in the context of requirements regarding the profile of top tennis champion;
- ***thesystem of identifying the level of training, the physical condition, the issues related to adjustment, body recovery and return to the arena,*** according to the planning of training sessions and taking part in official competitions;
- tailored training and strategies;
- circulation of scientific and specialized information regarding the worldwide trends in terms of training and strategies.

We consider that we identified the main arguments that stay at the very foundation of nowadays tennis requirements which tend to perfect constantly and become more and more scientific.

In our opinion, the attempt to systematize the issues related to the involvement of tennis characteristics in the training and match strategies is not a novelty in terms of theory and practice, but still the approach of problems in the context of modern tennis evolution and our desire to identify the main trends seems to be of great interest for professionals.

If we refer to children's tennis, we must say that there are big differences between them and juniors and especially professional tennis players.

In our opinion, a key requirement of official tennis matches and tennis practice consists in the professional player s' increased ability that during both match and practice breaks (moments when the body must recover after an intense effort) he/she can apply better and more effectively the strategies, the tactics and his/her physical skills in order to win.

Conclusions

The content of the game and its specific characteristics represent the key and the structural and functional coordinates depending on which the coach can create the game strategies and the training

plan.

In the context of this research regarding the permanent evaluation of tennis game components and output obtained by tennis players, we can easily see a clear progress in young generations that dream big in this sport.

Therefore, by intensifying and modernizing the content of tennis game in all levels of performance, one can declare that by getting seriously involved in this field as well as by applying advanced scientific resources and technologies starting with the juniors, the tennis game has nowadays reached its peak.

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KINETOTHERAPY SECTION

THE EFFICIENCY OF THE COXARTHROSIS RECOVERY PROCESS BY IMPLEMENTING THE MASSAGE AND PHYSIOTHERAPY ASSOCIATED WITH KINETOTHERAPY

Eficientizarea procesului de recuperare a coxartrozei prin implementarea masajului şi fizioterapei asociate cu kinetoterapia

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Abstract

Highly important for stillness and mobility, the hip joint is built in such a way as to offer the body maximum mobility and stability. That is why physical therapy, mental exercises, physiotherapy and massage are essential to the recovery of the joint.

The purpose of the study is to bring an improvement of the hip joint and to modify the cartilaginous tissue that causes the development of arthritis.

Methods. The tests were performed on a group of 10 patients within the Sf. Luca hospital. The recovery methods were established according to the muscular and articular balance.

The achieved results from physical therapy, physiotherapy and massage were compared in a graph that showed the initial state of the patients.

Conclusions. At the completion of the program an improvement of the pain and greater flexibility of the hip joint were observed. The muscles in the pelvis got stronger and, at the same time, the strength and mobility were progressively modified.

Also, the breathing and mental exercises had a very important role during the patient program.

Keywords: coxarthrosis, physiotherapy, massage, recovery, kinetotherapy.

Introduction

Coxarthrosis (coxo-femoral arthrosis) is the localization of degenerative rheumatism at the hip joint. (Cretu A. 2003)

This condition, characteristic of the third age, has the main causes of etiology the mechanical causes, expressed by excessive loading of the coxo-femoral joint during the lifting and transport of weights over the physiological tolerance of these structures of bone resistance, the increase of the mechanical tension at the level of the coxo joint femoral, congenital or acquired, and inflammatory, metabolic or infectious causes.

Etiology

The clinical picture of coxarthrosis is in the first algal, localized in the medial area of the inguinal fold, the origin of the pain being synovial reactions, with articular and cellular epansamenr, associated with chondrolysis episodes.

As primitive and secondary forms are described as primitive and secondary forms in which the first category is characterized by a functional embarrassment in walking, associated with progressive algal phenomena and reflex muscular contraction affecting the pelvitrochinteria muscles and adductors.

In the cases of primitive coxarthrosis, along with algal phenomena, degenerative phenomena in the coxo-femoral joint, which will associate the ankylosing form in the evolution of the disease, are included in its evolution. (Albu C-tin., Ambruster T.L., Albu M. 2012).

Primary coxarthrosis evolves in the absence of a detectable cause, embedding itself in a general degenerative arthrosis process, localized to the hip joint along with other localized joints (column, knee, etc.). It accounts for 45% of cases of coxarthrosis, which brings illness to the vicious attitude and mobility of limited movements, which gradually leads to disability. These conditions are bilateral and symmetrical as anatomical changes.

Secondary coxarthrosis (55% of cases) develops in conjunction with a preexisting condition that alters articular anatomy (co-femoral congenital dysplasia), affecting the femoral head joint or creating trauma, infection and other local destruction. Compared to primitive, bilateral secondary coxarthroses do not have symmetry in the radiological or symptomatological aspect, thus becoming unilateral.

The coxo-femoral joint is one of the most important joints. It is a solid and mobile articulation, made between two articular surfaces: the articular cavity, represented by the cochlea acetabulus, and the spherical surface, represented by the head of the femur. The hip joint is made up of the coxal bone (which together with the sacrum forms the pelvis) and the femur (thigh bone). The weight of the body is supported by this joint, fulfilling complex human functions, such as walking. This synovial joint has articular surfaces, ligaments, synovium, capsule, marginal spine, and in the coxal bone there is a cavity called cotiloid in which the head of the femur penetrates. The upper extremity of the femur has a head, the femoral shaft, and the neck or cervix that connects the femoral head to the bone. The head and the femur body form an open angle in which it normally measures 126 to 130 degrees. The development of atrophy is favored by any change in this angle as it increases cartilage demand. Coxo-femoral art is subjected to permanent pressure through the peri-articular muscular tone. It has been shown that while co-femoral aspiration suffers an intermittent pressure. Thus, while the weight of the body rests on one foot, the feser means exerts a strong, coxo-femoral pressure, alternately holding a pressure four times the weight of the body. In the coxa-valga, the big trohanter being too close to the center of the femoral head, the pressure supported by the femoral head at each step is 6-7 times greater than the weight of the body. In the case of healthy joints, pressure is transmitted throughout the femoral head, being well supported by cartilage. Whenever hyperpression is concentrated on a narrower area of the head, the cartilage is ulcerated.

Research objectives

1. Improving musculo-articular function;
2. Increasing articular mobility;
3. Increasing and adapting the body to effort;
4. Restoring muscle strength and increasing it.

Recovery methods

Physical therapy

For kinetotherapist, the program's orientation is based on the clinical-anatomic-functional stage of the disease.

Initial stage (SI): pain in orthostatic and prolonged walking, local musculo-articular fatigue, reduction of the "deluxe" aplitudine of the hip.

Evolved stage (SE): pain and rest, joint regurgitation in the current wear range, passive or even active vicious correctional attitudes.

Final stage (SF): intense pain, marked limitation of mobility to ankylosis, irreducible vicious attitudes.

The assessment of hip function is, of course, based on muscle and joint tests as well as global ones. (Sbenghe T. 1987).

Physical Therapy Program

From dorsal decubitus (to mattress or bed):

1. Turns at the calf, internal or external - 2 sets of 10 reps.
2. Simultaneous rotations with both legs - 2 sets of 10 reps.
3. Perform the return of the outer leg of the foot as close as possible to the ground - 2 series of 10 repeats.
4. Upper limb abduction - 2 series of 10 reps.
5. Flexion of the lower limb - 2 sets of 10 reps.

From ventral decubitus (to mattress or bed):

6. Extension of the member - 2 series of 10 repetitions.
7. The basin placed on a cylindrical pillow, the arms bent and the palms placed close to the shoulders, the knee is flexed at 90 degrees, the abduction and slow adduction of the calf - 2 sets of 10 reps.

From the seat:

8. In the quadriceps seat - 10 kg, 2 series of 10.
9. At the abductor seat - 10/15 kg, 2 series of 10 reps.
10. At the adductor chair - 10/15 kg, 2 sets of 10 reps.

Standing:

11. At the splinter, pick up the peaks - 2 series of 10 reps.
12. In the spar, the abduction of the lower limb in the side - 2 series of 10 reps.

Posture:

13. The patient supports his lower ankle member on a high surface, having the extended navel. We place a weight of 2kg. - 2.5 kg., At the calf. Swings of the lower meer - 2 series of 10 repetitions per member.

At the end - the bike - 7 minutes.

Physiotherapy

In the recovery of coxarthrosis physiotherapy is used, with procedures such as: ultrasound, short waves, diadinamic currents, laser, TENS, beneficial for relieving symptoms.

For antalgic purpose, ultrasound is also used whose action is maximally effective on algic and inflammatory periarticular manifestations that usually accompany coxarthrosis. Frequency of ultrasound commonly used in physiotherapy is 0.8-3 Mhz, but it can emit mechanical waves with a frequency greater than 20,000 Hz.

Ultrasounds can be used in a continuous field so the sensing receptors in the tegument record an ancestral sensation that increases proportionally to the intensity of fine stinging. (Lazarescu H, course)

Low Frequency Currents will have a frequency between 1-1000 Hz. These are obtained by interrupting the direct current by means of some adjustment methods, and an excitatory effect is obtained.

The effects of diadinamic currents are analgesic, hyperemic, long and short, dynamic, with 50 Hz attenuation threshold.

TENS is a non-traumatic way to combat acute and chronic algic syndrome, using rectangular and low frequency pulses.

Massage

In addition to the antalgic effect, the massage is also a miorelaxant. The massage maneuvers overcome the hip area down to the knees and climb to the vertebral column and address to all structures: skin, tissue, fascia, tendons and muscles. Muscular addressability massage will track the discovery of uncovered contracts during the palpation examination at the small and medium fesium and the broad fascia tensor; For this purpose, profound, slow-paced pressures will be used with a dose intensity based on the degree of patient tolerance (practice demonstrates that normally in about 12 'the right massage applied, the contracted muscles begin to relax).

Experiment

The experiment was conducted at St. Luca's Hospital in Bucharest, on a group of 20 patients aged 45-75 years old, men and women.

Over the control group of 10 patients (6 males and 4 females) physiotherapy and massage procedures were performed - 5 sessions per week.

The experimental group, comprising 10 patients (5 males and 5 females), besides physiotherapy and massage procedures, was also susps at 50-minute physical therapy sessions, as well as 5 sessions per week.

The purpose of the research

By following the principles and principles of kinetotarapia, an effective way of recovery of coxarthrosis is achieved, thus leading to a restoration of muscle strength, improved coordination, control and balance, increasing and adapting the body to effort, increasing joint mobility, and respiratory reeducation.

Physiotherapy, kinesiotherapy and massage were used as working methods in this research.

Subjects were followed for 4 admissions, 14 days each.

Results

Table 1. *Results obtained by the control group (previous abduction)*

WITNESS GROUP			
Articular mobility (degree of abduction)			
Nr. Crt.	Patients	Before Experiment	After Experiment
1	A.S.	15	15
2	G.I.	18	18
3	P.G.	20	20
4	M.A.	35	35
5	C.B.	28	28
6	D.L.	45	45
7	B.O.	43	43
8	M.L.	40	40
9	M.G.	60	60
10	V.C.	58	58

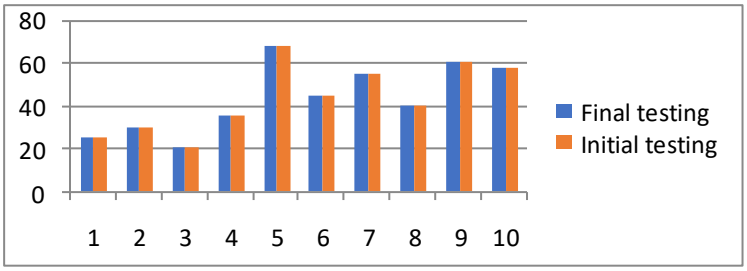

Fig.1. The graphical representation of the values obtained by the witness lot

Table 2. *The results obtained by the experimental group (precedents for abduction*)

EXPERIMENTAL GROUP			
Articular mobility (degree of abduction)			
Nr. Crt.	Patients	Before Experiment	After Experiment
1	M.S.	35	40
2	P.V.	43	45
3	G.A.	56	59
4	C.V.	45	48
5	O.C.	60	65
6	D.V.	68	70
7	D.D.	55	59
8	B.A.	58	61
9	V.A.	46	50
10	F.V.	70	72

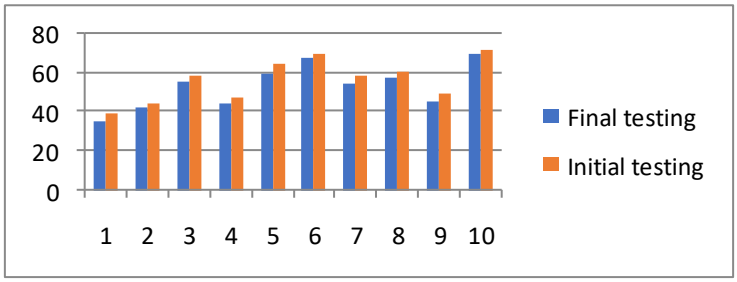

Fig. 2. The graphical representation of the values obtained by the experimental lot

Observation: Abduction of the lower limb represents the removal of the thigh from the median line of the body. Active abduction progresses from 60 to 70 degrees and passive at 70 to 80 degrees. (Baciu C, 1977)

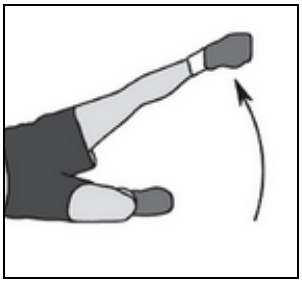

Fig.3 Representation of thigh abduction from lateral decubitus position.

Table. no. 3

Probe of control	Subjects	Initial testing	Final testing
		M. arithmetic	M. arithmetic
Abduction of the thigh	E	53,6	56,9
	M	36,2	36.2

Abduction of the thigh. In the initial testing, it was found that the arithmetic mean value in the experimental group was 53.6, while in the control group it was 36.2.
At final testing, the arithmetic mean of the experimental group reaches 56.9 while the mean in the control group reaches 36.2. It is noted that the experimental group recorded values that increased, expressed in improved thigh mobility.

Conclusions

Following the kinetotherapeutic program followed by the two lots, there was an increase in muscle strength, joint mobility, and with the help of physiotherapy and massage procedures, complementary to kinetotherapeutic procedures, pain was eliminated.

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THE PREVALENCE OF CHILDHOOD OBESITY IN PUBLIC VERSUS PRIVATE SCHOOLS IN ROMANIA - A COMPARATIVE STUDY

Prevalenţa obezităţii infantile în şcolile publice versus private din România - un studiu comparativ

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Abstract.
Childhood obesity is an alarming public health issue in many countries worldwide, with over 41 million overweight children under the age of five, according to WHO (1). In 2013, in Romania, 26.75% of 8-years old children have been diagnosed as overweight and 11.64% as obese, according to Romanian National Institute of Public Health (2).

Study Objective & Methods. Considering these data, the aim of the current investigation was to study whether the type of school (public or private) has an impact on childhood obesity. For this purpose, we analysed the Body Mass Index (BMI) of 209 children from four different Romanian schools (three public schools and one private school). The BMI is a body weight measure based on the mass and the height of an individual.

Results. Our results indicate that the children from public school have an increased tendency towards obesity compared to children who attend a private school. The main factors identified to contribute to these differences are diet, schedule overload and the personal preference towards organized physical activities. Specifically, children from the public school have a more disorganized eating program, a high-carbohydrate diet and a lower preference towards organized physical activities whereas the children attending the private school have a more balanced dietary program and a higher preference towards organized physical activities.

Conclusions. From this study we conclude that more refined national guidelines concerning diet and physical activities for children from both public and private schooled children would have beneficial long and short terms effect.

Keywords: childhood obesity, public vs private school, diet, physical activity.

Introduction

One of the public health challenges that appeared on the national agenda of many developed and developing countries in the past two decades is childhood obesity. According to WHO, in 2013 there were more than 41 million overweight worldwide. This next generation of adults will be faced with an increased risk for several obesity related conditions later in life such as cardiovascular diseases, type 2 diabetes, hypertension or renal failure (Dean H., Flett B. 2002).

Genetics play an incontestable role in the whole obesity equation; however, for most of the children, environment is highly important in triggering and stimulating the expression of the overweight genes. To cite a well-known expression, the genes "load the gun" while the environment "pulls the trigger" (Bray G. 2002). Many changes in the world food industry led to various shifts in the eating habits and preferences of many people, adults and children. Many aliments nowadays contain higher amounts of sugars and preservatives, there are more saturated fat-products on the market and food and drinks in general are more available and more affordable than ever before. These facts, combined with a decline in energy consumption as a result of a more sedentary life, in part, stimulated by several technological developments (more cars, more computer-based activities), are examples of environmental triggers that nurture obesity.

The most immediate consequence of obesity in children takes place at psychological and social levels. Obese children are more predisposed to stigmas, stereotyping and discrimination at school, with some studies reporting that obese kids have fewer friends Strauss R.S. (2002) and that they experience more often their peers´ rejection. Both these factors, rejection and lack of friends during childhood, have been correlated with psychological struggles during adulthood, such as lower resistance to stress, increased anxiety and higher risk for depression (Bagwell C.L., et. al. 1998). Moreover, individuals who were obese or overweight as children or adolescents have higher chances of becoming adults with lower educational/ career achievements, lower likelihood of marriage and higher rates of poverty (Gortmaker S.L., et.al 1993).

Family and school have also been identified as influencing factors for children obesity. Children from families with both parents overweight have a higher predisposition of becoming obese themselves.The causeis not genetic predisposition but rather the family unhealthy eating habits and parental sedentary behavior (Lake J.K. et. Al. 1997). Children from lower-income families are more predisposed to obesity mainly because of poor diet and decreased opportunities to take part in physical activity that involve financial investment. The food provided at schools can also be a stimulant for obesity. Meals rich in fats and carbohydrates or fast food products sold at the "shop around the corner of the school" can significantly stimulate the increase in overweight and obese children and adolescents.

Study Objective & Methods

The purpose of our study was tocompare the prevalence of childhood obesity in Romanian public schools *versus* private schools. The whole study involved 209 participants, namely childrenaged 11-12 years, enrolled in the Vth and VIth grades infour different schools (three public and one private school) from the South-Est of Romania: School No. 1 Modelu, School No. 2 Călăraşi, Bilingual HighSchool "Decebal" from Bucharest and The American Private School from Bucharest.The nutritional status (i.e. underweight, normal weight, overweight, obese) of the selected participants has been estimated by measuring theirbody mass index (BMI) (weight/height^2 of an individual) and following theInternational Criteria establishing the thresholds for these weight categories defined by Cole and colleagues in 2000 (10). In Table1 we show the BMI thresholds internationally established for overweight and obese male and females aged 11, 11.5 and 12 years old. Additionally, a questionnaire has been used to estimate the physical activity, nutritional habits and the use of modern technologies (computer, tablet etc.) for each child participating in the study.

Age	BMI threshold overweight		BMI threshold obese	
	M	F	M	F
11 years	20.55	20.74	25.10	25.42
11.5 years	20.89	21.20	25.58	26.05
12 years	21.22	21.68	26.02	26.67

Table 1. BMI thresholds internationally established for overweight and obese male and females aged 11, 11.5 and 12 years old (10).

Results

From the 209 subjects considered in the study, 104 (49.76%) stem from a rural environment whereas 105 (50.23%) from an urban one. Moreover, 177 (84.68%) originated from three public schools and only 32 (15.31%) from a private school. The BMI measurements revealed that in the public schools there are 23.80% overweight, 72.28% normal weight and 3.96% underweight children aged 11-12 years old (see Fig. 1). The subjects from the private school are all children with a normal weight for their age. Answers from the questionnaire revealed that 35.59% of the publicschool children did not practice any physical activity outside the schoolrevealing one of the causes for the large number of overweight children found in the public schools.

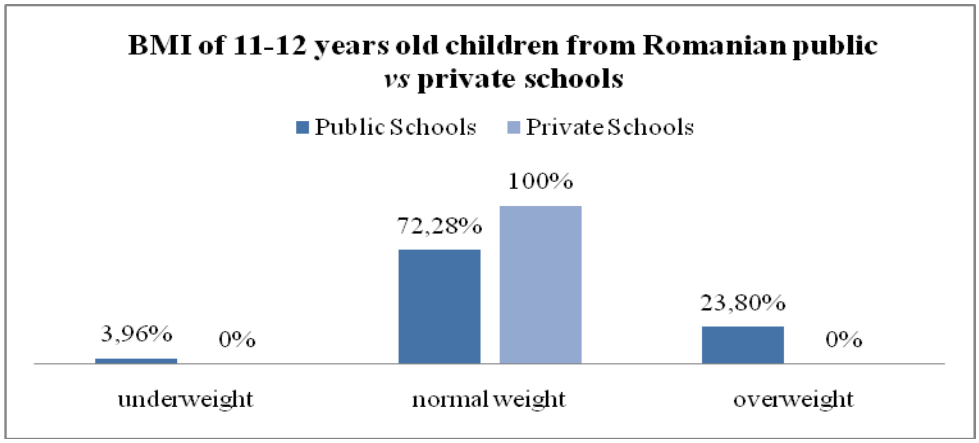

Figure 1.Percentages of underweight, normal weight and overweight children in four different public and private schools from Romania.

We have also compared the average BMI for the Vth graders participating in the study divided into rural and urban categories according to their school of provenience. The results indicate a slightly larger (but not statistically significant) average BMI in the rural case (though only when including the urban private school), see Fig 2.

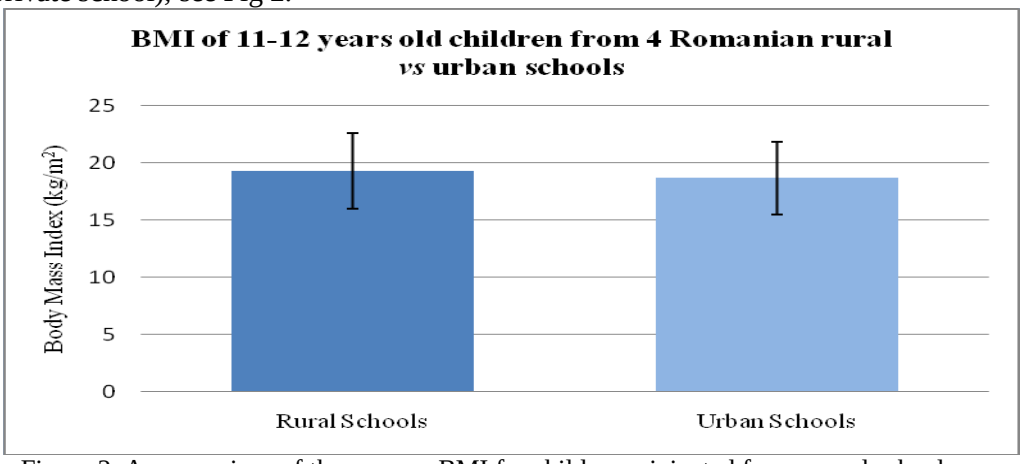

Figure 2. A comparison of the average BMI for children originated from a rural school versus children originated from 3 urban schools.

When we compared the BMI group means of the children from public schools versus the ones from the private school investigated (see Fig. 3), we observed the following differences:the children attending Modelu No.1 School had a significantly higher BMI (M=19.26, SD=3.32) compared to the children studying in the American Private School from Bucharest (M=17.67, SD = 0.73),(t = 3.332, p = 0.001). After checking the variance within these groups using *Levene´s* test, we observed a significant difference (p=0.001), which indicates that the variances within each one of these two groups have to be considered. When we compared the BMI of the children from the School No.2 Călăraşi (M=20.06, SD=17.67) with the BMIs of the subjects from the American Private School Bucharest (M=17.67, SD=0.73), we observed again a statistically significant difference between these two groups (t=2.250, p=0.045), again with a significant difference between the within-variances of the two groups (*Levene´s* test: F=47.136, p=0.001). However, when comparing the BMI of the children from the Bilingual "Decebal" School Bucharest (M=19.13, SD=4.26) with the BMI of the children from the American Private School Bucharest (M=17.67, SD=0.73), we observed no statistically significant difference (t=1.82, p=0.078), here again encountering the same significant difference in the variances within each one of these two groups (*Levene´s test*: F=23.295, p=0.001).

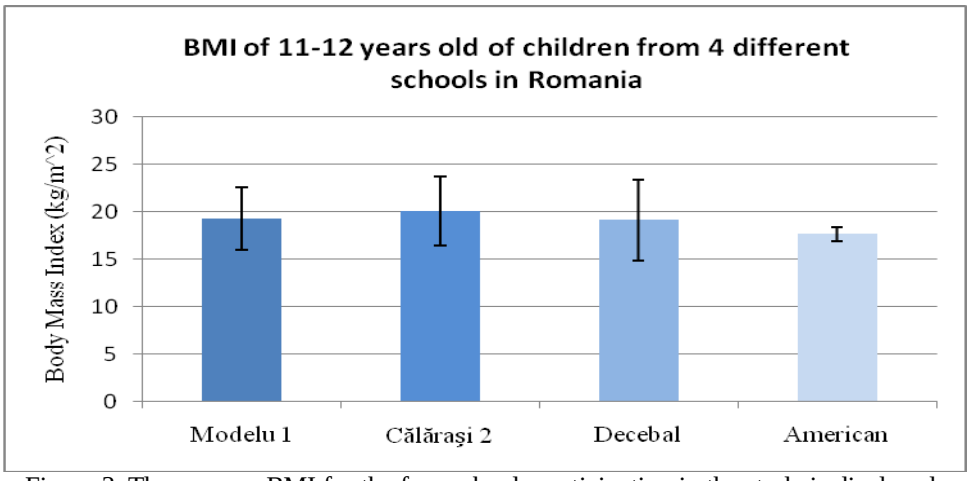

Figure 3. The average BMI for the four schools participating in the study is displayed.

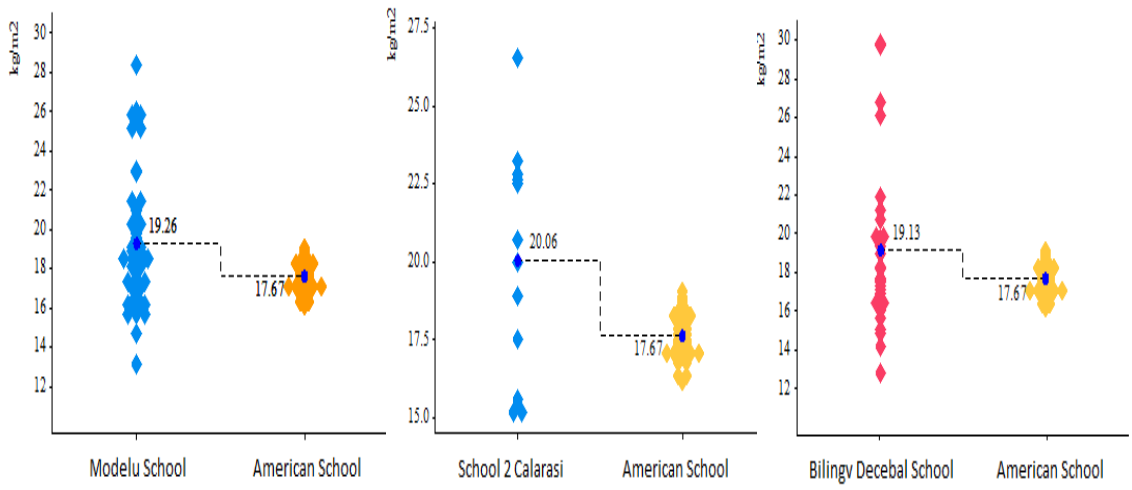

Fig.4. BMI Distribution of children belonging to different public schools versus the American Private School from Bucharest.

Conclusions

In the current study, we compared the Body Mass Index (BMI) of children from four different schools from Romania (three public schools from both urban and rural environment and one urban private school). Although no big differences have been observed in the BMI of children living and studying in the rural vs urban areas, we found some differences between the BMI of the children who study in two public schools compared to the childrenfrom the American Private School in Bucharest.

These differences can be explained by a series of factors. One of them is the awareness of both children and their parents about importance of a healthy diet. In public schools, an increased percentage of the parents whose children are overweight were themselves overweight, which suggests a dietary unbalance that had its roots in the family´s consumption behavior. Although in the public environment children do not have information about a healthy diet, the interest shown in this direction was very high.The children, following the evaluation, asked a series of questions about diet and physical activity (more information can be found in (11)).However, the situation was different in the private school that we studied. Less parents were overweight and had a healthier diet. The school itself

is equipped with a nutritionist who advises the parents about the healthier food options which they can provide to their children but also who designs the content of the meals that are served at the canteen to these children after the courses.

Secondly, the amount of physical activities in which the children are involved can also be a cofactor to the increased number of overweight children observed in the public schools. Many children from the three public schools that we studied did not practice any sport outside of the school curricula. However, in the public school, there are more children that practice one ore more sports outside the school program (11). Moreover, these children were also encouraged by the school pedagogue to practice other sports (private football, basketball, tennis, swimming, etc.).

Lastly, theaccessibility to healthier food during school program can be another contributing factor. Many public schools in Romania do not have a canteen; in most cases, there are small kiosks inside or outside the school area that sell alimentary products to the students. After analyzing the type of products sold by some of these kiosks (11), we observed an increased amount of fast food products and a low percentage of healthier food options (fruits, salads, sandwiches). However, the private school we studied was equipped with a canteen and no kiosks were observed inside the school perimeter.

We conclude that more efforts from the school side can be directed to inform both parents and the students about the importance of having a healthy diet and what kind of dietary choices they canmake in order to have a nutritious and healthy diet.

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VASCULAR DEMENTIA

Demenţa vasculară

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Abstract
Dementia involves the loss of brain functions, usually progressive and irreversible. A change in pathology occurs at the brain by injury and death of neurons. Death of nerve cells at a certain rate is a normal process, but in the case of dementia, this process is much faster and has a pathological nature. As a result, the brain can not function properly. Patients with dementia have a particular problem with short-term memory, and rarely with long-term memory. It also presents difficulties in speaking, in time and space, in learning. Sick people need permanent care, unable to perform everyday activities (washing, dressing, feeding). In the population over 65 years there are 5% severe dementia and 15% medium severity dementia. Vascular dementia is a much more frequent clinical entity and is identified in 30-40% of patients with stroke. In Europe and SUA vascular dementia is considered to be a second cause of dementia after Alzheimer's. The prevalence of vascular dementia increases linearly with age and variation from one country to another, ranging from 1.2-4% of those aged over 65 years.

Keywords: dementia, memory, aging

Introduction

Vascular dementia (also called multiple-attack) means the loss of mental aptitudes which affects the everyday life of the person concerned, and which appears as the result of a cerebral vascular accident.

Vascular dementia is defined in DSM III as a dementia caused by a significant cerebrovascular disease; as a result of some ischemic AVC or rarely hemorrhagic when the blood flow is blocked and doesn't reach some parts of the brain. However, the disease may improve if the etiological factors are known, the diagnosis is accurate and if the patient is given a good treatment. The reason I have chosen this subject is to present the way vascular dementia manifests by observing the frequency of the symptoms on a number of subjects, observing them by age and gender, and also to discover how this disease evolves. In some cases it stagnates for a long time. In others the loss of abilities sets in very fast. The older the patient, the more prone to vascular dementia. This doesn't mean everybody gets it. Many old people will never get dementia. It has come out that around the age of 85, approximately 35 people out of 100 have dementia.

Risk Factors

Aging is the main factor of risk for all types of dementia but some disease may be inherited (Alzheimer's with an early debut or some types of frontotemporal dementia).

The chances to develop a vascular dementia grow if the following factors are present:

- it appears more frequently to males

-high blood pressure ,a previous heart attack, atherosclerosis (fat and calcium deposits on the arteries) which can cause the coronary arteries disease, Diabetes, high blood cholesterol, cerebral vascular accident or a previous transient ischemic accident (AIT).

Other factors that may increase the risk of dementia are:

-low blood pressure for a long period of time to people older than 75;

-high level of homocysteine.Homocysteine is an amino acid which is normally found in small amounts in the blood. There is this theory that high levels of homocysteine may cause the appearance of plates in the walls of the blood vessels. In time, this phenomenon may lead to severe affections, like cerebral vascular accident, heart at1tack, and pulmonary embolism, it may even cause the decrease of mental abilities.

Symptoms

Vascular dementia symptoms vary according to the affected area of the brain:

- memory loss (usually the earliest and easiest to notice symptom)
-difficulty in remembering recent events
-not recalling familiar people or places
-difficulty in finding the right words, in expressing the thoughts or naming objects
-difficulty in doing maths calculations
-difficulty in planning and performing tasks
-difficulty in thinking fast, for instance appropriate reaction in an emergency
-difficulty in managing one's moods or behavior; depression is frequent and restlessness and aggression may appear
-neglect taking care of oneself
-personality altering and unusual behavior

Specialty consultation

Should any sudden signs of cerebral vascular accident or transient ischemic accident appear, the ambulance must be called immediately. The signs may be:

- numbness, weakness or incapacity of moving the face, the arm or leg, especially on one side of the body;
- sight trouble for one or both eyes, like dimness, foggy vision, spots, double vision, loss of sight or the sensation that a shadow covered the eyes;
- confusion, speaking troubles or difficulty in understanding what others are saying;
- walking disorder, dizziness, poor coordination or loss of balance;
- bad headache with no apparent reason.

It is good to know the signs that forecast vascular dementia and to see a physician if any of these signs appear at any family member with antecedents of cerebral vascular accidents, as for example:

- increasing difficulty in finding the right words while speaking;
- getting lost while going to familiar places;
- more suspicious or combustible behavior than usual.

Investigation

The vascular dementia diagnosis may be found by identifying the cause, under medical history, physical examination, mental status examination and on the basis of the lab and imagery tests.

Prophylaxis

Vascular dementia can be prevented by reducing the risk of cardiovascular disease.

This risk can be reduced by:

- treating or preventing high blood pressure
- avoiding or giving up smoking
- maintaining an adequate body weight because it reduces the risks of Diabetes and high blood pressure, two risk factors of vascular dementia
- maintaining normal cholesterol levels
- taking regular exercise

Treatment

There are some cases of vascular dementia that can be drug treated with partial or total recovery of the mental functions. If the vascular dementia cannot be recovered, the aim of the treatment is to obtain a better quality of life for both the patient and the caregiver. The physician together with the patient, his family and the medical assistant will collaborate to come up with a plan of care in order to make the patient's life as easy and comfortable as possible. To plan may include advice to help the patient be independent and cope with daily activities, and drugs to improve the mood and behavioral problems. It is very important to educate the family members and other

caregivers in order to be able to look after a person with vascular dementia. People around the patient should learn as much as possible about this disease to be able to cope with the problems that may appear. Drugs cannot cure vascular dementia, but they can help improve the mental functions, mood or behavior, by slowing down the progress of the disease and by reducing some of the symptoms (aggression, anxiety, hallucination, depression and sleep disorder).

Essential principles when taking care of aged people

The same principles and rules need to be applied when taking care of people with dementia and aged people in general, also putting in some more love:

-Independence
-Participation
-Self-complacency
-Dignity

Taking care of patients with vascular dementia

Patients with vascular dementia need constant assistance when it comes to personal hygiene, nourishment, rest, communication and emotional attention (love, kindness, care, affection, understanding), the last ones being essential when supporting a patient.

The medical assistant needs to identify the degree to which the patient is able to do activities of self care and to estimate how these activities are limited by the deficit of the movement, emotional and intellectual abilities. During the nursing process of a patient with vascular dementia, the patient's needs have to be identified and then the priorities, objectives and types of intervention can be established.

1. Alteration of physical mobility related to motor and sensory deficit The patient has a limitation of movement amplitudes, movement coordination, and muscle weakness. To mitigate the effects of the nurse - Provides patient support for mobilization (lifting from bed, changing position, moving for physiological needs); - encourages the patient to actively mobilize; - teaches the patient to use auxiliary means for improved safety in motion

Improving physical mobility related to motor and sensory deficit. The patient has a limitation of movement amplitudes, movement coordination, and muscle weakness. To mitigate the effects of the nurse - Provides patient support for mobilization (lifting from bed, changing position, moving for physiological needs); - encourages the patient to actively mobilize; - teaches the patient to use auxiliary means for improved safety; - performs back and limb massage; - motivates him, explaining to him that through exercise he can achieve a degree of autonomy the maximum distance.

2. Deficiency of self-care to maintain personal hygiene The patient with vascular dementia is partially able to meet his / her self-care needs, or he may lose interest in personal care and hygiene (eg, be afraid of bathing). In these situations, the assistant is assured that: - The room where the patient will make a bath is safe (it is good to install it handrails in the shower cabin, borders around the bathtub); - ensure patient privacy (installation of a screen); - the patient should be trained and encouraged to perform self-care; - to use poor water; - Make sure that the bath routine is as enjoyable as possible (using soap, scented bath gel, soft towel, clean).

3. Addressing diet and eating problems: The patient with vascular dementia presents a risk of altering the state of nutrition (forgets to eat and drink water, or may require to eat continuously), that is why the person in question must be adequately supplied and hydrated in quantitative and qualitative terms depending on its calorie requirement. The nurse should take care that: - patient to sit comfortably and comfortably at the table; - to have the desired meals as a menu; - to cut them-fragment the food if necessary; - if the person can not use a spoon or a fork, it is advisable to give him the food prepared so that it can be served with his fingers; - Drink a sufficient amount of liquid (water, tea, soup - about 1.5 l daily).

4. Ensure patient rest, relieve sleep disturbances As a rule, all the signs and feelings of a condition are accentuated in the presence of fatigue. The nurse should know that: - it is recommended

that the person with vascular dementia be kept awake and active during the day; - it must be discouraged (unless this would cause even more problems); - It may be helpful to offer a glass of warm milk or herbal tea that contains exciting substances in the evening before going to bed; - a hot bath a little before bedtime can be helpful in getting relaxed.

Conclusions

Care for a person with vascular dementia requires team work involving health care professionals and carers in order to create a safe, comfortable environment and to make the daily life activities of the person as light as possible. Professional counseling can help the person accept the diagnosis and build strategies to cope with the situation. If the disease is diagnosed early, people with mild vascular dementia may be involved in developing plans for the future in organizing domestic and day-to-day activities. Vascularity has a progression rate that differs from one person to another, so that the operation of the person concerned can be stable for several months and even more years. As vascular dementia progresses, there is a decline in memory, thinking, reasoning, and the ability to make and carry out plans.

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ALZHEIMER'S DISEASE AND THE MODERN ALIMENTATION

Alzheimerul şi alimentaţia modernă

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Abstract
Alzheimer's disease usually begins after age 60. The risk goes up as you get older. Your risk is also higher if a family member has had the disease. No treatment can stop the disease. However, some drugs may help keep symptoms from getting worse for a limited time.

Alzheimer's disease is a devastating form of nonreversible dementia now affecting at least 5 out of 10 persons worldwide. Its course is marked by a gradual loss of memory, ability to communicate, and, eventually, physical capabilities. Appetite and food intake fluctuate with mood swings and increasing confusion. Feeding and alimentation skills regress gradually because of cognitive and physical deterioration; uncontrolled weight loss is almost inevitable in latter stages, despite quality of care. A number of etiological models exist, including some related to vitamin and mineral metabolism, although research has not yet yielded a certain cause or cure. Treatment is symptomatic relief through interdisciplinary health care intervention. Psychological, medical, nutritional, and nursing support are needed by the caregivers as well as by the patients themselves.

Keywords: dementia, memory, nutrition

Introduction

Alzheimer's disease is the most common form of dementia among older people. Dementia is a brain disorder that seriously affects a person's ability to carry out daily activities.

Alzheimer's diseas begins slowly. It first involves the parts of the brain that control thought, memory and language. People with Alzheimer's diseas may have trouble remembering things that happened recently or names of people they know. A related problem, mild cognitive impairment (MCI), causes more memory problems than normal for people of the same age. Many, but not all, people with MCI will develop Alzheimer's deseas.

In Alzheimer's diseas, over time, symptoms get worse. People may not recognize family members. They may have trouble speaking, reading or writing. They may forget how to brush their teeth or comb their hair. Later on, they may become anxious or aggressive, or wander away from home. Eventually, they need total care. This can cause great stress for family members who must care for them.

Alzheimer's disease

More than 5 million Americans have Alzheimer's disease, the most common form of dementia. Alzheimer's accounts for 60 to 80 percent of all dementia cases. That includes 11 percent of those age 65 and older and one-third of those 85 and older. The disease also impacts more than 15 million family members, friends and caregivers.

How Alzheimer's affects the brain

The changes that take place in the brain begin at the microscopic level long before the first signs of memory loss.

The brain has 100 billion nerve cells (neurons). Each nerve cell connects to many others to form communication networks. In addition to nerve cells, the brain includes cells specialized to support and nourish other cells. Groups of nerve cells have special jobs. Some are involved in thinking, learning and memory. Others help us see, hear, smell and tell our muscles when to move. Brain cells operate like tiny factories. They receive supplies, generate energy, construct equipment and get rid of waste. Cells also process and store information and communicate with other cells. Keeping everything running requires coordination as well as large amounts of fuel and oxygen. Scientists believe Alzheimer's disease prevents parts of a cell's factory from running well. They are not sure

where the trouble starts. But just like a real factory, backups and breakdowns in one system cause problems in other areas.

As damage spreads, cells lose their ability to do their jobs and, eventually, die. The role of plaques and tangles The brains of individuals with Alzheimer's have an abundance of plaques and tangles. Plaques are deposits of a protein fragment called beta-amyloid that build up in the spaces between nerve cells. Tangles are twisted fibers of another protein called tau that build up inside cells. Though autopsy studies show that most people develop some plaques and tangles as they age, those with Alzheimer's tend to develop far more and in a predictable pattern, beginning in the areas important for memory before spreading to other regions. Scientists do not know exactly what role plaques and tangles play in Alzheimer's disease. Most experts believe that they disable or block communication among nerve cells and disrupt processes the cells need to survive. The destruction and death of nerve cells causes memory failure, personality changes, problems in carrying out daily activities and other symptoms of Alzheimer's disease.

Causes and risk factors

While scientists know that Alzheimer's disease involves the failure of nerve cells, it's still unknown why this happens. However, they have identified certain risk factors that increase the likelihood of developing Alzheimer's.

Age. The greatest known risk factor for Alzheimer's is increasing age. Most individuals with the disease are 65 and older. One in nine people in this age group and nearly one-third of people age 85 and older have Alzheimer's.

Family history. Another risk factor is family history. Research has shown that those who have a parent, brother or sister with Alzheimer's are more likely to develop the disease than individuals who do not.

The risk increases if more than one family member has the illness. Familial Alzheimer's and genetics Two categories of genes influence whether a person develops a disease: risk genes and deterministic genes. Risk genes increase the likelihood of developing a disease but do not guarantee it will happen. Deterministic genes directly cause a disease, guaranteeing that anyone who inherits one will develop a disorder. Researchers have found several genes that increase the risk of Alzheimer's. APOE-e4 is the first risk gene identified and remains the one with strongest impact. Other common forms of the APOE gene are APOE-e2 and APOE-e3. Everyone inherits a copy of some form of APOE from each parent. Those who inherit one copy of APOE-e4 have an increased risk of developing Alzheimer's; those who inherit two copies have an even higher risk, but not a certainty. Rare deterministic genes cause Alzheimer's in a few hundred extended families worldwide. These genes are estimated to account for less than 1 percent of cases. Individuals with these genes usually develop symptoms in their 40s or 50s.

Other risk factors Age, family history and genetics are all risk factors we can't change. However, research is beginning to reveal clues about other risk factors that we may be able to influence. There appears to be a strong link between serious head injury and future risk of Alzheimer's. It's important to protect your head by buckling your seat belt, wearing a helmet when participating in sports and proofing your home to avoid falls. One promising line of research suggests that strategies for overall healthy aging may help keep the brain healthy and may even reduce the risk of developing Alzheimer's. These measures include eating a healthy diet, staying socially active, avoiding tobacco and excess alcohol, and exercising both the body and mind.

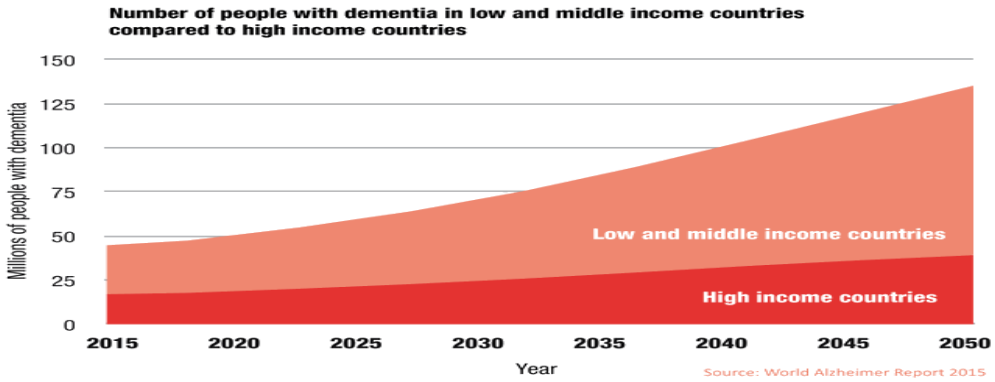

Fig. 1. The impact of disease

A systematic evaluation including 46 epidemiological studies concluded that an elevation of inflammatory biomarkers was associated with North American-style diets characterized by a high consumption of animal products, particularly red meat. In contrast, the same review indicates that diets based on plant foods are more associated with a decrease in these biomarkers. In this regard, a consensus seems to be emerging on the prevention of diets high in fruits and vegetables, olive oil and nuts, so rich in antioxidant compounds, on the MA. In parallel, a study shows that in more than 100 plant foods, a very high anti-inflammatory activitie was measured. These results corroborate other results indicating the beneficial effect of certain diets.

Interestingly the prevalence of AD in Indian people 70 to 79 years old is 4.4 fold less than in a similar population of the United States. The Indian diet is rich in spices such as chili, curry or curcumin.

Curcumin in particular is a potent free radical scavenger, better than vitamin E, which can provide effective protection against lipid peroxidation. Curcumin is also effective against the amyloid plaques in animal models. Thus, it appears be reasonable to speculate that curcumin could possibly prevent the onset of AD associated with oxidative stress.

South-American Indians knew the Stevia plant as “medicine for women” and use it in menopause an also to calm pain during menstruation. Probably its magnesium combats the cramps and its seven flavonoids (with estrogen-like effects) can ameliorate menopause symptoms . Stevia has an additional property useful in alimentation, since it does not alter glucose blood levels but simultaneously satisfies appetite for something sweet. In animal experiments, stevia prevents atherosclerosis because increases superoxide dismutase enzyme activists, thus removing oxidized LDL cholesterol and other harmful lipids from blood vessels wall . The preventive effects of steviosides on the development of AD and its relationship with soy-based diet surely deserve further studies.

When Dr. Alois Alzheimer first described the disease in 1906, a person in the United States lived an average of about 50 years. Few people reached the age of greatest risk. As a result, the disease was considered rare and attracted little scientific interest. That attitude changed as the average life span increased and scientists began to realize how often Alzheimer’s strikes people in their 70s and 80s. The Centers for Disease Control and Prevention recently estimated the average life expectancy to be 78.8 years. Today, Alzheimer’s is at the forefront of biomedical research, with 90 percent of what we know discovered in the last 20 years. Some of the most remarkable progress has shed light on how Alzheimer’s affects the brain. Better understanding of the disease’s impact may lead to better treatments.

New directions in treatment and prevention

One promising target is beta-amyloid. This protein fragment builds up into the plaques considered to be one hallmark of Alzheimer’s disease. Researchers have developed several ways to clear beta-amyloid from the brain or prevent it from clumping together into plaques. Experimental drugs that zero in on beta-amyloid are now being tested. Many other new approaches to treatment are also under investigation worldwide. We don’t yet know which of these strategies may work, but

scientists say that with the necessary funding, the outlook is good for developing treatments that slow or stop Alzheimer's.

Alzheimer's disease, emerging research suggests that the steps people take to maintain heart health may also reduce the risk of cognitive decline. This connection makes sense, because the brain is nourished by one of the body's richest networks of blood vessels, and the heart is responsible for pumping blood through these blood vessels to the brain. It's especially important for people to do everything they can to keep weight, blood pressure, cholesterol and blood sugar within recommended ranges to reduce the risk of heart disease, stroke and diabetes. Eating a diet low in saturated fats and rich in fruits and vegetables, exercising regularly, and staying mentally and socially active may all help protect the brain.

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VARIA SECTION

THE BENEFITS OF SPORTS FOR STRONG HEALTH AND MIND

Importanţa sportului pentru sănătate şi un psihic puternic

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Abstract
Sports are activities that have a special role for people's physical and mental health, a fact that has been acknowledged since antiquity through the dictum «Menssana in corpore sano».

Recent studies have shown that a physical activity for at least 30 min a day has a positive effect on the physical state (strengthens the bones, muscles, heart and the whole cardio-respiratory system) but also on the mental health, greatly reducing stress, depression and anxiety levels.

Hereby, anyone can do physical activities without having to go to gym or to have a perfect physical condition. Everybody can start with some low-intensity physical activity (walking, table tennis) and once the body gets accustomed to the physical training, it will be possible to switch to higher intensity activities (jogging, dancing, outdoor sports such as tennis, football, volleyball). We are sure that once the participantsrealize the positive effects of sports, depending on the age, many persons will start an intensive sportive life activities including aerobics, gymnastics, swimming, bodybuilding, and for the younger ones even sports practiced at high performance levels.

Keywords: sports, health, strong psyche, diseases, aging

Introduction

Sport is defined as a physical activity that involves a methodical training, observance of certain rules and a particular discipline, based on the competitive element, pursuing the physical and mental development of the individual and obtaining performance in competitions at different levels and age categories.

Sports are activities that have a special role for people's physical and mental health, a fact that has been acknowledged since antiquity through the dictum «Menssana in corpore sano».

Health is a very complex biopsychosocial problem, which is not the exclusive work of the medical system, thus, according to some international statistics, has only 11-12% involvement rate into its preservation, the rest being the economic and social situation of the population, water, food, living conditions, education, lifestyle etc.

Medicine has two components that affect the state of health:

1) therapy ("the art of healing diseases") and

2) prophylaxis- the set of measures designed to avoid the occurrence, worsening and spread of a disease.

The prophylaxis rolehas been demonstrated by recent studies done in USA, Canada, Sweden, Switzerland,and has proven the axiom "it's easier and cheaper to prevent", and sport is one of the essential components of prophylaxis, which involves minimal costs and will not be conditioned by the country's technical infrastructure or technical development.

We often ponder on why we go through at an early age on the diseases our grandparents barely knew by the time they grew old.

The answer is as simple as possible: it is due to the lack of movement which, along with pollution and stress, it prematurely damages our body.

Consequently, since the end of the last century, Western states have launched the "**Heart Health**" program aimed at reducing the risk factors for heart diseases (stress, sedentary lifestyle, burnout, overeating, smoking, pollution etc.), and in time it has been noticed that the number and percentage of cardiovascular patients decreased from approx. 12% down to 10%, which generated budget savings of tens of billions of dollars.

Psycho-pedagogical specialists highlight the biologic, motor, psychological and social aspects of sports, and recommend that it should be practiced for at least one hour daily for children and teenagers, whilst adults should do 30 minutes of daily or weekly sports for at least 2 days, reaching 2-2.5 hours a week.

So with at least 10 minutes of intensive sports a day, people will be healthier and will have more power, increased efficiency and overall a better disposition.

Unfortunately, while influenced by the modern technology that created a virtual world and chained to the computer and television, the modern man strayed from nature or sports arenas. Doing a simple math, we can notice that we spend about 10 to 12 hours a day sitting or laying around, 8 hours in the office and a few hours at home, on TV or in front of our computers. This sedentary lifestyle increases the chances of obesity, cardiovascular disease, grade II diabetes, osteoporosis or even cancer, but also other conditions that lead to work strength and drive loss, and even premature death.

Also, cephalalgia (headaches), migraines, nausea or vertigo occur due to the body's oxygen deficiency. The solution is simple and the above can be improved by staying in the open air and doing sports to help breathe in and out, such as: jogging, cycling, outdoor sports (tennis, football, volleyball), hiking or trekking.

According to the statistics, about 70% of adults aren't doing enough exercise and 20% will not do sports at all. Many bring up the excuses of being healthy and having no weight problems, but sport is vital for them as well to maintain their health and physical shape.

Nowadays many young people prefer to stay indoors, in front of the computer and the TV for over 10 hours a day, "practicing" more computer sports games at the expense of outdoor activities and avoiding physical education hours by "unorthodox" medical relief certificates or even being "exempted" by overprotective parents.

As a result, the World Health Organization (WHO) launched on April 7th, 1988, on World Health Day, the call for people to focus on "physical exercise, scientific nutrition and individual responsibility", because through a healthy diet, cumulated with practicing physical exercise people can maintain their health and work capacity, preventing premature aging of the body. It has been found that sports and nutrition play a significant role in the vitality of the brain and its mental form.

This first program continued with the "**Active Life**" program (**1998**), aiming the boost of the systematic practice of physical activities, with priority for children and young people. Research has shown that long-term physical exercise improves physical and mental health, contributing positively to the process of learning and developing personality, reducing the risk of physical and mental illness associated with modern unhealthy lifestyle.

The results were immediate and spectacular: lack of physical activity leads to overweight, favors the development of obesity and chronic conditions such as cardiovascular disease and diabetes, which affect the quality of life, endanger people's lives and create problems for the economy due to health industry over-budgeting (White Paper on Sport, European Communities Comission, 2007).

The conclusions were that it is recommended to practice at least 30 minutes of physical activity per day by adults and 60 minutes by children.

So regular physical activity can change our lives for the better and show the following **advantages:**

First of all, it has benefits on the physical state, closely related to the overall health of the body, avoiding many possible health problems.

–favors the growth and physical development process, correcting certain physical deficiencies (e.g. spine problems - scifosis, scoliosis);

- helps us have a more beautiful and healthier body by eliminating extra pounds, contributing to body weight self-regulation;

- regulates the human body metabolism: the fats system (with a beneficial role against atherosclerosis) and the system of carbohydrates - the intake of carbohydrates in the blood (with a beneficial role against obesity);

- eliminates through sweating a wide range of toxins, impurities, fats, hormones ;

- strengthens spine flexibility, joint mobility, balance and coordination of movements;

- strengthens bones and muscles by increasing the functional capacity of the human musculoskeletal system, physical strength and overall effort capacity; recovery time after exercise will decrease as well;

- increases the functional respiratory system capacity - the lung will take in and out a greater amount of air per minute;

- strengthens the heart and the entire cardio-respiratory system - allows vessels to dilate and thus the amount of blood flowing through the body increases, producing the oxygen necessary for the processes taking place in the cells and tissues, strengthening the muscles; reduces the risk of developing coronary artery disease and cardiovascular disease;

- helps digestive processes, improving intestinal transit and removing constipation;

- boosts immunity – the ability of immune system to respond to infections (microbial aggression);

- is a good revival for sexual activity.

Sports also **strengthen immunity**, outdoor activity being the best drug for immunity. Thus, depending on the season, it is recommended skiing and skating in winter, swimming and tennis in the summer, trekking and jogging in spring and autumn.

It also has beneficial effects on the **nervous system**, developing the will and the character:

- through sport, the quality and duration of sleep are greatly improved;

- strengthens the psyche (the mind), the focus strength and memory, giving us energy, optimism and good mood, self-confidence and additional motivation to achieve goals, reduces depression and anxiety, and prepares the brain for an easier maturing;

- develops ambition, courage, distributive attention, determination, firmness, perseverance, calmness, modesty, honesty;

- increases self-confidence and self-satisfaction, and can often help discover and strengthen leadership assets;

Studies have shown that more than 90% of people experiencing mental and emotional problems such as stress, depression, come from the urban environment and have a sedentary lifestyle, and for them exercise would be a huge help, building up an extraordinarily effective "valve" for discharging internal stress.

40-50 minutes of sports (push-ups, squats, crunches, stretching) practiced at home or in a fitness room, as well as outdoor activities with friends (teaming up for tennis, volleyball, basketball) are more effective, cheaper and with longer effects than a handful of painkillers or sleeping pills.

Sports also help treat harmful vices, such as alcoholism, tobacco addiction, coffee or even drug addiction, because during physical exercise and especially after, certain substances are released that induce a state of relaxation, gratefulness, even a light euphoria, these being the incentives that those who seek alcohol or drugs are looking for and who need those in return during detoxification treatments. The most effective are team sports (basketball, handball, volleyball, football), tennis, skiing, canoeing etc.

Through the sport, dynamic brain activities are carried out, which will in time require for the same activities to use less resources, providing a quicker and more effective learning.

Exercise is also an effective means of relaxation (physical and mental). At the same time, it favors the interaction between people - socializing and consolidating human relationships, especially by practicing team sports - tennis, football, volleyball.

A side effect of practicing sports is also **the development of the aesthetic sense.**

Hence, sports represent an important and beneficial action for the health and well functioning of the whole body.

The American Academy of Neurology also emphasizes the role of sports in our lives, which is an important and necessary element for health and for the mind to function in normal and efficient parameters even as we grow old.

Physical activity is an essential component of the human being, being deeply inscribed in our genetic code, and studies have shown that sports should be practiced regardless of age, yet **the age category** we are part of influences the **no. of minimum hours** to be allocated as well as the **type and intensity of physical exercise**, beneficial to physical and mental development as well as to maintain health.

Sports and age groups

In connection with the practice of sport, the specialists identified 5 age categories:

1) **Childhood (3-12 years):** is a time when lack of physical exercise, as well as their wrong choice, can have disastrous consequences on the physical development of children. The general rule is:

as much outdoor exercise and as many variations of exercise as possible. That's why parents need to give up the bias, unfortunately still rooted, that sports divert children from school tasks. On the contrary, through sports, they will be able to consume in a useful, healthy and constructive way the energy surplus that all children have, will break off the time for the TV, computer and phone, and develop their focus and memory capacity.

From the early years of childhood, even from 3-4 years old, children can be taught to swim and go skiing. In the absence of practicing sports in an organized way, it is absolutely necessary that they will be taken out for walks and put on foot, not held in the arms. At 10-12 years, it is the age at which team sports (volleyball, handball, basketball, football) must be encouraged, as well as those that equally develop all muscle segments (gymnastics, athletics).

It is recommended to avoid those sports that increase prematurely and force the muscle mass, thus stopping the growth, or those that develop more certain body segments to the disservice of others: cycling, boxing, dumbbells, but it should be stressed that we refer to the situation when these sports are intensively made for performance, not when these sports are practiced normally and for relaxation, which is absolutely beneficial.

2) Puberty (12-18 years old): During this time an extremely important process, namely sexual maturity, takes place and sports become a real necessity, because sedentarism can generate either a delayed development or an exaggerated development - obesity. Doctors warn that 70% of young people who are suffering from sterility were at the age of predominantly sedentary puberty and faced obesity.

At this age there are especially recommended sports that develop all muscle segments, with emphasis on abdominal muscles and legs, such as swimming, skiing, athletics, gymnastics, but also light and moderate exercises of strength.

3) Teenage(18-24 years old) : is the period of body strengthening, when constructive processes continue (especially for men), although they are no longer so visible, and the body is completely defined. Exercise now has the role of shaping the body, especially since teens are confronted with their first love, and the way they look physically is important for their success or failure so that young people pay close attention to their appearance.

In order to improve their appearance, it is a good idea for them to go to fitness halls and practice other forms of physical exercise, advisable though under the guidance of a coach. As a sport, aerobics and stretching for girls, judo, boxing, martial arts and bodybuilding for boys are recommended, team sports being a good choice for both females and males, especially for the benefit of socializing.

4) Maturity (24-50 years old): During this period, sports are playing an extremely important role. Constant physical activity maintains the elasticity and agility of the body, unaltered mental capacities, educates the will and, last but not least, stress is kept under control and relieved properly. Studies show that today over 62% out of managers, scientists, computer scientists who have reached high odds of professional success regularly practice various sports. As practiced exercises, the palette wide, each choosing the exercise that suits it the most or that feels the most beneficial. Thus, we can do outdoor activities, swimming, skiing, martial arts, golf, mountain hiking or trekking, team sports (tennis). Specialists advise to try out more disciplines and practice the sports that you like the most, so you will avoid boredom and will not feel like having a chore or an obligation so you practice not only as a necessity but also by pleasure, having the feeling that you relax and do something for yourself.

5) Seniority (over 50 years old): we define it generically, because normally a well-trained and well-fed body is still young at this age. At 50, it is rather a moment of balance:

- if we have kept up to this moment in shape and moved constantly, then the threshold of third age will not bring major changes, being practically not noticeable;
- however, it is time to put our work under the guidance of a specialist (coach), applying the dictum "Better later than never". As sports, you can still practice outdoor running, swimming, skiing, various martial arts, golf, mountain hiking, team sports (tennis).

As we grow old, it is extremely important to stay active if we want to continue to enjoy small activities that once seemed piece of cake, but also to avoid depression, loneliness, senility or even forms of dementia. Sports help slow the physical and mental aging process, increasing tissues oxygenation and strengthening the immune system.

From theory to practice

Although we all know the benefits and importance of exercising in our daily lives, still it is very difficult to take that first step to get out of the comfort zone and begin practicing, meaning to move from sedentary to an active life, although sports can be done by every individual even in their homes.

Only will and motivation are needed.

To make it easier, faster and more pleasurable,specialists advise the following to make this passage:

1) try different types of movement/sports and choose the one that fits you and that you like the most;

2) for starters, take at least a few lessons with an instructor / coach, who will guide you to choose the most appropriate exercises for yourself and your chosen goal;

3) be patient because the results will show only after one to three months at least after starting to do sports regularly;

4) commit in one way or another to be resilient, to continue and not to give up. For example, take a subscription to the pool or the gym, solemnly engage in front of your friends or find a friend to go with, promise your partner that you will be constantly going to the gym or convince them to go together, this being part of your time spent with them.

Unfortunately, many of us, even those who acknowledge the importance of sports in life, claim they do not have time for sports, but we should try to combine various intensity activities to get at least the 30-minute movement that is so necessary every day.

Next, we will **classify and exemplify** physical activities according to their degree of intensity:

Very low intensity: housework (cleaning, vacuuming, cooking, handwashing) and playing various instruments;

Low intensity: walks, table tennisetc. Even simple walking instead of using the personal car or public transport has positive effects on those who for various reasons (health problems) can not practice dynamic sports.

High intensity: brisk walking (6km/h), outdoor activities (volleyball, basketball, tennis), cycling, dance, rope jump.

Very high intensity: gym training, aerobics, gymnastics, athletics, swimming, performance sports or bodybuilding.

During the last years, the scientific foundation of the exercise of physical exercise has emerged and developed through the aptitude of the Theory and Methodology of Physical Education and Sport, which specifies the functions and objectives of physical education and sports.

Thus, physical education functions are divided into 2 groups:

1) specific functions - which aims at physical development and motor capacity;

2) related functions – which take into account the effects of practicing physical exercise on the human body. This category includes: hygiene, relaxation, education and emulation.

As far as the objectives of physical education and sports are concerned, they derive from their specific and associated functions and are subordinated to them, classifying themselves into training and educational objectives.

Brief history on sports' importance as a social phenomenon and its characteristics in various stages of the evolution of mankind

From the primitive stages, the necessity of the struggle for food, security and survival has led to certain physical exercises such as swimming, running, jumping, dances and games practiced for mystical-religious or recreational purposes etc.

In ancient times, the personalities of Greece developed the idea of harmonious physical development of human health and for this purpose organized exercises in systems according to their purpose:

- recreational or entertaining games and activities involving citizens of all social classes (save for the slaves), the most famous event being the Olympics. Participation required the need for special training; and the people who were in these competitions were no longer considered ordinary people but competitors /sportsmen, having a particular activity than the working class or the warriors. At the

same time, as a result of the competitions development, prizes and fame, winning athletes start to be seen as heroes and models, by society.

- because of the wars' ubiquity, throughout the slave society, military physical education started developing to a great extent, especially in Sparta. Thus, war is a permanent phenomenon, and for some states (nations) even a way of life, physical training becomes a social necessity, which led to the reorganization of the existing physical exercises and the appearance of new contests, such as throwing the spear, archery, 121 fightsetc.

As a result of the development of the two types of physical activities mentioned above, there was also the need to specialize a group of people to lead the training of athletes, thus the first coaches /instructors. For example, in ancient Rome, besides preparing Romanian soldiers, there were gladiator schools where the instructors were preparing for the gladiators' physical training for fights with various weapons.

During the Middle Ages, physical education was the privilege of nobility and had to contribute, along hunting parties and knight tournaments (competitions), to the preparation for their wars, as they were part of medieval armies. Over time, education and physical training began with other classes and social groups, extending to clergy, townspeople and peasants, but it will not yet know permanence nor an organized form.

During the Renaissance, the idea emerged as physical education being needed to firstly serve the human being, and the humanists viewed physical education as necessary means in the complex of measures aimed at forming the complete man.

The ascending evolution of physical education and sports is marked by the appearance of content elements such as physical exercise, sports games and activities as well as by moving from one level of organization and systematization to a superior one.

The emergence and development of capitalism determined the restructuring of the educational process and implicitly of the physical education, the tendency being to generalize and broaden the younger generation, regardless of class membership.

In its institutionalized form, physical education will know full generalization under relatively equal conditions for all members of the young generation during socialism.

This social function has been preserved over all social, economic and historical stages, unlike the goals and objectives of physical education and sports that differ throughout history from one socio-economic formation to another and even from one state to another.

Conclusions

Physical education and sports differ from other social phenomena of life by aiming at the improvements for physical development and the humans' motor skills. It is an important education element, regulated by organizational forms and rules of conduct, meaning to optimize the individual's biological and psychological potential in order to improve their lives.

Sports develop both physical abilities and intellectual, social and moral qualities.

Sports importance in everyone's life can also be translated into statistical figures:

- sports reduce the risk of developing colon cancer by 60%;
- the risk of cardiovascular disease by 50% and
- increases life expectancy over the next 20 years by 30%.

Also, the sports activities are particularly important for society and government policies, as studies in different countries have shown that each dollar invested in physical education and sports corresponds to a $ 3.8 reduction in medical expenses (MINEPS, 1999).

Thus, whether in ancient times there was the saying "*menssana in corpore sano*", now it can be said that "Sports give days to life and life to days" so **we deserve our lives to change for the better.**

Today, with the help of physical education development, the activities are performed through systematization, guidance and routing based on particularities and benefits of exercise knowledge.

We hope that these many arguments will determine as many readers to give away at least 30 minutes a day from browsing the Internet and the TV shows in favor to the exercise that is so

necessary and beneficial that we intend to develop and deepen this idea and study through further articles).

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THE STRIVE FOR A CLEAN IMAGE OF TENNIS

Lupta pentru o imagine curată a tenisului

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Abstract
Why do people see tennis as a clean sport? The simple answer is that very few players ever test positive for banned substances.
The ITF spends $4m a year on anti-doping. Over $50m is awarded in prize money at the US Open alone, with each champion this year taking home $3.7m. Given how much financial value is placed on the appearance of cleanliness, you can see why the sport might think this economic model works.

Keywords: tennis, clean sport, banned substances, anti-doping

Introduction

The aim of this paper is to inform on what the efforts of ITF consist of when it comes to the fight against doping, on tennis stars that violated drug policies and on the economical stake of the clean reputation of the sport.

Men's and women's pro tennis carries a decades-long, pristine image in large part because it has never faced a damaging, ongoing and widespread performance-enhancing drug scandal. That cleanliness has paid dividends: Annual sponsorship revenue is north of $250 million; long-term broadcast rights fees will top $1 billion in the coming years; and star Novak Djokovic this year became the first player to bank more than $100 million in career prize money.

ATP chairman and president Chris Kermode said: „Tennis is in the best place it's ever been. Sponsors view it as a premier sports product, as sort of a high-end sports product.... People see it as a clean sport."

Itf's mission

The Tennis Anti-Doping Programme is a comprehensive and internationally-recognised programme that applies to all players who hold an ATP or WTA ranking, or who enter or compete in events organised, sanctioned or recognised by the ITF.

This includes Grand Slam tournaments, Davis Cup and Fed Cup ties, Olympic and Paralympic Tennis Events, ATP and WTA tournaments, ATP Challenger Tour tournaments, ITF Pro Circuit tournaments, ITF Junior events, ITF Seniors events, ITF Wheelchair events and ITF Beach Tennis Tour events.

The purposes of the Tennis Anti-Doping Programme are as follows:
-Maintain the integrity of tennis
-Protect the health and rights of all tennis players.

The Tennis Anti-Doping Programme maintains a common set of rules and procedures that apply across all levels of tennis. Players are tested for banned substances in accordance with the prevailing version of the World Anti-Doping Agency's Prohibited List. The Tennis Anti-Doping Programme is fully compliant with the World Anti-Doping Code.

There are five main categories of drugs that are prohibited from sports:

- Anabolic steroids - these help athletes build muscle, and to recover faster from training.
- Peptide hormones - these are substances that occur naturally in the body. They produce similar effects to anabolic steroids.
- Beta-2 Agonists - these relax the smooth muscle that surrounds the lungs permitting more air to enter the lungs.
- Stimulants - these raise the heart rate and may improve performance.

- Diuretics - these help the body to lose fluids and are often used to mask the presence of other drugs.

In addition to the five main performance enhancing drugs classes above, local anaesthetics, cortico-steroids used to treat medical conditions such as asthma, and beta-blockers used to treat heart conditions, are subject to restrictions on their use.

Anabolic steroids are the most common performance enhancing drug in sport.

Anabolic steroids are drugs related to the male sex hormone testosterone. The word 'Anabolic' refers to muscle building and 'steroids' refers to the class of drugs.

Anabolic steroids were developed in the late 1930s with the main aim of treating a medical condition in men where the testes do not produce sufficient testosterone for normal growth, development and sexual functioning -hypogonadism. Medical uses of steroids include the treatment of delayed puberty, some types of impotence, and wasting of the body caused by HIV infection or other diseases.

During the 1930s, scientists discovered that anabolic steroids could facilitate the growth of skeletal muscle in laboratory animals, which led to use of the compounds first by bodybuilders and weightlifters and then by other athletes.

More than 100 different anabolic steroids have been developed, but they require a prescription to be used legally in most countries.

High-profile doping cases

Sharapova is far from the first tennis player to become embroiled in a drug scandal after she tested positive for meldonium. Meldonium is a metabolic modulator that aids blood flow and is used to treat patients suffering from heart failure and cardiac issues. While it is used to treat cardiac and vascular diseases, it was found to have a positive influence on healthy athletes given it can increase endurance and aerobic capabilities, with Wada finding evidence that it had been abused for that purpose.

Despite taking meldonium for a decade, Sharapova will only be deemed to have been breaking Wada's regulations since it was banned at the start of the year, though she did compete with the substance in her body at the Australian Open in January.

Marin Cilic

The Croatian was given a nine-month ban in 2013 after the International Tennis Federation (ITF) said traces of banned stimulant nikethamide were found in a sample he gave at a tournament in Munich. Cilic claimed the failed test was a result of taking over-the-counter glucose tablets, but argued only a by-product of the banned substance had been found. He took his case to the Court of Arbitration for Sport (CAS) and the ban was reduced to four months. Cilic won his first grand slam title at the US Open the following year.

Viktor Troicki

Another recent and controversial case. Troicki refused to take a blood test at a tournament in Monte Carlo in 2013, claiming he was feeling unwell and had a phobia of needles. He was banned for 18 months, reduced to 12 on an appeal to CAS. Troicki vociferously maintained his innocence, claiming he had been told by the doping control officer he could take the test the following day. Novak Djokovic spoke out in impassioned defence of his friend, calling it an injustice and claiming he had lost faith in the system.

Richard Gasquet

Gasquet tested positive for cocaine in 2009 and was banned for 12 months by the ITF. He also took his case to CAS and successfully argued that he had ingested the substance inadvertently after kissing a woman in a nightclub. He was cleared of any wrongdoing.

Andre Agassi

Agassi made the shocking revelation in his post-retirement autobiography that he failed a test in 1997 after taking crystal meth and then lied to tennis authorities to escape punishment. He told the ATP in a letter he had taken the drug accidentally. The governing body believed him and the failed test remained a secret for the rest of Agassi's playing career.

Greg Rusedski

The former British number one was among a number of players to test positive for the steroid nandrolone in 2003. He was cleared of wrongdoing after a tribunal ruled he, along with the other players, had taken the drug inadvertently in contaminated pills handed out by ATP trainers.

Martina Hingis

Having initially retired in 2003 at the age of 22, Hingis returned to tennis two years later only for her comeback to be abruptly ended in 2007 by a positive test for a metabolite of cocaine at Wimbledon. She was suspended from tennis for two years but made another comeback in 2013 and is now ranked number one in the world in doubles.

Wayne Odesnik

Probably tennis' most notorious doping offender. In March 2010, the American pleaded guilty to importing human growth hormone into Australia and was suspended for two years. The ban was later reduced to one year after the ITF said he had fully cooperated with its investigations. Odesnik became something of a pariah and was banned for 15 years in March last year after a second offence, this time testing positive for a number of banned substances, including steroids.

While these few examples reveal that the game is far from being entirely clean, tennis remains highly regarded as the field of endless work, dedication, sharpness of the mind and technique and strive for perfection.

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BUSINESS ENGLISH AS WORLD'S NO.1 COMMUNICATION TOOL

Limba Engleză in afaceri ca principal instrument de comunicare la nivel mondial

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Abstract

This article aims to theoretically discuss major issues in English language teaching – ELT for business and management. Business English is today's Lingua Franca in the corporate world. It is the language for communication in IT communicative technologies, world spread trade and business activities, diplomacy and other spheres of life and work where people interact in order to achieve the appointed goal. Global world associated with corporal English language marks our presence and near future in the 21st century. Therefore the teaching of English takes a new turn toward EBP (English for Business Purposes) and English teachers should reorient in the direction of the business language. For the mentioned purpose linguistic skills that will help to master language proficiency will be developed.

Global business world requires adequate training in foreign language competence. Teacher training is essential in managing language course development. Communication is taken as an essential language skill in both oral and written representations. This paper will take into consideration the underlined issues.

First, contemporary demands for learning English to do business worldwide within the scope of professionally directed matters in order to communicate in business contexts, to improve employability prospects, and job opportunities worldwide is our main concern in the article.

Second, genre theory is seen as the basis for the genre approach in directing learners to develop spoken and written communicative skills focusing on socially-oriented view of writing as to get and give information in the language for the special use of English terminology.

The third major question concerns the issue of developed communicative minds in intercultural relations, the issue that must be highlighted as one of the 21.st century's most important element in the foreign-language-teaching terminology.

Insufficient knowledge of the cultural context and environment in which the business is taking place, as well as the principles on which business corporations are based can lead to business misunderstandings, breakdowns in communication, and, as a result, business transactions may slow down, even the complete cessation of interconnected business relationships may stop.

The above mentioned three principles will form the basis of this paper in order to discuss the need for teaching business English.

Keywords: ELT, EBP, genre theory, intercultural relations, socially-oriented writing skills, communication

Introduction

Regardless of the fact that the teaching of a foreign language, English in the first place, favored as an important element of the education strategy in Serbia, the teaching of the business language remains as an aspect of teaching a foreign language to which small and inadequate attention is given. We mean the preparation of teachers and the strategy of instructing foreign language teachers for active business language teaching has not been raised to the level of the institution.

The business world is networked in a way that enables it to expand further, encompassing an increasing number of countries and nations of diverse civilization origin, in order to make profits in business transactions. The goal is to create business plans, evolve business development strategies for a company growth and extension, select qualified personnel for the execution of business transactions, increase the technological development of companies, and connect to the global network of business companies which requires a well-developed communication through world-wide-web among partners.

Now, an important question arises: in what language will they (corporations and business companies) communicate internationally with co-partners in the other side of the world? The answer leads to the knowledge of a foreign language "in charge" for the success of communication without limitations. English is the lingua franca language of the business world for communication purposes in both directions: oral and written. Unless the knowledge of the language is proficient, the path in communication success is open to doing business. When we talk about communication boundaries, we mean language, cultural and social barriers. Successful business achievements require a business and language expert who is familiar with the cultural differences between the nations with which he operates and acts respectfully toward the status differences and limitations that can occur in the field during communication. Since communication is mostly carried out and business prospects negotiated

in person, by telephone, via Viber, Skype, executed through social networks such as Facebook or via emails, a businessman should develop linguistic skills and competencies that would allow him to maintain business partnerships at the same level with different non-native language speakers. Therefore, it is about achieving language competence and proficiency in the official language of the business world, which today is the English language.

The role of EBP in the beginning of the 21st century

The beginning of the 21st century is the period in human history when English is estimated to be spoken by 1.75 billion people worldwide. Native English speakers like the US, Australia, and the UK are around 390 million and there are about a billion fluent speakers in India and Nigeria, millions of people that study English as a second language and some 565 million people who use the language on the internet (Harvard Review, 2012). Looking at English in the context of the world community, we can say that this language is in the possession of all people in the world no matter from which cultural area they come from. In the world, it is estimated that about 80% of the population of different original cultures is in possession of English.

Our world of today has adopted English as a global business language and as a corporate language in worldwide business companies.

Tsedal Neeley, an associate professor in the Organizational Behavior unit at the Harvard Business School and the founder of the consulting firm Global Matters who is the author of The Language of Global Sciences, has implemented a new term "Englishnization", because companies should, as she has stated, for the purpose of success "systematically implement the language policy" into the business plan. "Adopters will find significant advantages" (Neeley, Harvard Business Review, 2012).

According to Neeley, three major reasons are sufficient for adopting English as an official corporal language. First to mention is competitive pressure. If your goal is aiming to the leading position in taking deals with diverse customers, business partners and other factors important for managing the business successfully, English is your tool No.1 in communication. The second issue to mention refers to the globalization of tasks and resources. Our global world depends on globally dispersed employees, co-workers and potential resources imported from all around the world. "Without common ground, communication will suffer. Better language comprehension gives employees more firsthand information, which is vital to good decision making" (Neeley, 2012). In the third place, Neeley underlines M&A integration across national boundaries. This aspect is about integration of firms or companies, that are acquired or merged into one another on the world's market, and, as a result, they are expected to have English as an operating language within its members.

For the sake of business prosperity and a chance of making larger amounts of products to sell worldwide, companies are constantly bought and sold emerging into strong and big corporations. When "Zastava" in Serbian Kragujevac merged with Italian "Fiat" and Italian employees came to develop business projects in Serbia together with Serbian co-workers, the language in communication was English. If English was not the operating language, misunderstandings, slow communication, and unprepared personnel for the multi-cultural environment would become major drops in mutual understanding of the matter among employees. This can cause the business slow down. English as an operating language could be the language to avoid "playing favorites" over Italian and Serbian.

Occupational English and its use of genre theory for applied ends.

During the past 30 years, occupational English or English for Specific Purposes has turned into a vigorous movement within the field of English language teaching in schools and universities. "The very term English for Specific Purposes implies that it is English which is somehow peculiar to the range of principles and procedures which define that particular profession; and so we have English which is specific, associated with a kind of institutional activity which is also conceived of as specific" (Widdowson, 1998). Johns & Dudley-Evans (1991) discussed the scope of internationalism of English as the language for various occupational purposes, in the field of science, technology, and trade.

People in communication expect to understand and be understood during the process when they select words and put them in particular order with the aim to transfer the particular meaning. In

the world of business, communication is recognized as the No.1 skill which is required among people involved in managing business projects, making professional interest in business orientation, participating in meetings and leading discussions to obtain business goals and negotiate business in general. The modern trend in managing the business is revealed virtually. This occurs because employees and co-workers are located in different parts of the world but they still manage a business in a distance and send written emails, letters or messages or involve in business deals and discussions by long-distance calls.

Many business tasks depend on correspondence and the mechanisms of intercommunication have the purpose to convey information and ease business negotiations, deals, and transactions. For that purpose letters and e-mails are used. The skill of inter-correspondence is developed through the so-called "professional texts" (Widdowson, 2004).

The "pedagogic" or "professional" text is designed "to meet communicative purposes within particular discourse communities and with the purpose of preparing students to communicate as members of these discourse communities"(Widdowson, 2004).

Swales is considered to be a father of genre theory in teaching business English for particular occupational needs. "Swales (1990) interprets genre as a class of communicative events which share a set of communicative purposes, well recognized by expert members of the discourse community that produce and use them"(Revilla, 2008). The genre is understood as variable patterns of contents, style, rhetorical organization, and expected audience to share intended messages within the area of occupation. Communication within the genre has its purpose in the interested community. Both types of communication, written and oral are developed if all sides in communication "have adopted a rhetorical approach that examines the negotiation of meaning of the subject matter" (Faigley & Hansen, 1985).

All communication activities should be a matter of education organization in the teaching of business English or ESP in schools, universities or through classes in companies or corporate business centers. Employees and co-workers do business through long-distance telephone conversations. The Internet is a tool that helps interested parties become close and perform high standards in business advances and professional approach to business tasks. Halliday in 1985 suggested that "language is designed to fulfill three main functions: a function for relating experience, a function for creating interpersonal relationships, and a function for organizing information".

M & A Integration of English across National Borders

Managing and acquisition of business English across national boundaries are firmly linked to socio-cultural characteristics of nations. When we come to discuss the position and role of business English worldwide, we stumble over the meaning of intercultural variables in English learning. Cultural understanding is an integral part when it comes to learning and instructing people in business English trends. Since English has become a primary communications medium in business and education, not to mention science and diplomacy, all parties in communication should share the same knowledge of the language together with its adjoining cultural contexts.

In the words of three authors, Crum, Cran, MacNeil (1986), English is the language that survives in various environments, in such socio-cultural communities that have nothing in common with native English speakers cultural contents.

The socio-cultural context of the "pedagogic" text in the ESP, EBP and EST curriculum comes as a result of the process of thinking and assessing life circumstances. The English, which is taught as a foreign language (EFL, ESP, EBP) and the language of the lingua franca (ELF), contains elements of culture integrated into the teaching process by focusing on the student's attention to international topics. English speakers retain and take responsibility "to think and speak critically about world problems, to evaluate and accept different views" (Dyer and Bushell 1996). Robinson (1985) advocates a multicultural approach in teaching English as a foreign language, which would contribute to cultural sensitivity and build pupils' cultural awareness of people of other cultures and different mother tongues. "The whole idea of founding the lingua franca language continues to be permeated with the fear of economic and cultural domination and the loss of language and national identity" (Decke-Cornill 2002).

The research we undertook on a statically small sample, with 12 English teachers in Serbian high schools, was supposed to provide us with information on the cultural model of teaching. The teachers were questioned in writing through the questionnaire, and orally through an interview with the goal to initiate and develop an expert discussion about the place and role of culture in teaching English as a foreign language in Serbian schools. In the first place, our interest is focused on the attitudes of teachers in relation to the culture of peoples whose language is taught as foreign in the school. We wanted to find out their attitudes regarding the meaning of the target culture and its place within the actual classroom teaching.

In the second place, we tried to find out the teachers' attitudes towards the non-native model of foreign language speakers. In Serbian schools non-native model of teaching English prevails.

The third hypothesis we were willing to check was the one related to pedagogical implications of the matter and the possibilities of extending linguistic knowledge to the knowledge of target culture. Our task was to obtain information on teachers' behavior on the issue of culture in the Western world and the spread of linguistic and cultural imperialism of the English language across the world. We tried to explore individual and collective views of teachers in relation to the learning of a foreign language accompanied by its cultural elements. Through verbal confrontation, teachers were given the opportunity to argue for and against the idea of teaching English through culture. In the course of the debate, teachers were given the opportunity to present and suppress their attitudes and ultimately reach the final solutions to the given problem.

The analysis we performed was thematic and qualitative.

The conclusion is that, regardless of whether it is an English-language teaching for science and technology (EST) or daily communication, the curriculum approaches in terms of cultural content are the same. We'd like to state that the knowledge of the cultural behavior of the people with whom we wish to achieve business success is crucial in situations where we do not want to be misinterpreted or our behavior is considered offensive, but we would prevent further contacts and the extension of business cooperation from any misunderstanding or false interpretations.

"Global education aims to promote the awareness of students towards world nations, countries, cultures and problems" (Cates 2000). Where English is in practice the elements of the culture are also present. The empathy and understanding of cultural variables is the ultimate goal of education for global purposes (EGP).

Conclusion

Some methodological problems of teaching EBP

Another problem in the teaching of English as a foreign language for the needs of a given profession which the student believes will be his professional determination can be solved in two parts: the first part refers to the communicative role of the professional language. The communication role of ESP or EBP is performed through communication strategies that are basically accomplished through the development genre theory and by mastering language skills. By presenting a professional problem in a foreign language and by obtaining certain information as a guideline for the future solution of the problem, the student develops the ability to manipulate with various language skills as reading, writing, and understanding and through audible presentations of different opinions regarding the problem, he develops the ability to make his own judgments. The second part of the problem is solved through the so-called. the structural role of teaching English language proficiency (ESP). The student is in the position of the actors during the teaching process when he is entrusted with the role to acquire and develop the ability to clearly and accurately express his opinions and ideas in relation to the initial problem in the field of a certain profession.

The text is considered a database of information. To satisfy the learning motives, the text must be interesting and informative enough. The language of the profession, according to the theoretician of teaching Mackay, "is a restrictive repertoire of words and expressions selected from the language because such a restrictive repertoire covers every requirement within a well-defined context, task or vocation". According to Mackay, the knowledge of the restrictive 'language' by itself does not allow the speaker to effectively communicate in new situations, or in contexts outside the vocation environment (Mackey 2004). The text is the basis of professional information in the context of the

professional register. The professional language has a special lexicon, phraseology, and syntax compared to the general language (General English).

In the conclusion, we would like to emphasize our point of view and we consider that English language skills are crucial and represent one of the priority requirements in running a business and increasing development policy in business companies. English for business matters is a requirement in the first decades of the 21st century.

Global orientation in managing business world will lead to better living conditions, but it leaves an impact on the selection of goals in schools and universities.

In this conclusion, we can sum up that English for business purposes (EBP) is the end of the process of teaching and learning English in non-native speaking countries.

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A PERSPECTIVE REGARDING DOPING IN SPORT AND THE THERAPEUTIC USE EXEMPTIONS

O perspectivă privind dopajul în sport şi scutirile pentru uz terapeutic

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Abstract

Background. People may see the norms and rules as social constructs made to facilitate the cooperation between individuals. In this framework, the World Anti-Doping Agency has the role of ensuring a good function of the rules, including those which regulate the use of substances to enhance physical abilities. The difficulty consists in detaching the cases of doping from those which allow the administration of prohibited substances under the justification of therapeutic needs. Some athletes and coaches perceive the Therapeutic Use Exemptions as legal doping, a comparison which is the basis of the requirement to reduce the permissivity in using treatments during competitions for those who have certain medical problems.

Objectives. The purpose of this study is to show that the tightening of the rules for those athletes who have medical problems is not desirable. Moreover, the research emphasizes that a reconsideration of prohibited substances is necessary, encouraging a greater permissivity in using them.

Methods. Two methods are used to argue this claim: the first one, based on bibliographic research, will show that the interdiction of some substances has not a stable foundation, denouncing, at the same time, an arbitrary character; the second method will show that the equality principle and the respect for other competitors are not infringed by the athletes who are using prohibited substances for medical purposes.

Conclusion. The research will lead to the conclusion that the possession of therapeutic use exemptions is not morally problematic. Moreover, it will emphasize the reasons why the World Anti-Doping Agency should not punish the athletes who accidentally break the anti-doping rules.

Keywords: doping, therapeutic use exemption, rules

Introduction

In 2012, cyclist Lance Armstrong, the winner of seven consecutive titles in the Tour de France, became the main character in a controversial problem. The United States Anti-Doping Agency (USADA) accused him of systematic doping. In this context, Armstrong confirmed that he used blood transfusions and testosterone injections to improve his physical abilities. Two years later, producer Bryan Fogel decided to be the subject of an experiment designed to identify irregularities in the anti-doping test systems. Given that, Bryan met Grigory Rodchenkov, the then Director of the Anti-Doping Laboratory in Russia. Rodchenkov had the role of helping Bryan follow a doping program without being exposed during the tests on the harvested samples. In 2015, Rodchenkov revealed to the producer that he was investigated by the World Anti-Doping Agency (WADA) as a result of charges made on the German ARD broadcaster.

At the same time, the International Olympic Committee (IOC) launched an investigation, concluding that charges made were well founded and that at the Sochi Winter Games in 2014, most of the Russian athletes followed a state-sponsored doping program. Rodchenkov, fearing for his life, left Russia, moved in the United States and revealed the mechanisms behind the doping program for the New York Times. Thus, the original experiment of Fogel gained new dimensions and materialized in the documentary "Icarus" appeared in 2017 whose protagonist is Rodchenkov. The effects of the disclosures of the former Director of the Anti-Doping Laboratory in Russia are currently visible, with the Russian team being suspended by IOC from the current Winter Olympics in Pyeongchang.

During the investigation, WADA faced new problems, the *Fancy Bears* hacking group succeeding, in 2016, to enter an agency base and publish the medical files of several athletes. The files brought to the forefront the cases of athletes who consume substances considered illicit, justifying the need for their use through the existence of therapeutic use exemptions (TUEs), appeared as “an extensive program that enables an athlete to be treated by a physician with a prohibited substance and still compete” (Catlin, Fitch & Ljungqvist, 2008). Among the athletes concerned was the Danish swimmer, Blume Pernille, freshly gold medalist at the Rio Olympics, in the samples collected from

her detecting a forbidden substance (Terbutaline). The swimmer said she suffers from asthma, her medication requiring the inclusion of substances that contradict the forbidden list.

In this context, the contrast of the two cases generated the cataloging of therapeutic use exceptions as *legal doping* and the requesting towards WADA to reconsider these situations and to tighten up the rules. The evoked argument relied on the advantage given to the athletes concerned, to the detriment of other competitors, by the use of substances.

Objective

The purpose of this paper is to show that the tightening of rules for athletes who have medical problems is not desirable, believing that these cases are not morally problematic. At the same time, I will emphasize in the paper the reasons why rethinking and diminishing the list of prohibited substances are necessary. To support this, I will propose two ways to address the issue: the first model will highlight that the ban on certain substances is arbitrary, without a solid foundation; the second method will show that the equality principle and the respect for other competitors are not infringed by the athletes who are using prohibited substances for medical purposes.

The first argument

In 2000, gymnast Andreea Răducan obtained an individual gold medal in the all-around at the Sydney Olympics. However, her title was withdrawn by the International Olympic Committee, following doping controls which found that the harvested samples from gymnast contained a banned substance at the time- *pseudoephedrine*. The above substance was in the form of a pill administered to treat fever and other symptoms associated with flu. In 2003, the members of the WADA Executive Committee decided that pseudoephedrine does not contribute to the improvement of physical capacities and they withdrew the substance from the prohibited list. Nevertheless, IOC refused to reinstate the medal to Andreea Răducan, and her case became another reason why the exigence of the World Anti-Doping Agency was interrogated. At the same time, the case highlights a problem that WADA fails to manage: the ambiguity of doping definitions.

In "*The ethics of doping and anti-doping*", Verner Møller begins by denouncing the association of several cases with doping based on arbitrary criteria: "Doping is simply defined as infringement of WADA's doping regulations. In other words, doping is whatever WADA at any moment assesses it to be" (Møller, 2010, p.4). The request for tightening the rules would thus be manifested by integrating more substances in the prohibited list, whether justified or not. This requirement would be problematic in at least two points of view. On the one hand, competitors who have medical problems should either abandon practicing professional sport or continue to participate, interrupting treatments and taking great risks. On the other hand, athletes would be deprived of many means constantly used in contemporary society to improve physical or mental capacities, being constrained to follow unadapted rules for nowadays. It is a prevailing belief that doping, in a global sense, is immoral. At the same time, the use of substances that improve the student's memory or concentration, for example, seems unproblematic. The source of this dual approach may be the fear for the popularization of the substances that increase the human body's abilities, associated with the health risks. In this respect, Bennett Foddy and Julian Savulescu brought a counter-argument.

In the article entitled "*Ethics of performance enhancement in sport: Drugs and gene doping*" the two authors say not only that the rules should not be tightened, but that "we should remove anti-doping legislation to permit safe performance enhancement" (Savulescu & Foddy, 2006). Their claim is based precisely on the fact that athletes continue to use prohibited substances despite the existence of an official regulation restricting their administration. In the attempt not to be detected, some competitors resort to methods that represent a threat to their health. Furthermore, over time, there have been accusations that coaches are exhausting their athletes with the purpose to get them sick. Then, coaches obtained for their competitors a therapeutic use exemption for some prohibited substances that improve physical capabilities. Starting from the suggestion of the two authors, we can say that the existence of too harsh rules has generated absurd situations like the one previously mentioned.

At the same time, it is important to mention the criteria to which WADA relates in the process of analyzing and banning substances: "First, it must have the potential to increase sporting performance. Second, it must represent an actual or potential risk to the athlete's health, and third, its use must be contrary to the <<spirit of sport>>" (Savulescu & Foddy, 2006). As we previously noticed, the second criterion has a weak foundation. At this point, the metaphor of children who eat concealed sweets in order not to be caught by their parents can be an analogy of the relationship between WADA, forbidden substances, and athletes. The existence of the list of prohibited substances makes the athletes risk their health in an attempt to deceive the system. Moreover, note Foddy and Savulescu, the first criterion is not enough to ban an element because there are substances (such as coffee) that improve capabilities but whose use is not restricted. Therefore, the first two criteria are embedded in the third one, with WADA considering that the respect for the "*spirit of sport"* is imperative.

The second argument

In an attempt to clarify and define the "spirit of sport" notion, WADA has developed a list of concepts that would be involved in meeting this criterion. In their article, Foddy and Savulescu also evoked these concepts: "ethics, fair play and honesty, health, excellence in performance, character and education, fun and joy, teamwork, dedication and commitment, respect for rules and laws, respect for self and other participants, courage, community and solidarity" (Savulescu & Foddy, 2006). Their designation is important because many of the terms used are not in contradiction to doping. Therefore, the key terms will focus on the respect for other competitors, manifested by the suppression of the impulse to gain advantages to their detriment.

The case evoked at the beginning of the paper outlined the usefulness of terbutaline for athletes who are diagnosed by doctors with asthma. Thus, it is denounced that the use of this substance not only results in the normalization of respiratory capacity, but also gives a significant advantage over other competitors. Therefore, the main argument against the use of such substances is based on breach of the principle of equality by those who possess a therapeutic use exemption. In fact, however, this equality can be an idealistic, intangible criterion. It is desirable to reduce the discrepancies generated by inequalities, but their total elimination remains unrealistic. This desire to reduce disparities is one of the reasons why the detection of diseases generates permissiveness for those athletes. Factors that go beyond human control also generate significant discrepancies. Compared to them, the eventual benefits athletes gain from using their treatments may be negligible. In this sense, Sigmund Loland elaborated an ample analysis of the relationship between inequalities in "*Fair play in sport- A moral norm system*". Loland, examining the factors that lead to inequalities in sports competitions, believes that "if we are talking of inequalities that are not due to voluntary choices, for instance, certain outcomes of the natural genetic lottery that cannot be influenced by an individual, we cannot properly hold people responsible for them" (Sigmund, 2002). Genre, age, and physical constitution are the examples Loland offers to facilitate understanding of natural inequalities, and their remediation is trying to be done in sports through classification.

In the above-mentioned type of natural inequalities may be framed the medical affections. In this case, their diminishing is temporarily made by WADA through the therapeutic use exemptions. The eventually gained advantage for athletes under treatment would be analogous, in this situation, to the imprecision of the division and classification of athletes.

Conclusions

The purpose of this paper was to highlight the necessity of the therapeutic use exemptions. The study also encourages and emphasizes the reasons why the World Anti-Doping Agency should not punish the athletes who accidentally break the anti-doping rules. Furthermore, the diminishing of the list of prohibited substances may become an inexorable requirement in the context of general progress in the contemporary world.

For the time being, I consider that Foddy and Savulescu's requirement to eliminate the whole anti-doping legislation is too strong and can cause problems that will be out of control. However, I support a rethink of anti-doping rules so that they do not themselves become the source of injustice.

The main persons blamed in doping cases are athletes, circumventing the implications of a whole system that generates these situations. The pressure placed on athletes by coaches and sponsors, political involvement in the sport and the existence of substantial awards are factors that should be considered by sports community while doping cases. Moral accountability should perhaps be broadcast and attributed to those who facilitate the existence of these factors.

The recent case of the state-funded doping program highlights a problem hard to manage by the World Anti-Doping Agency. This situation reminds that sport has led either to an improvement in relations between states or has exposed dramatic conflicts (for example, the conflict between Palestine and Israel, manifested even at the 1972 Olympics).

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