position, forward and laterally (support force – force- resistance); one-leg squats (lower limb muscle resistance); balancing the feet forward for 30 seconds (repetition speed), two ground-related artistic exercises (specific resistance) .

Table no. 1. Comparative analysis of the motor training indicators (force, speed and resistance) on initial and final tests of the witness and experimental group

No	Recorded parameters		Initial test		t	P	Final test		t	P
			Witness group (n=7)	Experimental group (n=8)			Witness group (n=7)	Experimental group (n=8)		
1	Standing start high jumps (cm, force-speed)		18,00±0,37	18,06±0,38	0,11	>0,05	18,10±0,35	19,13±0,31	2,19	<0,05
2	Maintaining the leg forward	right	20,08±0,43	19,91±0,42	0,28	>0,05	20,60±0,40	21,80±0,38	2,18	<0,05
		left	21,52±0,46	21,46±0,45	0,09	>0,05	22,07±0,43	23,35±0,40	2,17	<0,05
3	Maintaining the leg laterally	right	20,08±0,42	20,13±0,43	0,08	>0,05	20,18±0,41	21,39±0,38	2,16	<0,05
		left	20,97±0,45	21,07±0,45	0,15	>0,05	21,06±0,44	22,34±0,40	2,17	<0,05
4	Pne-leg squats	right	30,62±0,65	30,73±0,66	0,12	>0,05	31,43±0,63	33,36±0,61	2,19	<0,05
		left	30,05±0,65	29,85±0,64	0,22	>0,05	30,86±0,63	32,74±0,59	2,18	<0,05
5	Balancing the feet (no. of repetitions in 30'')	right	29,75±0,64	29,67±0,63	0,09	>0,05	29,89±0,62	31,73±0,58	2,16	<0,05
		left	29,45±0,62	29,41±0,63	0,04	>0,05	29,60±0,61	31,41±0,57	2,18	<0,05
6	Performing the floor exercise (S) Specific resistance		199,75±3,85	200,14±3,88	0,07	>0,05	199±3,48	188,57±3,30	2,16	<0,05

The application of the artistic training model within the pedagogical experiment has led to the improvement of the gymnasts motor and artistic training level; all artistic means employed in this research have been contributed systematically to the motor qualities development.

Standing start high jumps (3, 5). In this test the final average of the results achieved by the experimental group gymnasts - 19.13 is higher than the final average of the results achieved by the witness group gymnasts - 18.10. The statistical and mathematical calculation of the final average of the results achieved by the experimental group gymnasts and those of the witness group gymnasts regarding this particular test showed a significant difference (t = 2.19, P <0.05) (Fig. 1).

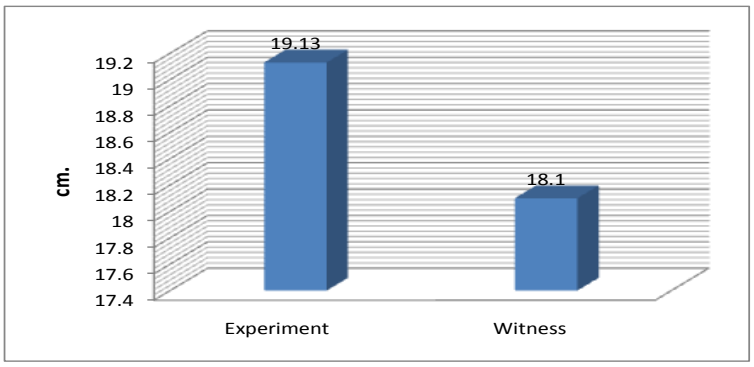

Fig. 1 Expansion achieved by gymnasts on final testing

Expansion provides expressiveness and virtuosity to the jumping dance steps and artistic jumps (FRG requirements) within the gymnasts' free-chosen exercises. Thus, the better expansion (explosive force), the better and improved the jumps technique on the proper high (opening, legs position, their posture) accomplishing the precise form of the body movement and floating, i.e. maintaining a

body position specific to every jump as long as possible.

Maintaining the leg forward (1, 2, 6). Maintaining the leg forward or laterally is subject to prior lower limb muscle strength but also its mobility at coxofemoral joint level. In this case we speak of passive mobility, that determines the proper performance and maintaining of the artistic pictures that involve maintaining the leg, pirouettes with the leg held in various positions (Arabesque, a la Second, attitude), but also of artistic jumps in rope openness. This passive mobility therefore influences the correct technique and expressiveness of movements, moreover it develops mainly due to work at the bar walls and Porte.

The final average accomplished by the gymnasts of the experimental group (21.80) when testing "maintaining the right foot forward" is higher than the final average of the witness group gymnasts (20.60). Calculating the difference between the final results obtained by the experimental group gymnasts and the witness group gymnasts concerning this test shows as in the previous case that it is significantly higher statistically speaking. (t = 2.18, P <0.05) (Fig. 2)

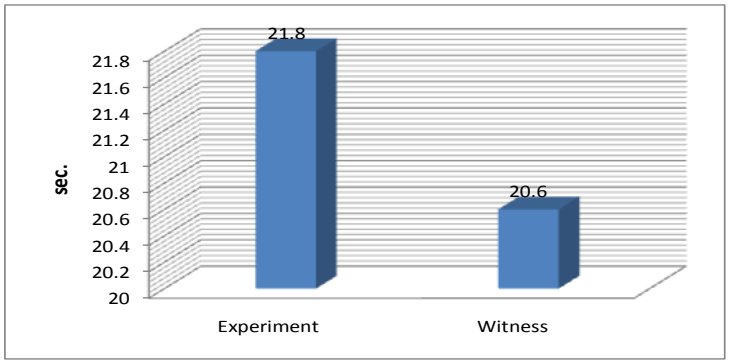

Fig. 2. Duration of maintaining the leg forward over the horizontal position on the final testing

Regarding the "maintaining the left leg forward" test, the final average results of the experimental group gymnasts - 23.35 - is higher than the average final results of the witness group gymnasts - 22.07. The analysis of the difference between the average final results obtained by the experimental group gymnasts and average final results obtained by the witness group gymnasts on "keeping the left foot forward" test, proved to be significant (t = 2.17, P<0.05) (Fig. 3).

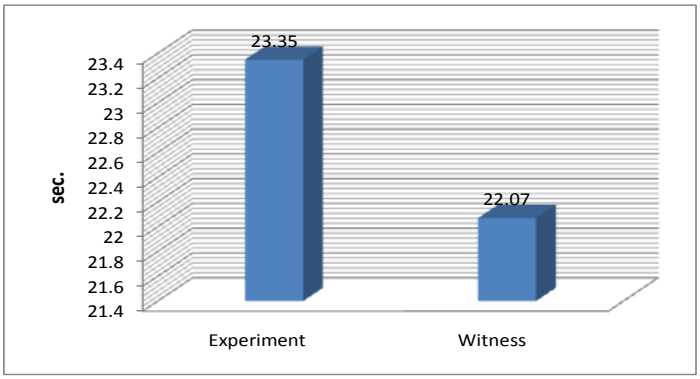

Fig. 3. Duration of maintaining the left leg forward over the horizontal position on the final testing

One-leg squats (1, 2). Regarding this test, that was carried out with right leg, the final average of the gymnasts from the experimental group (33.36) is higher than the final average of those from the gymnasts witness group (31.43). The "t" variable between the initial and the final testing shows significant increases in values, both showing improvements that are above the significance threshold (P <0.001, P <0.05). Moreover, for the final testing of witness and experimental groups, the "t" variable with a value of 2.19 shows that improvements have been achieved over the significance threshold (P<0,05).

The development level of the lower limb muscle strength influences the proper execution and the artistic jump amplitude, steps variations as well as the movements and beam and floor artistic combinations which are performed by sites and grand plies and grand plies. In a corresponding muscle forces, all these movements are performed easily and gracefully.

Balancing the feet for 30 seconds (4, p. 84). Concerning the "left leg balance" testing, the arithmetic average shows nearly equal values of the two groups at initial testing and higher values of the experimental group (31.41) as compared to those of the witness group (29.60) in the final testing. The analysis of the difference between the final results obtained by the experimental group and the final results obtained by the witness group proved to be significant ($t = 2.18$, $p<0.05$).

The repetition rate degree of development influences the pace, tempo and dynamic execution of the artistic movements, which are frequent in the beam and floor exercises. This aspect is particularly important, especially in the beam performance (on the floor, the rhythm is required by the music particularities), and it significantly influences the performance assessment (it is to be found in the penalties for artistic and composition from FRG scoring code). The repetition rate develops in the artistic training due to the pace changes and tempo of music.

Performance of two floor-connected artistic exercises (7, p. 278). The two groups show similar medium values at initial testing. Regarding the final testing, the final average results of the experimental group (188.57) are lower than the average of the witness group (199). Concerning the statistical calculation of the difference between the final average achieved by the experimental group and the final average of the witness group, the "t" variable (2.16) shows significant increases in value, thus ranking above the threshold of significance (P<0, 05) (Fig. 4).

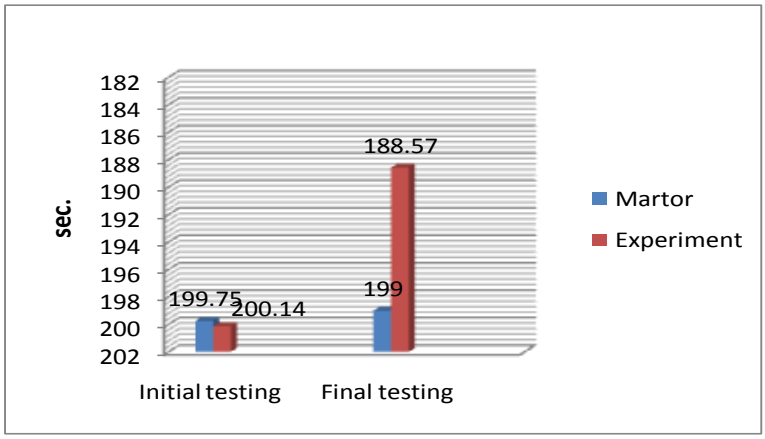

Fig. 4. Performance duration of the two floor-connected exercises at initial and final testing

The performance of the floor-connected artistic exercises, with the stream of artistic diagonal jumps (instead of the acrobatic lines) is a good method of specific strength development, required to perform in proper conditions, with posture and expressiveness the entire floor exercise in harmony with the music.

The application of the art education model within the pedagogical experiment has led to the improvement of gymnasts' motor skills training. Consequently, the results recorded after testing the motor training have higher values on all events for experimental group, compared with those of the witness group.

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Argumentarea experimentală a aplicării modelului de pregătire artistică a gimnastelor de 9 – 10 ani - Analiza comparativă a nivelului pregătirii fizice a gimnastelor din cadrul experimentului pedagogic

Rezumat: *Aplicarea în cadrul experimentului pedagogic a modelului de pregătire artistică a condus la îmbunătăţirea nivelului de pregătire motrică şi*

artistică a gimnastelor, toate mijloacele artistice utilizate în cercetare contribuind în mod sistematic la dezvoltarea calităţilor motrice. Ca urmare, rezultatele înregistrate la testarea pregătirii motrice au valori superioare la toate probele pentru grupa experimentală, comparativ cu grupa martor, variabila t indicând valori peste pragul se semnificaţie (P<0,05).
Cuvinte cheie: *motricitate, expresivitate, amplitudine, ritmicitate.*

L'argumentation expérimentale de l'application du modèle de préparation artistique des gymnastes âgées de 9 – 10 ans – L'analyse comparative du niveau de la préparation physique des gymnastes dans l'expérimenté pédagogique

Résumé: *l'application dans l'expérimenté pédagogique du modèle de préparation artistique a mène à l'amélioration du niveau de préparation motrique, et artistique des gymnastes car tous les moyens artistiques utilisés dans la recherche contribuent systématiquement au développement des qualités motriques. En conséquence, les résultats obtenus dans le test de la préparation motrique out des valeurs supérieures pour tous les tests dans les preuves des groupes expérimentales, la variable t dépassant le seuil de signification (P<0,05).*
Monts-clé: *motricité, expressivité, amplitude, rythmicité.*

STUDY ON IMPROVEMENT OF PLAYING BASKETBALL AND TRAINING BOYS – JUNIORS I

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Abstract: *Preparing junior is now considered as an element of sport specific performance based on models of organization, training and competitive activity. Great basketball performance can be achieved by early selection of talented elements, followed by a systematic training background of their superior physical development indices and a high level of technical and tactical knowledge, skills and abilities in the international requirements.*

The concept of training of athletes is based on the objective reality of collective game. Its evolution is very dynamic, so the preparation that precedes and follows both should be modeled after the game competitive, which in turn must be known, to captures characteristic.

Changing a team game model has advantages in order to check the conclusions of the study team themselves and the determination of data on the opposing team's game.

Because the analysis is mathematically possible, and generally builds a simplified model of the situation with certain restrictive conditions imposed by the game rules and game specific situations, called model of the game. To establish patterns of play and training junior athletes in terms of performance objectives is required knowledge and careful analysis of the characteristics of players, the motor development status of athletes aged 18 years - Juniors I. This paper gives an analysis of selection and setting positions of the players based on somatic development of each junior team - School Sports Club Targoviste.
Keywords: *athletic training, junior, game design, game, technical training, tactical training, general evidence, specific test.*

Introduction

Preparing children and juniors is now considered a key factor in achieving superior results in performance sports.

This is directed at achieving superior performance based on models of organization, training and competitive activity

In the junior category I (under 18) are included athletes aged 16-18 - which is

considered by experts as crucial in group practice perspective of high performance sport.

Each stage of training is training and playing your own designs and is part of the optimum model that must ultimately ensure the formation of performance players.

And deepening knowledge of the game concept model of a team is determined by the contribution it has on the efficiency of training and participation in the championship.

The concept of training players is starting from the objective reality of the team game. Its evolution is very dynamic, so the preparation that precedes and follows both should be modeled after the game competitive, which in turn must be known, to captures characteristic.

Changing pattern of play will benefit a team towards the verification team's findings on their study and the determination of data on the opposing team's game.

Aim is to highlight the pattern of play at the junior boys basketball team Targoviste School Sports Club, the concept of training the junior game and setting its strategy, the idea of obtaining favorable results.

For this study we started from the following *assumptions*:

→ through a careful analysis of the main parameters of the game model, relevant data on the behavior of the team are provided to us, the coach can introduce significant changes in preparing the team at one stage to another in order to improve its benefit;

→ maintain a functional balance between policy and conduct ongoing training of the training process can lead to optimizing behavior competitions players;

The study was conducted during the 2009/2010 school year and included 16 players - junior athletes, members of Şcolar Târgovişte Sports Club team, a team participating in the National U-18 Championship.

• *The team's training CSS Targoviste*
• Duration of training - in 365 days: 110 days preparatory period
210 days during the competition
45 days transition period, holiday
• *The volume of training*: - number = 320 training
- number of hours of training = 510
Weight training factors (Chart No. 1) - 30% physical training = 160 hours
- 35% = 175 technical training
- 35% = 175 tactical training hours

***Competitions formal* = 90 hours**
***Preparation games* = 20 hours**
***Hours* = 180 hours allocated to recovery**
TOTAL = 290 hours

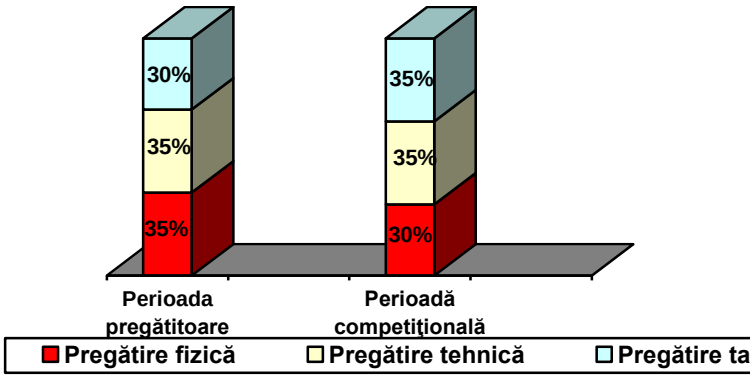

Chart No. 1 - The weight factors antrnament

The period of the experiment specific means were used to prepare athletes grouped by position held in the team, defenders, extreme, pins, and combinations of 2-3 players.

These means are pursued: increasing the overall efficiency of the game in attack and defense (by improving technical and tactical drills used), improving the quality indices of the driving event, with specific emphasis on the game of basketball, improvement specialty positions, attack systems man against man and zone defense and zone defense systems and improving human-to-man and zone defense pressing.

Thus, in preparing and conducting training team have implemented the following game systems:

For attack:

- *The counterattack* - tulle counterattack on the side or edge of the step dribble center, using one or the other being determined by the concrete situations of the game.
- *The fast attack* / *counterattack continuing transition is offensive* then that was not created when ˇ numerical superiority and turning wave 2. This superiority may create or redeem any class differences in defensive transition.
- *The positional attack* – the team uses 4 play scheme against the defense of "man to man", combinations that emerge from 1 to 4 (a torus play quarterback, two extremes and two centers); from 1-4 as the "man to man" attack combinations will be started and for the attack against the zone - defense, team play having to choose between two schemes.

Combinations of attack 1-4 - used:

- "Give and go";
- Simple cross;
- Crossing two extreme and employment;
- Double cross in the middle, the defenders and extremes;
- Jam extreme - defender commits center;
- Blocking - blocking exit (PE) on the same side;
- Extreme is the center, committed defender extreme, extreme undertake pivot;
- Extreme-block pivot / center;
- Pivotal blocking fullback or extreme.

Individual tactical action game behind the attack:

- Demarcation;
- Penetration;
- Overcome;
- Voleibolarea - recovery;
- Completion of the attack by field goal;

For defense:

- *Defense "man to man"* - marking the player with the ball in defense, marking interception to defensive player without the ball on the strong side and open marking to the player without the ball on the week side.
- *Positional defense* – two types of positioning of players: 2-3 adapted and 1-2-2 classic.
- *Pressing "man to man*" – on half of court, without stopping restarting the game and trying to intercept the ball at the centre or at the court's corners.
- *Positional pressing* - on all the court: basically position 1-2-1-1, without stopping restarting the game.

The content model of team play defense:

Individual tactical actions - bookmark aggressively attacked the basket from
- Aggressive between striker and ball marker / the foreground / in the lateral plane
- Defense and prosecution to the panel lock.

Collective tactical actions:

- Withdrawal of defense,
- Slide;
- Changing attackers;
- Double marking;
- Follow the panel.

Preparation and content of this study allowed me proper training category and requirements of their age.

General and special tests which we applied were those imposed by the FRB binding, tests which influence participation in sports championship. They were held in September 2009 / initial testing of (supporting evidence required for participation in the league) and final testing in May 2010.

In this paper we stopped the analysis model players driving through the general and specific evidence applied:

- ➔ speed - 30m running flat feet home
- ➔ vertical expansion
- ➔ "Little marathon"
- ➔ Running resistant - 800m
- ➔ specific evidence on the post (fullback, wing, center)
- ➔ free throws

The results were converted into points after "set minimum score for control samples of FR Basketball junior I

Analyzing the data obtained we can say that there has been considerable growth from the initial final testing for all athletes (Table Nos. 1 and 2) in all sample.

Table 1 - Initial Testing

Nr crt.	Nume / prenume	30m	Pct	Detenţă	Pct	Micul maraton	Pct	Aruncări libere	Pct	Probă pe post	Pct	800m	Pct	Total
1	Hamza E.	4,0	18	83	19	21,6	24	5	6	10	10	2,32	13	90
2	Juravle O.	4,0	18	75	12	21,8	22	9	14	13	12	2,46	7	85
3	Bobu V.	4,1	16	80	16	22,5	15	7	10	15	13	2,33	13	83
4	Minculescu A.	3,9	20	72	10	21,7	22	9	14	6	6	2,37	11	83
5	Popescu R.	4,0	18	82	18	22,2	18	7	10	7	7	2,40	9	80
6	Besea Ghe.*	4,3	12	70	9	22,7	13	5	6	10	10	2,24	17	80
7	Serban V.	4,2	14	74	11	21,9	22	6	8	2	11	2,35	12	78

8	Carnaru M.	4,2	14	80	16	23,0	10	7	10	12	11	2,25	17	78
9	Alexandru D.	3,9	20	80	19	22,4	16	8	12	8	8	3,00	3	78
10	Chirita D.	4,2	14	82	18	21,5	24	7	10	8	8	3,03	2	76
11	Ianuli M.*	4,4	10	65	7	23,4	6	8	12	14	12	2,52	5	73
12	Ion Ş.	4,1	16	72	10	22,2	18	6	8	10	10	2,37	11	73
13	Nicolae Ş.	4,2	14	70	9	22,0	20	7	10	8	8	2,40	9	70
14	Venete I.	4,2	14	64	6	22,5	15	6	8	13	12	2,31	14	69
15	Ghita R.	4,3	12	66	7	22,0	20	7	10	12	12	2,26	16	64
16	Nicolae A. *	4,6	8	57	4	24,0	0	6	8	14	12	3,15	0	42
Media aritmetică		4,16	14,87	73,25	11,93	22,33	16,56	6,87	9,75	10,12	10,12	2,48	9,93	75,12

Table Nr. 2 Final Test

Nr crt	Nume/ prenume	30m	Pct	Detentă	Pct	Micul maraton	Pct	Aruncari libere	Pct	Proba post	Pct	800 m	Pct	Total
1	Hamza E.	4,0	18	86	22	21,6	24	7	10	12	11	2,30	14	99
2	Juravle O.	3,9	20	82	18	22,2	18	9	14	14	12	2,29	15	97
3	Bobu V.	3,8	22	77	15	21,5	24	8	12	9	9	2,30	14	96
4	Minculescu A.	4,2	14	75	12	22,6	14	7	10	14	12	2,22	18	96
5	Popescu R.	4,2	14	68	8	23,2	8	10	16	18	15	2,48	7	95
6	Besea Ghe.*	4,0	18	82	18	22,7	13	8	12	14	12	2,22	18	91
7	Serban V.	3,9	20	80	16	22,0	20	8	12	10	10	2,37	11	89
8	Carnaru M.	3.9	20	75	12	21,5	24	8	12	12	11	2,40	9	88
9	Alexandru D.	4,2	14	85	20	21,5	24	9	14	11	10	2.50	6	88
10	Chirita D.	4,1	16	70	9	22,0	20	8	12	12	12	2,22	18	87
11	Ianuli M.*	4,0	18	75	12	22,0	20	8	12	12	11	2,31	14	87
12	Ion Ş.	4,1	16	73	11	21,8	22	9	14	10	10	2,35	12	85
13	Nicolae Ş.	3,9	20	84	20	22,4	16	8	12	11	10	2.55	4	82
14	Venete I.	4,2	14	75	12	22,0	20	7	10	12	11	2,32	13	80
15	Ghita R.	4,2	14	69	9	22,3	17	7	10	14	12	2,30	14	76
16	NicolaeA *	4,4	10	60	5	23,8	2	7	10	16	14	3,03	2	52
Media aritmetică		4,06	16,7	76	13,6	22,19	17,8	8	12	12,56	11,3	2,38	11,8	86,75

**bonus class*

For the running speed of 30 m and running resistance improvement of results isinsignificant.

Differences from one test to another are of 0.10 sec. (chart no. 2 and graphically no. 5).

Better results were obtained in the sample holder and the "little marathon, an increase of 2.80 cm and 1,85 sec. (graphic no. 3 and No.4).

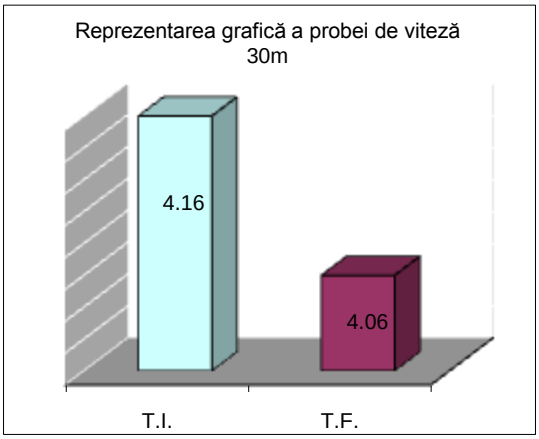

Chart 2 - running speed 30 m

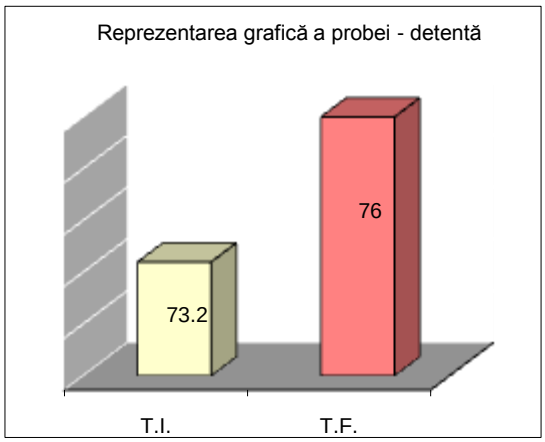

Chart no. 3 - expansion

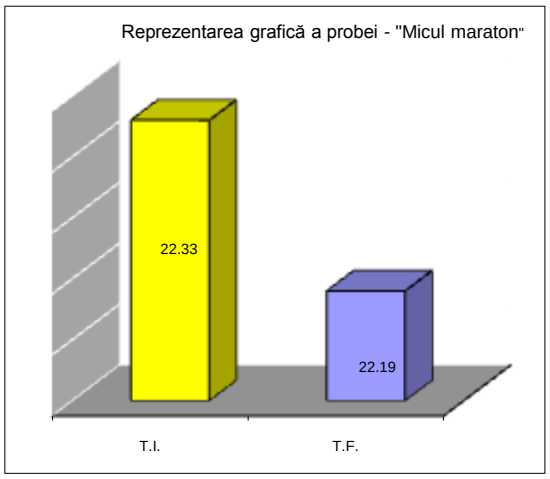

Chart No. 4 Marat-Small

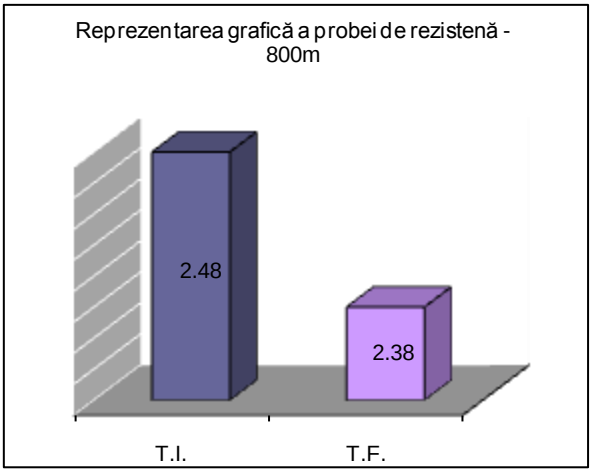

Chart no. 5 - Running the 800m resistance

Transforming the results in points shows that 14-point players from the experimental group took the control-test, they have achieved 68 points as FRB requested. Comparing results from the final test, we can observe that all athletes exceed the scale required for participation in the National Championship, 68 points.

In two specific tests, "free shootings" and "positions' test" they were achieved significant improvements, resulting from using those processes which can aim to improve field goal.

Remarkable increases in values as follows:

- *to sample "free shootings"* - the skill is manifested in the speed mode - all players have registered increases in the percentage of shootings and in the number of marked shootings, difference between those two tests being by 1,13 good shootings.

- *Specific test "shootings from positions"* - initial test's score was 10.12 compared to the final test's score when the recorded value was 12.56; we obtained a difference of 2.44.

These increases in value of specific test confirm efficient training exercises unfolded general in content.

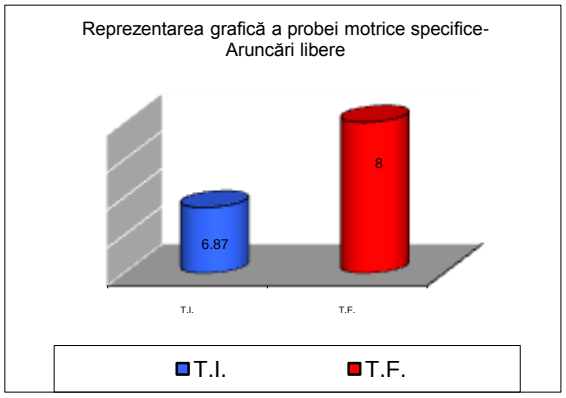

Chart no.5 free-throw

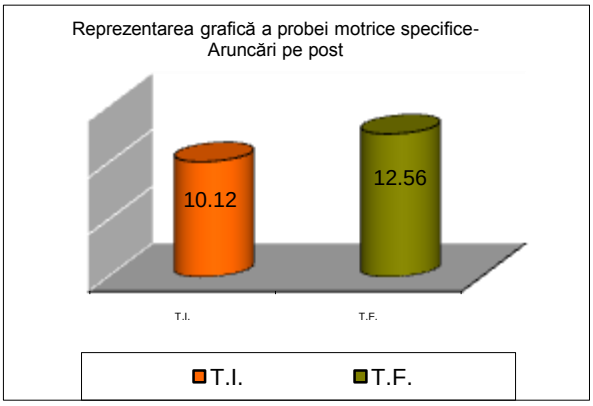

Chart no. 6 - throwing positions

Conclusions

The activities of teachers / coaches with junior players require a careful selection of resources with high efficiency in general and specific training.

The results have emphasized the continuing need to perform a thorough examination of the processes used in the preparation of individual and collective team.

Training objectives were achieved, which confirms the assumptions made and also allows us to say that through careful planning and a good game design can obtain good results in national championship Final test for general and specific motrical tests were reported superior results which proves effective in the preparation of these tests.

Specific individual training posts, addressing a larger number of strength training, both in the

period before competitions and the competition improves and the model of team play and training, in practice the idea of a modern game adapted technical and tactical peculiarities of the age.

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DETERMINING THE LEVEL OF TECHNICAL AND SPECIFIC PHYSICAL TRAINING IN PERFORMANCE WEIGHTLIFTING

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A*bstract:* *The paper aims at determining the level of technical and specific physical training in performance weightlifting. For this purpose we have considered that an optimum relationship of technical training and specific physical training in performance weightlifting will contribute to the improvement of performances achieved in competition.*

The study was centered round the training programs in order to test the level of technical and specific physical training; a monitoring of performance parameters evolution has been made statistically. The statistical processing was done in Word and „KyPlot" programs, calculating the usual statistical indices and the test of linear correlation. To highlight the level of technical and specific physical training during the training of performance weightlifters, a study was conducted within the Weightlifting Olympic Team. The study was carried out throughout two annual cycles period (2008 - 2009), formed of 10 macro-cycles, applied on a group of 9 athletes, aged 18-24, at juniors, youth and seniors classes.

The results of the study highlight the level of technical and specific physical training of the weightlifters-subjects of the study and the dynamics of their performances in 2008-2009 training cycles.

In conclusion, we are able to confirm that the provision of optimal relationships between specific physical training and technical training in performance weightlifting helps to improve performances in competition.

Key words: *weightlifting, physical training, technical training, control trials, performance.*

Introduction

Physical training is one of the most important factors and, in some cases, the most significant ingredient of sports training in achieving the high performance. The main objectives of physical training are the increase of athlete's physiological potential and the development of the biometrical traits up to the highest level (T. Bompa, 2002).

The specific physical training content is mainly oriented towards the growth of effort capacity that characterizes this sport branch, and towards the increase of the involved motor skills –combined in a primarily and differentiated way. Thus is determined the specific yield. In some sport branches, the performance is strictly established by the development level of a motor skill (in weightlifting – by strength, in rowing – by endurance) or of a complex of motor skills (sports games, combat sports, etc) (A. Dragnea, 1996). The expert use of strength exercises helps to restore the effort capacity; the alternation of the less involved muscle groups and of muscle groups with maximum stress is a condition of workouts effectiveness (A. Nicu, 1993).

Learning the techniques used in various sport branches is generally characterized by the laws and phases of motor skills and actions, of course, with some differentiating, specific notes, determined by the particularities of sport branches. (A. Dragnea, 1996). The relations between technical elements and technical procedures are not present in all branches of sport, some of them having technical procedures

only (weightlifting) (A. Dragnea, S. Mate-Teodorescu, 2002)

One of the major problems in performance weightlifting refers to athletes' gradual training for the execution of competition exercises at snatch lift and clean and jerk lift with a certain weight of the barbell, when the athlete's body status must be maximal. The factor that ensures optimum conditions for solving these problems is the rational sports technique (without breaking the regulations of the competition), which helps the athlete to use efficiently the physical, functional and psychological traits when lifting the barbell with maximum weight (L.S.Dvorkin, 2005).

Purpose of the paper: to determine the level of technical and specific physical training in performance weightlifting.

Hypothesis

We consider that an optimum relationship of technical training and specific physical training in performance weightlifting will contribute to the improvement of performances achieved in competition.

Methods of research and procedures

The study was centered round the training programs in order to test the level of technical and specific physical training, monitoring statistically the evolution of performance parameters. The statistical processing was made in Word and „KyPlot" programs, calculating the usual statistical indices and the test of linear correlation.

Subjects, protocol of conduct

In order to emphasize the level of technical and specific physical training during the workouts of performance weightlifters, a study was conducted within the Weightlifting Olympic Team. The study was carried out throughout two annual cycles period (2008 - 2009), formed of macro-cycles, applied on a group of 9 athletes, 18-24 years old, in juniors, youth and seniors categories.

Results

Table 1. Results of specific physical training level

No.	Control trial	Initial testing	Final Testing	t	P
		$\bar{X} \pm m$	$\bar{X} \pm m$		
1	Back squats (max 1 rep)	220.5±8.84	237.2±9.24	6.86	P<0.001
2	Front squats (max 1 rep)	187.2±6.82	203.3±9.12	9.85	P<0.001
3	Clean and jerk pulls (max 1 rep)	179.4±8.18	201.6±7.72	4.77	P<0.01
4	Snatch pulls (max 1 rep)	153.3±5.77	171.1±6.75	7.97	P<0.001
5	Snatch without squat (max 1 rep)	119.4±5.91	128.05±6.26	18.21	P<0.001
6	Dip without split legs (max 1 rep)	142.7±5.07	153.8±5.38	9.95	P<0.001
7	Clean and jerk without split legs (max 1 rep)	145±5.40	157.2±6.07	9.504	P<0.001
8	Bending (max 1 rep)	192.2±4.33	212.2±4.93	2.48	P<0.05

Table no. 1 summarizes the results of testing the specific physical training, assessed by control events, in terms of arithmetical mean of the initial and final testing and the correlation of the differences between means.

Table no. 2.- Results of technical training level

Control trial	Index	Initial testing	Final Testing	t	P
		$\bar{X} \pm m$	$\bar{X} \pm m$		
Snatch (score)	1- Start	4.71±0.09	4.86±0.06	3.34	P<0.05
	2- Pull	4.47 ±0.08	4.73±0.06	3.36	P<0.05
	3 - Flipping	4.66±0.09	4.86±0.06	2.73	P<0.05
	4 – Splitting underneath bar	4.57±0.06	4.91±0.05	3.18	P<0.05
	5 – Standing up from splitting and locking	4.78±0.08	4.95±0.04	2.51	P<0.05
Clean and jerk (score)	1- Start	4.61±0.06	4.95±0.04	3.88	P<0.01
	2- Barbell clean up to flipping	4.57±0.06	4.91±0.05	3.18	P<0.05
	3 - Flipping, pull under the bar and hockey lifting	4.66±0.09	4.82±0.07	2.89	P<0.05
	4 – Split jerk and standing up	4,55±0.09	4.8±0.07	3.602	P<0.01
	5 – Barbell locking overhead	4.78 ±0.08	4.95±0.04	2.504	P<0.05

In table no. 2 are shown the results of technical training level testing, evaluated by the assessment of technical execution phases at snatch and clean and jerk lifts, regarding the arithmetical mean in initial and final testing and the correlation of the differences between means.

Table no. 3. Results of performances in 2008 competitions (initial testing)

No.	Full name	Competition	Category	Weight	Snatch	Clean & jerk	Total	Ranking		
								Sn	C&J	Total
1	Buci A.	Olympics	62	61.66	130	165	295			4
		NC Seniors	62	61.98	121	146	267	2	2	2
2	Martin R.	EC Seniors	69	67.82	125	155	280	20	17	19
		Olympics	69		130	158	288			19
		NC Seniors	69	68.74	130	163	293	2	2	2
		WC Juniors	69	68.20	134	161	295	5	5	5
		EC Juniors	69	68.75	135	167	302	4	2	2
3	Roşu A.	EC Seniors	69	69	137	170	307	8	6	6
		Olympics	69		136	-	-	-	-	-
		NC Seniors	77	76.72	141	180	321	1	1	1
4	Stoichiţă P.	EC Juniors	69	68.58	126	162	288	7	6	7
		NC Seniors	69	68.99	127	161	288	3	3	3
5	Sâcrăian G.	European Cup	85	79.91	132	172	304	1	1	1
		NC Seniors	77	75.26	140	160	300	2	2	2
6	Rusu R.	Olympics	77		140	170	310			18
		NC Seniors	94	85.01	147	184	331	2	1	2
		WC Juniors	85	82.88	140	173	313	10	11	9
		EC Juniors	85	83.06	140	181	321	13	8	9
7	Olaru G.	European Cup	62	56.79	93	126	219	1	1	1
		EC Juniors	56	56.6	93	126	219	6	3	6
		NC Seniors	56	55.46	95	120	215	2	2	2
8	Danciu M.	EC Juniors	85	83.76	141	173	314	11	10	11
		NC Seniors	94	87.33	130	170	300	3	3	3
9	Gâscan M.	NC Seniors	56	55.92	97	130	227	1	1	1
X			72.25	70.6	127.5	159.6	286.8	5.2	4.35	5.86
Em			2.27	2.25	3.32	3.8	7.17	1.12	0.95	1.21
S			11.1	10.3	16.2	18.2	34.4	5.03	4.25	5.81
Cv			15.4	14.6	12.7	11.4	12.0	96.7	97.8	99.1

Table no. 4. Results of performances in 2009 competitions (final testing)

No.	Full name	Competition	Category	Weight	Snatch	Clean & Jerk	Total	Ranking		
								Sn	C&J	Total
1	Buci A.	EC Seniors	62	61.80	121	-	-	6	-	-
2	Martin R.	WC Juniors	69	68.81	143	170	313	4	5	3
		EC Juniors	69	69	144	175	319	1	1	1
3	Roşu A.	EC Seniors	77	75.50	148	180	328	7	6	6
		NC Seniors	77	76.96	143	176	319	2	1	2
		EC Youth	77	76.10	142	173	315	8	7	8
4	Stoichiţă P.	WC Juniors	69	68.62	135	170	305	6	4	5
		EC Juniors	69	68.65	135	168	303	3	2	2
		NC Seniors	69	69	125	170	295	1	1	1
		EC Youth	69	68.65	130	171	301	6	3	5
5	Sâcrăian G.	EC Seniors	77	76.51	143	177	320	10	7	9
		NC Seniors	85	82.52	-	172	-	-	4	-
		EC Youth	85	83.55	150	170	320	6	10	7
6	Rusu R.	EC Seniors	85	82.54	150	188	338	17	12	16
		NC Seniors	94	86.04	150	175	325	2	3	2
7	Olaru G.	EC Seniors	56	55.67	100	131	231	10	6	8

		NC Seniors	**62**	**60.6**	**100**	**136**	**236**	**6**	**3**	**6**
		EC Youth	**56**	**55.74**	**96**	**135**	**231**	**9**	**2**	**5**
8	**Danciu M.**	**WC Juniors**	**85**	**84.70**	**156**	**175**	**331**	**5**	**12**	**8**
		NC Seniors	**94**	**87.99**	**141**	**176**	**317**	**3**	**2**	**3**
		EC Youth	**85**	**84.10**	**145**	**170**	**315**	**8**	**11**	**10**
9	**Gâscan M.**	**EC Seniors**	**56**	**55.79**	**95**	**129**	**224**	**13**	**9**	**9**
		NC Seniors	**62**	**61.72**	**105**	**135**	**240**	**4**	**4**	**3**
X			**73.4**	**72.1**	**131.6**	**164.6**	**296.4**	**6.22**	**5.22**	**5.66**
Em			**2.42**	**2.17**	**4.23**	**3.84**	**8.31**	**0.84**	**0.76**	**0.8**
S			**11.6**	**10.4**	**19.8**	**18.01**	**38.1**	**3.95**	**3.61**	**3.69**
Cv			**15.8**	**14.4**	**15.09**	**10.9**	**12.8**	**63.4**	**69.08**	**65.1**

In tables no. 3 and 4 are listed the results of the performances achieved in local and international competitions within 2008-2009 annual training cycles, highlighting the weight class, the athlete's weight in competition, his performances at the two lifts and his ranking.

Figure no. 1 and no. 2 show the dynamics of weightlifters' sports performances during 2008-2009 training period, exemplified by the results of the athletes R.R, M.R., SP, D.M. at snatch, clean and jerk and total.

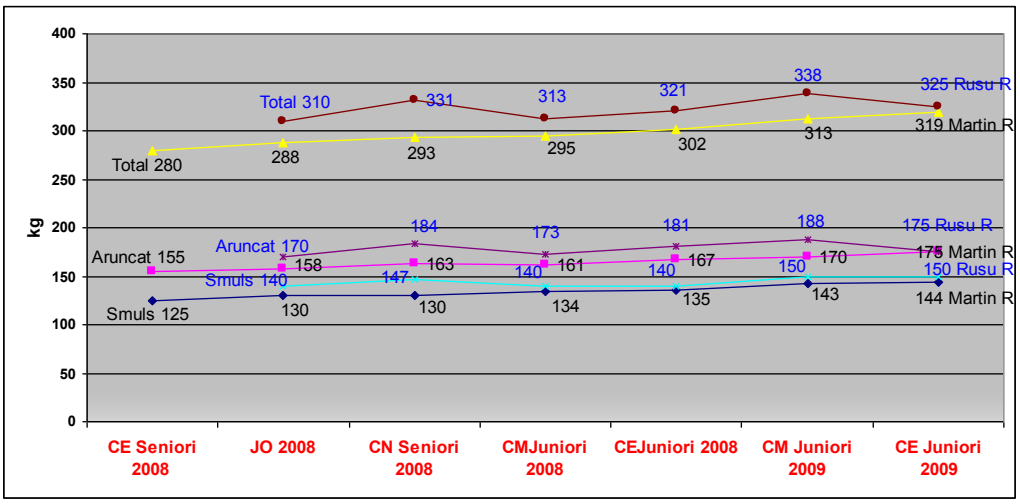

Figure no. 1. Dynamics of weightlifters' sports performances achieved over 2008-2009 period

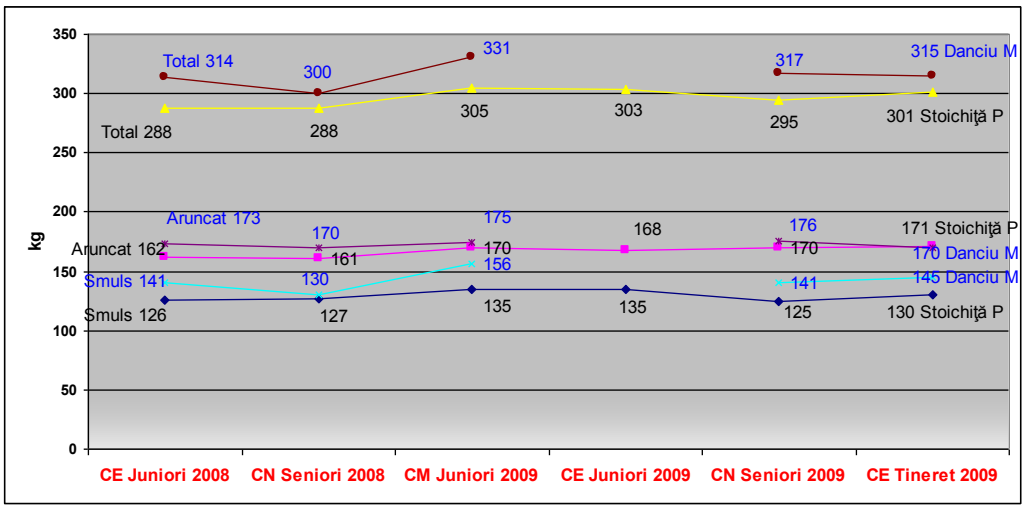

Figure no. 2. Dynamics of weightlifters' sports performances achieved over 2008-2009 period

Conclusions

Increased level of specific physical training in all control trials at final testing and significant differences between averages of each trial.

Improved level of technical training of snatch lift and clean and jerk lift execution phases and significant differences between averages of each stage.

The dynamics of weightlifters' sports performances throughout the biannual training cycle emphasizes the relationship of weight classes and body weight in the competition; improvement of performances at snatch lift by 4.1kg, clean and jerk by 5kg and total by 9.6kg versus 2008 annual cycle and a better evolution in the total of theses lifts.

In conclusion, we can confirm that the provision of optimal relationships between specific physical training and technical training in performance weightlifting helps to improve performances in competition.

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Determinarea nivelului pregătirii fizice specifice şi tehnice în haltere de performanţă

Rezumat: *Scopul lucrării îl constituie determinarea nivelului pregătirii fizice specifice şi tehnice în haltere de performanţă. Pentru aceasta, am considerat că asigurarea unei relaţii optime între pregătirea fizică specifică şi pregătirea tehnică în haltere de performanţă va contribui la îmbunătăţirea performanţelor în concurs.*

În studiu au fost luate programele de pregătire în vederea testării nivelului pregătirii fizice specifice şi tehnice, urmărindu-se statistic evoluţia parametrilor de performanţă. Prelucrările statistice au fost făcute în programele Word şi „KyPlot", calculând indicii statistici uzuali şi testul de corelare liniară. Pentru a evidenţia nivelul pregătirii fizice specifice şi tehnice în cadrul pregătirii halterofililor de performanţă,

s-a organizat un studiu în cadrul Lotului Olimpic de haltere. Studiul s-a desfăşurat în perioada a două cicluri anuale (2008 - 2009), alcătuită din 10 macrocicluri, aplicate pe un grup de 9 sportivi, cu vârste cuprinse între 18-24 ani, la categoriile juniori, tineret şi seniori. Rezultatele studiului evidenţiază nivelul pregătirii fizice specifice şi tehnice a halterofililor aflaţi în studiu şi dinamica performanţelor în cadrul ciclurilor de pregătire 2008-2009. În concluzie, putem confirma că asigurarea unei relaţii optime între pregătirea fizică specifică şi pregătirea tehnică în haltere de performanţă contribuie la îmbunătăţirea performanţelor în concurs.

Cuvinte cheie: *haltere, pregătirea fizică, pregătirea tehnică, probe de control, performanţă.*

Détermination du niveau de l'entraînement physique spécifique et technique dans l'haltérophilie de performance

Résumé: *Le but de cet ouvrage est de déterminer le niveau de la préparation physique spécifique et technique en haltérophilie de performance. Pour cela, nous avons considéré que la réalisation d'une relation optimale entre l'entraînement physique spécifique et l'entraînement technique en haltérophilie de performance va contribuer à l'amélioration des performances en concours.*

L'étude a été axée sur les programmes d'entraînement visant à tester le niveau de la préparation physique spécifique et technique, en observant de point de vue statistique l'évolution des paramètres de performance. Les traitements de données statistiques ont été faits dans les programmes Word et „KyPlot", en calculant les indices statistiques usuels et le test de corrélation linéaire. Afin de mettre en évidence le niveau de l'entraînement physique spécifique et technique dans la préparation des haltérophiles de performance, on a organisé une étude dans l'équipe olympique d'haltérophilie. L'étude a été menée au cours de deux cycles annuels (2008 - 2009), composés de 10 macro - cycles, appliqués à un groupe de 9 athlètes, âgés de 18 à 24 ans, dans les catégories juniors, jeunes et seniors.

Les résultats de l'étude mettent en évidence le niveau de l'entraînement physique spécifique et technique dans la préparation des haltérophiles - sujets de l'étude et la dynamique des performances dans les cycles d'entraînement 2008-2009.

En conclusion, nous pouvons confirmer qu'une relation optimale assurée entre l'entraînement physique spécifique et l'entraînement technique dans l'haltérophilie de performance contribue à l'amélioration des performances en concours.

Mots-clés: *haltérophilie, entraînement physique, entraînement technique, épreuves de contrôle, performance.*

HIGH JUMP ANALYSIS TEST CARRIED OUT AT INDOOR NATIONAL CHAMPIONSHIP 2010

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Abstract: *The aim of this paper was to analyze the performances obtained by female high jumpers at 2010 Indoor National Championship of juniors 3. The first two classes had the same results and they were categorized only by the number of failures made in the contest. Six of the athletes who started at the competition were able to improve the result obtained a year ago.*
Keywords: *jump, performance, testing.*

Jumping athletic events can be defined as specialized components, whose purpose is to develop, through the interaction between internal and external forces, an air trajectories of the center of gravity of the body generally as high as or longer (Alexandrescu D, 1991).

High jump, compared with long jump has a much more complicated technique , less natural and, at the same time, marked a trend characterized by multiple variations and techniques until he found the most sensible option - the overthrow dorsal (MTS, FRA, 1995).

Athletic jumps with fundamental differences between the derivatives, in order of succession of motor acts, are consisting of four stages: the approach, the take-off, the clearance and the landing (Neder Paraschiţa, 2010).

Between jumping phases are inter-relationships, falling in a certain order of subordination, hence the significance of each phase, depending on the specific and most especially for jumping. Jumping main phase is the take-off.

Jumpers' junior athletes training task is the formation of long-term performers, while respecting the peculiarities of biological development. Prepare a jumper is a long process, 8-10 years and should be characterized by a reasonable time scale and with clear priorities, the tasks of training and selection, corresponding with them, the most effective means of training (Alexandrescu D, 1991).

The purpose of this study is to track progress achieved performance at three junior high jump of the indoor National Championship in 2010.

Research Hypothesis is:

It is assumed that the results obtained from the Junior 3 Indoor National Championship are the starting line in the event methodical training for high jump competitions outdoors.

The tasks of the study are:

1. Choice of subjects for the study group.
2. Studying the existing bibliography.
3. Recording the results and their interpretation.
4. Graphic interpretation of the performance.

In this study, 12 athletes took part with 14-15 years of age, junior high jump finalists in March. The study was held in 6-7 March 2010 in Bacau at the Junior 3 Indoor National Championship.

Research methods used were: Bibliographic study method, Observation method Registration method results, Graphic method.

Next we move to global analysis of test performance in girls' high jump:

No. Crt.	Name	Club	Result
1.	Dumitrascu, Anita	Col.Teh. C.Istrati Campina	1.59 m
2.	Panturoiu, Elena Andreea	LNPA Cl.Muscel	1.59 m
3.	Cojocaru, Andra Stefania	CSS Bacău	1.55 m
4.	Anghel, Ana Roberta	CSM Focşani 2007	1.50 m
5.	Meze, Mădălina	LPS Oradea	1.50 m
6.	Budica, Florentina	CSS 5 Bucureşti	1.50 m
7.	Lupse, Oana Mihaela	LPS Oradea	1.45 m
8.	Sandu, Ionela Lavinia	CN Sp.Cetate Deva	1.40 m
9.	Lucaci, Andreea Maria	CSS Bacău	1.40 m

10.	**Boca, Amalia Zelmina**	**CN Sp.Cetate Deva**	**1.40 m**
11.	**Lazăr, Andra Georgiana**	**LPS Cluj Napoca**	**1.35 m**
12.	**Tulit, Andrea**	**CSS Sf. Gheorghe**	**1.30 m**

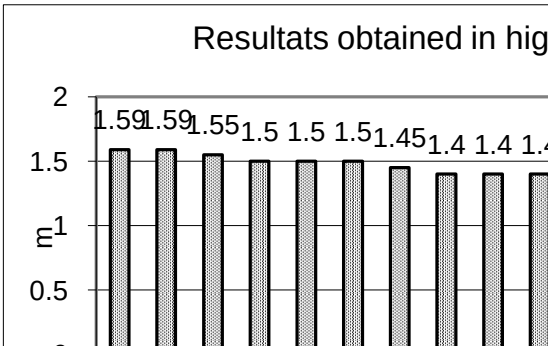
The trial was attended by 12 high jump athletes across the country. Starting height was 1.30 m but only four athletes started at this height. A high jumper started from 1.35 m and to 1.40 m. the other six.

First place was Dumitraşcu Anita with a performance of 1.59 m. The same performance was managed by Panturoiu Elena Andreea, but it was ranked number because two unsuccessful jumps in competition (winner of 4 vs. 3). Both athletes entered the competition at 1.40 meters, first jumped 1.45 m to 1.40 m and 1.50 m Dumitraşcu jumped first also, while Panturoiu needed three attempts to pass this height. At 1.55 m Panturoiu clear first while Dumitraşcu needed two attempts, and to 1.59 m in both athletes have been the third attempt. Also, both have tried three times to 1.63 m but without success.

Andra Cojocaru ranked 3 with a result of 1.55 m, while sites 4-6 were filled with the same result: 1.50 m, been categorized by the number of successful and failed attempts.

7th place was occupied by Oana Lupse with a result of 1.45 m, and 8-10 seats were filled with the same result: 1.40 m.

11th place was occupied by Andra Lazar with a result of 1.35 m, while practically ran last athlete Andrea Tulit returned to 1.30 m, with the weakest performance in the competition anyway.



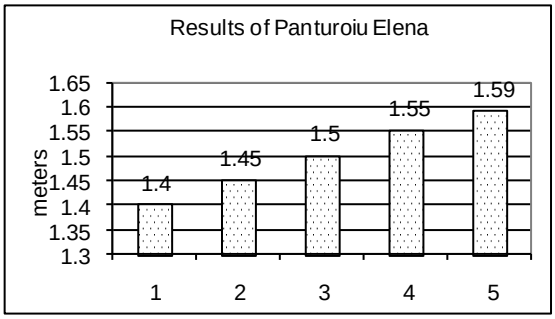
Further developments will proceed to analyze each of each sport participating in the competition study

The results of the girls high jump (each attempt)

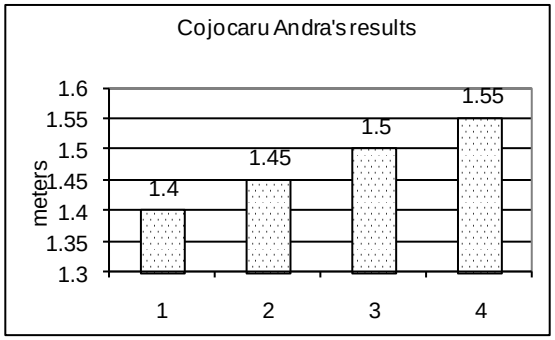
No. Crt.	Name	Attempts (m)							
		1.30	1.35	1.40	1.45	1.50	1.55	1.59	1.63
1.	**Dumitrascu, Anita**	**-**	**-**	**o**	**o**	**o**	**xo**	**xxo**	**xxx**
2.	**Panturoiu, Elena Andreea**	**-**	**-**	**o**	**o**	**xxo**	**o**	**xxo**	**xxx**
3.	**Cojocaru, Andra Stefania**	**-**	**-**	**o**	**o**	**o**	**xxo**	**xxx**	
4.	**Anghel, Ana Roberta**	**-**	**-**	**o**	**o**	**o**	**xxx**		
5.	**Meze, Mădălina**	**-**	**-**	**o**	**xxo**	**o**	**xxx**		
6.	**Budica, Florentina**	**-**	**-**	**o**	**xo**	**xxo**	**xxx**		
7.	**Lupse, Oana Mihaela**	**-**	**o**	**xo**	**xo**	**xxx**			
8.	**Sandu, Ionela Lavinia**	**o**	**o**	**xo**	**xxx**				
9.	**Lucaci, Andreea Maria**	**-**	**o**	**xo**	**xx**				
10.	**Boca, Amalia Zelmina**	**o**	**o**	**xxo**	**xxx**				
11.	**Lazăr, Andra Georgiana**	**o**	**xo**	**xxx**					
12.	**Tulit, Andrea**	**xxo**	**xxx**						

First place was occupied by Dumitrascu Anita with the 1.59 m after entering the competition at 1.40 meters, above the heights of 1.40 m, 1.45 m and 1.50 m she jumped from the first attempt. At 1.55 meters she needed two attempts and at 1.59 meters she jumped from the third one. Try three times and to 1.63 m, but no success.

Ranked 2, although it did place the same performance as a winner, because he has had four misses, compared to only three Dumitrascu's had to settle for second place only. She also entered the competition at 1.40 meters, managed to jump on the first attempt, at 1.45 m and 1.55 m also and to 1.50 after it took me 3 attempts. And she tried three times to 1.63 m, but failed to get over this height.



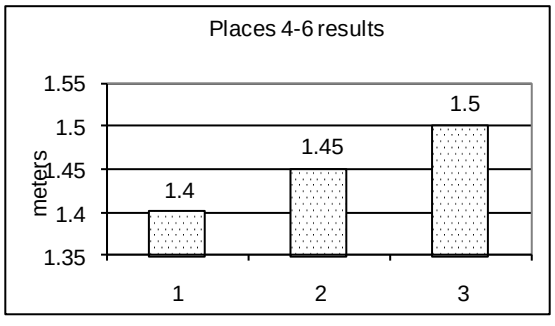
3rd place was occupied by a performance of 1.55 m by Andra Cojocaru. She entered the contest jumped to 1.40 m where the first, and to 1.45 m, 1.50 m. Moreover, only 1.55 m needed three attempts, the rest of the journey is without error.
She tried three times to 1.59 m but failed, so she finally had to settle for 3rd place.



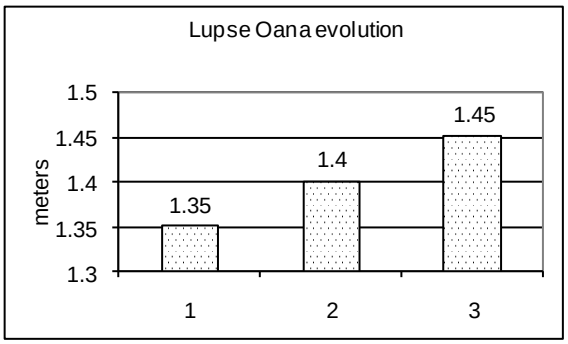
Ana Anghel Roberta had to go flawlessly 1.55 m where she tried three times without fail to pass. She entered the contest still to 1.40 m, made it through the first at all heights up to 1.55 m. Because she jumped 1.50 m at first and had no missing she managed to take the 4th place in the final contest.

5th place was occupied by Meze Madalina also the result of 1.50 m. As the contest began Anghel jumped to 1.40 m where the first, at 1.45 needed three attempts to pass the bar and at 1.50 m to go throughout the first attempt. The difference between her and the 4th was the number of two unsuccessful throughout the contest, to Anghel Madalina none.

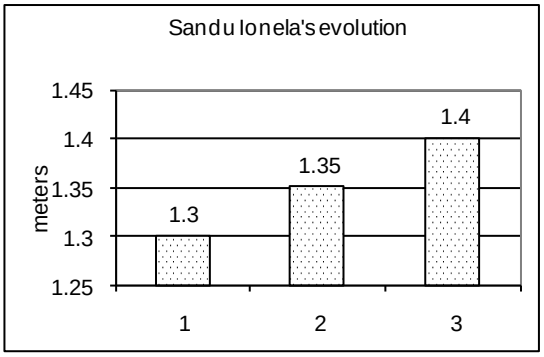
6th place was occupied by Florentina Budica contest that began at 1.40 m where she jumped from the first, at 1.45 metersshe needed two attempts to pass the bar, and three attempts at 1.50 meters. She tried three times to 1.55 m but failed to cross over the bar.



Oana Lupse ranked 7 with a performance of 1.45 m. The contest started at 1.35 m where she passed the first attempt, at 1.40 and 1.45 meters she needed two attempts.



Ionela Sandu entered the contest from where he jumped 1.30 m at the first attempt, and to 1.35 m otherwise. At 1.40m she needed two attempts to succeed in passing the bar, then tried three times unsuccessfully, to pass over 1.45 m.



After the study conducted at the Indoor National Junior 3 Championships held in Bacau, we reached the following conclusions:

1. The lessons that are part of the training cycle containing five categories: technique, running, physical training, strength development and jumps.
2. First 2 ranked in high jump had the same result - 1.59 m, were categorized only by the number of failures made in the contest.
3. Three of the athletes who started at the studied competition were able to improve the result a year ago at the National indoor championship. Dumitraşcu jumped by 9 centimeters long and managed to win the title of national champion, Meze also managed 10 centimeters and 5 centimeters Lupse better than the previous year.

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Analiza probei de săritură în înălţime desfăşurată la campionatul naţional de sală 2010

Rezumat: *În prezenta lucrare s-a urmărit analiza rezultatelor obţinute de săritoarele junioare 3 la Campionatul Naţional de sală din 2010. Primele două clasate au avut acelaşi rezultat fiind departajate doar de numărul de nereuşite realizate în concurs. Şase dintre sportivele care au luat startul la concursul studiat au reuşit să-şi îmbunătăţească rezultatul obţinut cu un an în urmă.*

Cuvinte cheie: *săritură, performanţă, încercare.*

Saut en hauteur analyse test effectues de salle de championnat national 2010

Résumé : *Dans le présent document vise à analyser la performance de trois juniors de saut de la salle du Championnat National 2010. Les deux premières classes ont les mêmes résultats ont été classés seulement par le nombre d'échecs fait au concours. Six des athlètes qui ont commencé à se former à la compétition ont été en mesure d'améliorer le résultat d'un an auparavant.*

Mots-clés: *sauter, performance, les tests.*

EXPERIMENT ON THE GROWTH RATES OF DEVELOPMENT OF SPECIFIC GAME OF HANDBALL DRIVING QUALITIES, TROUGH SPECIFIC MEANS ATHLETICS, TO JUNIORS II ECHELON

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Abstract: *The purpose of this paper is to present and demonstrate one of the effects of increasing development indices, specific driving qualities of handball game, namely athletics, as well as to contribute to the enrichment of research in this area.*
Key words*: indices, driving qualities, growth, development.*

Introduction

Handball game theory and methodology, studying a large sphere of problems relating to the school handball game, at the mass, at the base mass of performance sport level, at the performance and high performance.

The handball game represent a harmonious combination, between natural movements (running, jumping, throwing), on the one hand, and the motor dexterity and ability, simples, attractive and accessible, on the other hand.

Was developed and a training concept, which suffers changes and improvements continuous, made from studies and theoretical researches, practical and applied. In conclusion, we can say that the main trend of the handball game, is to be practiced totally of a scientifically bases, and create and implement as a richer technical-tactical baggage, and adapting of the purpose of each competition, namely to score many points in the enemy gate.

We can say that the handball game learn to the individual to be disciplined, orderly, industriously, self-consciously about collective success, ambitious and eager for self.

Content

It is known that the assumptions are temporary solutions of the scientific research problems.

Generally hypothesis represent own uncertainties explanation, in scientific research her taking place a provisional solution of an provisional response to the question of the problem under research.

The hypotheses of this paper were:

-- If the means proposed, selected and implemented, can lead to very significant increase of a motor qualities indices development, specific handball game, verified and certified by the control samples, report to their values, proposed by Romanian Federation of Handball (R.F.H.).

-- If scientifically effected, the child-juniors training can lead to assumptions development, to a fair and harmonious development, and to increase of a motor qualities indices development.

Proficiency knowledge a morpho-functional and psychical particularities, of the each child with which working, is the only way what allow avoid of the two most common mistakes in sport activity, namely over-exaggerated efforts of the body and excessive caution, because that the preparation is maintained on a level bellow by the child's possibilities.

In terms of developing motor qualities, can be said that the main motor solicitations forms, are represent by the motor qualities, that

can be divided in conditional and coordinative or coordination qualities.

In this complex gear, an extremely important role it have the central nervous system and particularly cortical floor, that performs the analysis and synthesis of information from the periphery, on which elaborate on the appropriate commands and kinaesthetic analysers, tactile, audible and optical, which receiving environmental changes and transmit them to the cortex nerve, in form of nervous inflows, of them adding the numerous mechanisms of feed-back, in which an important role they have some central nervous and vegetative formations, example being the Reinshaw neurons by the spinal marrow, endocrine glands and the concentration levels of a series of substances, which provides a whole body homeostasis.

Dividing the training period, is determined by a series requirements, by method nature, which define the respective phases.

As a result, the entire process of children and juniors preparation, was divided into the fallowing stages:

-- first stage – beginners;

-- second stage – advanced;

-- third stage – perfected.

In the first stage the children discover first notions of technique and tactics learn the first rules of the game so basically start play of the handball game.

So, from the above, show that preparatory stages to the this echelon, beginners, is learning and reinforcement.

In the second stage, children will run a more comprehensive training program, tactical and technical content what be learned, is much wider, and physical preparation level being much improved.

This stage corresponds and with official competition apparition, so the fight sports with a real and the unknown enemy.

For this stage is defining the consolidation and learning.

In the third stage, appear two lines defining, namely game model and training model of the juniors.

Beginning with the performance echelon of advanced juniors, game models provide progressively increasing of the technical and tactical baggage, and a growth indices of development og game specific motor qualities.

Principle is defined as a basic idea of a doctrine or thesis, which structure and guiding one knowledge activity or by practical nature, from which drift a series consequences in the action plan or behaviour. (A. Nicu, pg. 103)

As a general definition, sports training is defined as "pedagogical process, systematic developed and continuous gradually by adapting to the physical efforts of the human body, technical, tactical and psychical intense, to obtain the best results, one of the forms of practice in the competitive regime, of physical exercises." (I. Kunst Ghermănescu, pg . 188)

The sports training concept, have subordinates the training basis, (all laws and principle underlying and conditioning sports training), established by the sports training theory (system of principles and methods which structured and compose sports training), as training principles (basic ideas by the pedagogical, psychological, physiological, hygienic order, and others which structures making and driving of the training process).

Sports training involves certain components, namely:

a) educational component, by the teaching process which operating;
b) biological component, by the objectives effects in functional development plan and as adaptative level of human body;
c) psychological component, by the character features, moral features, emotional features implications, of the athlete personality;
d) sociological component, by the relationships and his integration mode and homogenization, in the social, economic and cultural environment;
e) hygienic component, by the specific nutrition conditions, rest, comfort, and by environment where the athlete is trained and recover;
f) ethical component, by the fair-play ideals, total employment in training and competition;

Going of the assumption that sports training is, above all, a teaching process with multiple implications, we believe is useful to distinguish the principles into two big category, namely: general principles and specific principles.

Such sports training theory, present the following general principles:

-- accessibility principle;

-- continuous effort principle;

-- cyclic structure of effort principle;

-- conscious participation principle;

-- systematization principle;

-- intuition principle;

-- individualization principle;

-- through knowledge principle.

The specific principles are those which act mainly in sports training, and use them in

other activities whose generate a different types of performances.

Sports training factors are classified thus:

a) Technical preparation factor is represented by all means with a identical structure or similar, of motor actions provided by the competition rules, by which athlete or team reflected differentiated performance as specific, or more simply, all the means, which by their specific form and content allow to practice of sport branches, according to contest rules and form sport branches technique, those.
b) Tactical training factor involves complex, adequate and effective capitalization a technical and tactical preparation, of a team, in the contest deploy in concordance with conditions of adversity and with predetermined performance objectives, namely title, record, qualification, special place, etc.
c) Theoretical training factor represent "all the information learned from athlete to knowledge and explain all the principle, rules and methods what determined increase effort and performance capacity, and contest or next game anticipating for adequate approach" (A. Nicu, pg. 261)
   This factor is one of the elements through which realise the "invisible training" his tasks being instructive-educative.
d) Psychological training factor, "determined by the training means and with educational actions, increased mental capacity, to allow of athlete deploy of efficiently actions and obtain a superiors results in competitions".(M. Epuran, pg. 205)

Driving qualities are body features, materialized in the ability to making of the movement actions with some indices by speed, force, resistance and ability or skill, are one native character whose initial level of manifestation depends by the genetic hereditary fund.

Driving qualities are divided into:

-- Basic motor qualities, speed, force, resistance, ability or skill, to which is added, according with some specialists flexibility and mobility;

-- Specific motor qualities, those involved in the practice of sport branches, or the exercise some professions or trades, them resulting from combining of two or more basic motor qualities.

For each basic motor qualities, exists one specific feature, namely:

1). For speed – rapidity, swiftness;

2). For skill or ability – complexity degree or movement precision;

3). For resistance – effort duration;

4). For force – load.

Tasks research were following:

-- action of documentation and information;

-- establish working hypotheses;

-- initial testing of children;

-- completion of the training program;

-- final testing of children;

-- analysis and interpretation of results;

-- establish the conclusions and recommendations.

The experiment being realise in period 20 october 2010 – 15 mars 2011, at high school sports program Brăila.

Anthropometric measurements was: height, weight, scale, length of palm.

Driving and technical samples was:

1. Standing long jump;
2. Speed running on the distance of 30m;
3. Handball ball throwing away with momentum of three steps;
4. Ten steps jump (minimum 20m);
5. Dribbling through cones;
6. Resistance running of the 1000m distance.

Motrico-technical test
Table nr. 1

Nr. crt.	Name and prename	Speed 30m (sec)			Ten steps jump 20m (m)			Dribbling through cones 30 m (sec)			Standing long jump(m)			Throwing handball ball away (m)			Resistance 1000m (min, sec)		
		T_i	T_f	V_R	T_i	T_f	V_R	T_i	T_f	V_R	T_i	T_f	V_R	T_i	T_f	V_R	T_i	T_f	V_R
1	S1	4,7	4,6	4,3	19	21	20	7.8	7.6	7.3	2,18	2,22	2,20	22	23	25	4'30''	4'25''	4'20''
2	S2	4,8	4,6	4,3	20	20	20	7.5	7.5	7.3	2,22	2,20	2,20	21	22,5	25	4'50''	4'40''	4'20''
3	S3	4,3	4,3	4,3	18	19	20	7.6	7.4	7.3	2,10	2,15	2,20	20	21,5	25	4'40''	4'40''	4'20''
4	S4	5,2	4,9	4,3	22	22	20	7.9	7.5	7.3	2,05	2,15	2,20	23	23	25	4'20''	4'20''	4'20''
5	S5	4,7	4,5	4,3	17,5	18,5	20	8.1	7.7	7.3	1,95	2,00	2,20	22,5	23	25	4'40''	4'35''	4'20''
6	S6	4,8	4,7	4,3	18,5	19,5	20	7.7	7.4	7.3	1,90	1,95	2,20	21,5	22	25	5'	4'45''	4'20''
7	S7	4,5	4,5	4,3	21	22	20	8.2	7.8	7.3	2,00	2,00	2,20	26	26	25	4'35''	4'30''	4'20''
8	S8	4,7	4,6	4,3	20	21	20	7.4	7.2	7.3	2,15	2,18	2,20	24,5	25	25	4'10''	4'10''	4'20''
9	S9	5,0	4,9	4,3	18	19	20	7.6	7.4	7.3	2,00	2,08	2,20	22,5	23,5	25	4'45''	4'40''	4'20''
10	S10	4,8	4,7	4,3	17,5	18,5	20	7.9	7.7	7.3	1,90	1,94	2,20	21,5	22	25	4'25''	4'20''	4'20''
11	S11	5,1	4,9	4,3	17	19	20	8.0	7.8	7.3	2,10	2,14	2,20	26	27	25	4'15''	4'10''	4'20''
12	S12	4,4	4,5	4,3	18	18	20	7.5	7.5	7.3	2,25	2,30	2,20	23	24,5	25	4'45''	4'30''	4'20''
Indicatori statistici	$\overline{X}$	4.75	4,64	—	18,87	19,79	—	7,76	7,54	—	2,06	2,11	—	22,79	23,58	—	4,35	4,30	—
	S $\pm$	0.24	0,18	—	1,55	1,38	—	0,25	0,18	—	0,12	0,11	—	1,87	1,70	—	0,15	0,12	—
	Cv	5.18	4,05	—	8,23	7,02	—	3,31	2,42	—	5,79	5,46	—	8,32	7.22	—	3,44	2,78	—
	P	0.11		—	0.92		—	0.21		—	0.05		—	0.79		—	0.05		—

Coclusions

Research has found analyzing and systematizing the preparation means, to indices increase development of motor qualities specific handball game, proved to be efficiency and specific means of athletics proposed.

Hypotheses proposed to be verified and demonstrated have been validated, whereas the development indices of motor qualities specific handball game, have increased, results obtained as the control samples, demonstrating that.

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Experiment privind creşterea indicilor de dezvoltare ai calităţilor motrice specifice jocului de handbal, prin mijloace specifice atletismului, la eşalonul Juniori II.

Rezumat: *În cele ce urmează, voi demonstra cu ajutorul unui experiment, importanţa folosirii mijloacelor specifice atletismului, în creşterea indicilor de dezvoltare ai calităţilor motrice specifice jocului de handball, la eşalonul Juniori II.*

Cuvinte cheie: *creştere, dezvoltare, calităţi motrice, handbal, atletism.*

Expérience sur a la croissance des indices le développement des qualités motriques, par des moyens spécifique d'athlètisme a l'echelon des Junior II.

Résumé: *Dans la suite, je vais démontrer à l'aide d'une expérimence, importance de l'utilisation des moyens spécifique d'athlètisme, sur a la croissance des indices le développement des qualités motriques, spécifique au jeu du handball, a l'echelon Juniori I.*

Mots clés: *croisssance, développement, qualités motriques, handball, athlètisme.*

INFLUENCE OF PHYSICAL TRAINING MEANS ON TECHNICAL ELEMENTS LEARNING IN WOMEN'S ARTISTIC GYMNASTICS

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Abstract: *The purpose of this paper is to highlight the influence of physical training means on learning the technical elements on various apparatus in women's artistic gymnastics.*

To highlight the level of specific physical and technical training of junior female gymnasts, a case study was organized in School Sports Club no.7 Dinamo Bucharest. The study was conducted during a period (September 2010 – November 2010) formed of three mezzo-cycles, with 49 training sessions, applied to a 10 years old gymnast, junior class IV, level 2 of training.

The study analyzed the training programs in order to test the technical and physical training level, monitoring from statistical point of view the evolution of effort parameters in learning and improving the technical elements on different apparatus. Statistical processing has been made in Word and „KyPlot" programs, calculating the usual statistical indices and the test of linear correlation.

The results of the study show that the use of the most efficient preparatory exercises for the development of muscle groups needed to the execution of technical elements and the use of auxiliary equipment for the improvement and correction of technical elements or phases on each apparatus contribute to the increase of technical training level and to a more efficient learning of these ones.

Key words: *technical elements, artistic gymnastics, learning, means, physical training, technical training.*

Introduction

Artistic gymnastics is currently experiencing a new level of development in terms of content and assessment of exercises. The new modifications of the Code of Points, related to the difficulty of technical elements, the granting of bonuses for the connections on each apparatus and last, but not least, the specific requirements of each apparatus will determine new guidelines and tendencies in the technical training on competition apparatus. (V. Potop, 2008).

Learning the technique specific to different sport branches is generally characterized by the laws and stages of learning the motor skills and acts, with, some differential, specific notes, determined by the particularities of sport branches (A. Dragnea, 1996). In any sports branch, thus in artistic gymnastics too, the process of learning, through its quality, influences the performances achieved. In this context, its content modifies gradually the behavior of response to the stimuli requirements during training sessions (G. Niculescu, 2003).

As shown by M. Epuran, learning movements in sport is a special type, because performance is embodied just in the qualitative level of the execution, such as in the case of artistic or rhythmic gymnastics, figure skating, synchronized swimming, etc.; if objects are used (throwing, sport games, etc), these ones represent the intermediate tools by means of which are manifested and assessed the coordinative abilities, the strength, speed or resistance features of the respective movements (A. Dragnea.; S. Mate- Teodorescu, 2002).

Artistic training in gymnastics is a special and complex component of sports training, which provides physical and psychological support to achieve movements in a personal style, at the indices of technicality, plasticity, suggestibility and expressiveness required by the specific character of the sport (V. Grigore, 2002).

Physical training is one of the most important factors of sports training in achieving the high performance. The main objectives of physical training are the increase of athlete's physiological potential and the development of the biometric skills up to the highest level. (T.O. Bompa, 2002). Physical skills or motor skills, as called by Zatziorski, represent the premises or basic motor requirements on which the athlete builds technical skills. (C. Bota; B. Prodescu, 1997). The growth of specific strength indices, which characterize artistic gymnastics, on each apparatus actually, involves the stress of particular muscle groups, specifically differentiated from the whole lean body, and the directions of engagement of such groups must meet sports technique (V. Grigore, 2001).

Gymnastics has made great technical progresses but also higher performances thanks to its perfecting as time goes on and to the improvement of functional parameters of competition apparatus. Coaches must always be concerned to imagine and create the means, apparatus and technologies to help athletes in their work during training sessions and, at the same time, to protect them and to alleviate their effort throughout the learning and improvement process (N. Vieru, 1997).

Purpose of the paper: to highlight the influence of physical training means on technical elements learning on different apparatus of women's artistic gymnastics.

Hypothesis

We believe that the use of the most effective preparatory exercises for developing the muscle groups necessary for technical elements execution and the use of auxiliary equipment for improving and correcting technical elements or phases on each apparatus will help to improve technical training level and to learn more effectively these elements.

Study organization and conduct.

To highlight the level of specific physical and technical training of junior female gymnasts, a case study was organized in School Sports Club no.7 Dinamo Bucharest. The study was conducted during a period (September 2010 – November 2010) formed of three mezzo-cycles, with 49 training sessions, applied to a 10 years old gymnast, junior class IV, level 2 of training.

Methods of research and procedures

- Method of bibliographic study;
- Method of observation;
- Method of experiment;
- Statistical-mathematical and plotting methods.

The study analyzed the training programs in order to test the technical and physical training level, monitoring from statistical point of view the evolution of effort parameters in learning and improving the technical element on different apparatus. Statistical processing has been made in Word and „KyPlot" programs, calculating the usual statistical indices and the test of linear correlation.

Table no. 1. Number of apparatus / workout during mezzo-cycles

Period / mezzo-cycle	Number of workouts					Phys. training
9.09 - 30.09. 2010	**14**	**10**	**12**	**13**	**13**	**14**
1.10- 29.10.2010	**20**	**18**	**19**	**18**	**18**	**20**
1.11- 29.11.2010	**15**	**15**	**15**	**15**	**15**	**15**

In table no. 1 are showed the periods of training mezzo-cycles, the total number of workouts related to the number of apparatus / workout in training mezzo-cycles.

Table no. 2. Content of technical and physical training means

Apparatus	Technical content	Installations /strength exer.
1. Handspring vaults :	**- Forwards handspring vault – 10x.**	**Stacked mats placed transversally to the table, handspring vault over the mats– learning of flight II;**
2. Uneven parallel bars:	**a) Exercises of technical training + *strength exercises:* -3 straightening with handstand swinging + with 5 *handstand swinging with help;***	***b) Strength exercises:* - Abdominal strength, - Back strength, - Arms strength, - Legs strength.**
	Note: Strength exercises were repeated after each execution of technical elements.	
3. Beam:	***Acrobatic elements on beam* -tic-tac with back walkover on 1 leg (flick-flack); - 2 back walkovers connected.**	**- Use of gymnastics benches for correction of elements.**
4. Floor - acrobatics:	***Exercises on acrobatic path:* - Round-off, backwards walkover, backwards tucked and stretched salto**	**- Stacked mats in sponges pit; - Mat or blocks for landing in sponges pit.**
5. Physical training:	***a) Strength circuit (3-5 series) b) Strength program on floor (3-5 series)***	

In table no. 2 are listed some examples of the content of technical and physical training means on each apparatus.

Control trials applied:

A. Physical training (P.F.):

P.F.1- arms strength, climbing a rope by means of hands and legs (sec.);

P.F.2- abdominal strength: raises of legs stretched up to the rib stall gripping point (maximum number of correct reps);

P.F.3- back strength: torso extensions hands behind neck(maximum number of reps);

P.F.4- lower limbs strength: one leg squat (maximum number of reps);

P.F.5- arms strength: pull-ups (maximum number of reps);

P.F.6- arms strength: push-ups with prone support (maximum number of reps);

P.F.7- abdominal strength: straight leg rainbow crunches (maximum number of reps);

P.F.8- strength of scapular belt, back and abdomen: strength handstand from astride support (maximum number of reps);

P.F.9 –explosive strength: straight jumps up and down with stretched legs on trampoline edge in 30 sec. (number of reps);

P.F.10- static strength (isometric) prolonged handstand next to the wall (seconds)

B. Technical training:

P.T.S.1- back handspring vault (points);

P.T.P.i.2- handstand straightening (maximum number of reps / points);

P.T.B.3- acrobatic connection from tic-tac with back walkover 1 leg (points)

P.T.S.a.4- acrobatic line from round-off, back walkover (flick-flack), stretched backwards salto (points)

Results of the study

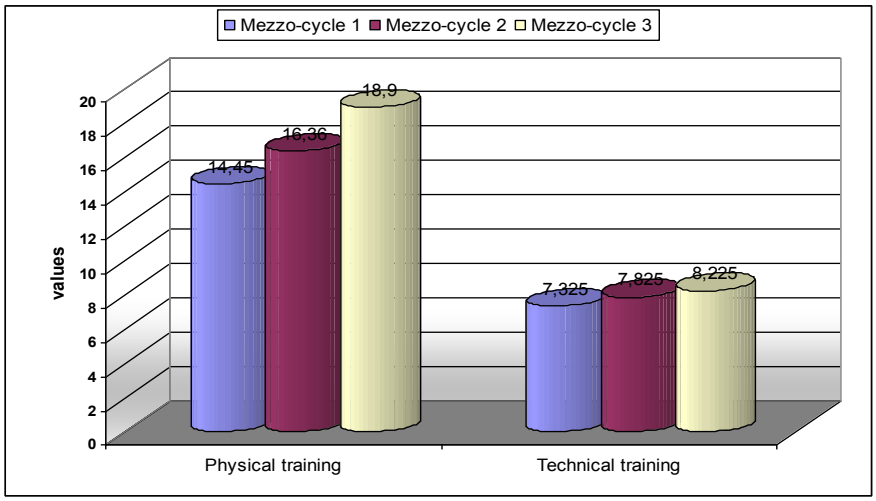
Table no. 3. Results of physical training

Control trial		Mezzo-cycle 1	Mezzo-cycle 2	Mezzo-cycle 3
P.F.1 (sec.)		30	24	21
P.F.2 (no of reps)		8	12	16
P.F.3 (no of reps)		20	24	26
P.F.4 (no of reps)	right	10	12	15
	left	9	11	14
P.F.5 (no of reps)		6	8	10
P.F.6 (no of reps)		10	12	15
P.F.7 (no of reps)		18	22	26
P.F.8 (no of reps)		1	2	4
P.F.9 (no of reps)		23	26	28
P.F.10 (seconds)		24	27	33
X- arithmetical mean		14.45	16.36	18.9
Em- average error		2.7	2.5	2.6
S –standard deviation		9.01	8.46	8.66
Cv- coeff of variability		62.3	51.7	45.8
Control trials Mezzo-cycle no. 2		r- 0.95 t- 9.15, P<0.001		
Control trials Mezzo-cycle no. 3		r- 0.85 t-4.87, P<0.001	r-0.96 t-11.39, P<0.001	

Table no. 4. Results of technical training

Control trial	Mezzo-cycle 1	Mezzo-cycle 2	Mezzo-cycle 3
P.T.S.1 (points)	7.50	8.00	8.40
P.T.P.i.2 (maximum reps no. / points)	3 / 7.00	5 / 7.80	10 / 8.20
P.T.B.3 (points)	7.80	8.00	8.30
P.T.S.a.4 (points)	7.00	7.50	8.00
X- arithmetical mean	7.325	7.825	8.225
Em- average error	0.19	0.11	0.08
S – standard deviation	0.39	0.23	0.17
Cv- coeff of variability	5.38	3.01	2.07
Probe de control Mezzo-cycle no. 2	r-0.81 t-1.97, P>0.05		
Probe de control Mezzo-cycle no. 3	r-0.72 t-1.507, P>0.05	r- 0.84 t- 2.236, P>0.05	

Tables no. 3 and 4 summarize the results of physical and technical training level, pointing out 10 strength control trials and 4 technical control trials on each apparatus.



Graph no. 1. Relationship of physical and technical training

Discussions

Physical training is an important component of sports training in artistic gymnastics and has a different weight depending on the level of training, the preparation steps and period. To ensure the *motor support* necessary to technical elements learning on different apparatus, we must consider some methodological issues (Potop V., 2005, 2008): establishment of special physical training shortcomings and of the strategy necessary to correct them; correlation of general physical training means and special physical training means depending on the training stage, etc.

To provide an effective *technical training* it is important to take into account the following methodological issues (V. Potop, 2005, 2008): the number of trials and the passage from a preparatory exercise to another must be performed depending on the accuracy of the technical execution and on gymnasts' individual possibilities; as they learn a given exercise, the number of reps is reduced gradually, moving on to another more complex exercise, etc.

The study was centered round the technical and physical training programs, over three mezzo-cycles, monitoring statistically the evolution of effort parameters and the dynamics of technical elements learning on each apparatus, etc.

The review of training means content in terms of use of strength preparatory exercises and of equipment for learning the technical elements on different apparatus, showed that the goal of using auxiliary equipment in vaults was to improve the flight I and II and the correction of the support on apparatus; on uneven bars the strength preparatory exercises and the auxiliary equipment were used to learn and improve the technical elements; on beam, the acrobatic elements were learned by means of the gymnastic bench, mats under the beam and, last but not least, the help; as for the acrobatics on floor, the target was to learn, improve and correct the acrobatic elements, using different preparatory exercises and auxiliary equipment at sponges pit.

The analyses of statistical-mathematical calculations results highlight an increase of physical training level from 14.45 in training mezzo-cycle no. 1 to 16.36 in mezzo-cycle no. 2 and 18.9 in mezzo-cycle no. 3 and significant differences between averages and mezzo-cycles at $P<0.001$. Regarding the level of technical training on apparatus, the tests results emphasize an improvement of technical executions from 7.325 points in the training mezzo-cycle no. 1, reaching to 8.225 points in mezzo-cycle no. 3 and insignificant differences between averages and mezzo-cycles at $P>0.05$.

Conclusions

The study aims to highlight the level of physical and technical training in three training mezzo-cycles, monitoring statistically the development of effort parameters and the dynamics of technical elements learning on different apparatus.

The study content highlights the sequence and number of work on each apparatus from the total workouts made per training mezzo-cycles.

The efficient use of strength preparatory exercises and of auxiliary equipment in learning of technical elements on various apparatus points out the improvement of flight I and II and the correction of the support on apparatus in the case of handspring vaults; learning, improvement and correction of technical elements on uneven bars, beam and floor.

Highlighting the development level of muscle strength and its influence on learning the technical elements on different apparatus.

Improvement of physical training level from one training mezzo-cycle to another and significant differences between averages and mezzo-cycles at $P<0.001$;

Improvement of technical execution on each apparatus and insignificant differences between averages and mezzo-cycles at $P>0.05$.

At the end of the study we can confirm that the use of the most effective preparatory exercises for developing the muscle groups necessary for technical elements execution and the use of auxiliary equipment for improving and correcting technical elements or phases at each apparatus will help to improve technical training level and to learn more effectively these elements.

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Influenţa mijloacelor pregătirii fizice asupra învăţării elementelor tehnice din gimnastica artistică feminină

Rezumat: *Scopul lucrării este de a evidenţia influenţa mijloacelor pregătirii fizice asupra învăţării elementelor tehnice la diferite aparate din gimnastica artistică feminină.*

Pentru a evidenţia nivelul pregătirii fizice specifice şi tehnice în cadrul pregătirii gimnastelor junioare, s-a organizat un studiu de caz în cadrul Clubului Sportiv Şcolar nr.7 Dinamo Bucureşti. Studiul s-a desfăşurat în perioada (septembrie 2010 – noiembrie 2010), alcătuită din trei mezocicluri, cu 49 de antrenamente, aplicate la o gimnastă de 10 ani, de categoria junioare IV, nivelul 2 de pregătire.

În studiu au fost luate programele de pregătire în vederea testării nivelului pregătirii fizice şi tehnice, urmărindu-se statistic evoluţia parametrilor efortului în învăţarea şi perfecţionarea elementelor tehnice la diferite aparate. Prelucrările statistice au fost făcute în programele Word şi „KyPlot", calculând indicii statistici uzuali şi testul de corelare liniară.

Rezultatele studiului evidenţiază că folosirea celor mai eficiente exerciţii pregătitoare pentru dezvoltarea grupelor musculare necesare executării elementelor tehnice şi a instalaţiilor ajutătoare pentru perfecţionarea şi corectarea elementelor tehnice sau fazelor la fiecare aparat contribuie la îmbunătăţirea nivelului pregătirii tehnice şi la învăţarea mai eficientă a acestora.

Cuvinte cheie: *elemente tehnice, gimnastica artistică, învăţare, mijloace, pregătirea fizică, pregătirea tehnică.*

Influence des moyens de l'entraînement physique sur l'apprentissage des éléments techniques en gymnastique artistique féminine

Résumé: *Le but de cette étude est de mettre en évidence l'influence des moyens de l'entraînement physique sur l'apprentissage des éléments techniques sur divers appareils de gymnastique artistique féminine.*

Pour établir le niveau de l'entraînement physique spécifique et de l'entraînement technique dans la préparation des gymnastes juniors, on a organisé une étude de cas dans le Club Sportif Scolaire no.7 Dinamo Bucarest. L'étude a été menée au cours de la période (Septembre 2010 – Novembre 2010) formée de trois mezzo-cycles, à 49 entraînements, appliqués à une gymnaste de 10 ans, catégorie junior IV, niveau 2 de formation.

L'étude a pris en considération les plans d'entraînement afin de tester le niveau de l'entraînement physique et technique, en observant statistiquement l'évolution des paramètres de l'effort dans l'apprentissage et le perfectionnement des éléments techniques à divers appareils. Le traitement statistique a été réalisé dans les programmes Word et „KyPlot", en calculant les indices statistiques usuels et le test de corrélation linéaire.

Les résultats de l'étude montrent que l'utilisation des exercices préparatoires les plus efficaces pour le développement des groupes musculaires nécessaires à la réalisation des éléments techniques et l'utilisation des installations aidant au perfectionnement et à la corrélation des éléments techniques ou des phases à chaque appareil contribuent à l'amélioration du niveau de l'entraînement technique et à un apprentissage plus efficace de ces éléments.

Mots-clés: *éléments techniques, gymnastique artistique, apprentissage, moyens, entraînement physique, entraînement technique.*

SELECTION OF CHILDREN FOR THE USE ATHLETICS

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Abstract: *Earlier researches in September 2010 were tested about 67 students (girls and boys) of the three classes - IV - sector 3 Bucharest. Of the students tested only 10 were selected (three girls and seven boys) and have obtained performance to prove their inclination to practice athletics. There were three other students selected, but did not want to practice athletics for various reasons. Children who have been selected to present performances that give hope for future coaches, but also by those who want to practice this sport.*

At the end of the research there have been accumulated results listed in tables, interpreted and made the final conclusions.

Keywords: *selection, test, results.*

Selection is a specialist activity organized, held on the basis of biological, psychological, pedagogical, towards detecting individuals with special skills to practice different sports branches (Nicu A şi colab, 2002).

Action involves a broad selection of conceptual and organizational assessment at different levels (history, health diagnosis, level of physical and functional growth and development, mental readiness, etc.) collectivities of subjects. Therefore, the organization needs a set of criteria and indicators, a model which is equipped to operate in the choice of a sporty type of effort (Drăgan I, 1989).

Optimal age for selection varies from one industry to another sport. In athletics, it is around 10-11 years of age (FRA, 1995).

Sport, Romanian and foreign authors show that early selection is sometimes risky. First, it can leave out the process of preparing children very well equipped and, secondly, that early athletic training introduced only bring good results and short-term risk to seriously affect later body balance (Neder Paraschiţa F, 2010).

Research goal is to select as many students of class - IV - the athletes to practice, from physical evidence tested.

Research hypothesis: It is assumed that the total number of students tested will be at least 10 athletes selected for the practice of athletics.

Research tasks:

- Browse the most comprehensive bibliography of material.
- Creating an overall picture of the problem.
- The operational framework for achieving a form to be used in selecting work.
- Providing data system specialists, results of the study, which based on a selective approach, can be used in the selection of concrete work.

Subjects of this study were three classes of students - IV - sector 3 of Bucharest, aged 10 to 11 years. Of these, 10 were selected (three girls and seven boys) for practicing athletics. The research took place from September 25 to October 10, 2010.

Research methods used were: bibliographic study method, observation method, testing method: Tests on the 30 meter sprint race, running the 600 meters, long jump standing and oina throwing, graphical representation method, statistical and mathematical method.

Upon completion of testing girls have achieved the following results:

No. crt.	Name	30 meter sprint race (sec.)	Long jump standing (m)	Oina throwing (m)	Running the 600 meters (min.)
1.	Bogos Diana	5.4	1.32	13	2:10
2.	Ungureanu Ana Maria	5.6	1.29	13	2:17
3.	Ciulei Denisa	5.5	1.25	12	2:18
	Arithmetic mean	5.5	1.29	12.67	2:15

The results of our tests were girls:

Diana Bogos obtained good results at 30 m, long jump standing and 600 meters race of resistance.

Ana Maria Ungureanu and Ciulei Denise had good results on running the 30 meters and standing long jump, the other two tests results are not very spectacular.

Throwing the ball was poor oina for all three girls.

The three girls are the best girls in their classes.

Boys' results are listed in the table below:

No. crt.	Name	30 meter sprint race (sec.)	Long jump standing (m)	Oina throwing (m)	Running the 600 meters (min.)
1.	Ferariu Petru	5.2	1.39	22	2:14
2.	Jercalau Sergiu	5.4	1.35	24	2:12
3.	Costea Ionel	4.9	1.50	28	2:15
4.	Teodor Nicusor	4.8	1.54	30	2:17
5.	Rusu Stefanel	5.1	1.43	27	2:18
6.	Ciulei Denis	5.0	1.45	29	2:19
7.	Tronciu Matei	5.2	1.48	25	2:11
	Arithmetic mean	5.08	1.45	26.43	2:15

The arithmetic mean of the boys in the 30 meters race is 5.08 seconds. Of the seven boys only two managed to fall below the threshold of 5 seconds.

The standing long jump was the mean of 1.45 m. The same two boys were jumping over 1.50 m; four men jumped over 1.40 meters and two over 1.35 meters.

Oina throwing was better than girls, meaning that the results were good in all children. It was obtained an average of 26.43 m, but four children had results above average.

Running resistance by 600 I produced a twist: the best result was obtained by Sergiu Jercalau not excelled in other events but this was the first of all. Instead, the two children who have achieved the best results in other events, here the results were around the average group.

In conclusion, the students selected, some will be directed to sprint - jumping while others will embrace, perhaps, running long distances.

Following research carried out was reached the following conclusions:

- Selection of children to practice athletics is good to be made around the age of 10 to 11 years, i.e. the class - IV - a.
- Selection tests are not much different from those provided by curriculum of physical education of grade4,- were used: 30 m running speed, oina throwing, long jump standing and running resistance by 600 m.
- After the selection made on a total of 67 students from the city of Bucharest, 10 children were selected for practicing athletics, where the study shows that the hypothesis is confirmed.
- Of the seven boys selected, five were inclined to practice speed or jumping events, while two can work successfully for evidence of resistance.
- Unfortunately the number of children who want to practice athletics is increasingly small, and their motric level is still lower.

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Selecţia copiilor pentru practicarea atletismului

Rezumat: *La începutul cercetării în septembrie 2010 au fost testaţi aproximativ 67 elevi (fete şi băieţi) din 3 clase de a – IV – a din sectorul 3 Bucureşti. Din totalul de elevi testaţi au fost selecţionaţi doar 10 (3 fete şi 7 băieţi), care au obţinut performanţe care să le ateste înclinaţia pentru practicarea atletismului. Au mai fost selecţionaţi alţi 3 elevi, dar care nu au dorit să practice atletismul din varii motive.*

Au fost selecţionaţi acei copii care prezintă performanţe ce dau speranţe antrenorilor pentru viitor, dar şi aceia care au dorit să practice acest sport.

În finalul cercetării au fost centralizate rezultatele, trecute în tabele, interpretate şi formulate concluziile finale.

Cuvinte cheie: *selecţie, testare, rezultat.*

Selection des enfants pour la athletisme utilisation

Résumé: *Des recherches antérieures en Septembre 2010 ont été testées sur les 67 élèves (filles et garçons) des trois classes - IV - secteur 3 Bucarest. Parmi les élèves testés seulement 10 ont été sélectionnés (trois filles et sept garçons) qui ont obtenu des performances de prouver leur inclinaison à l'athlétisme pratique. Il y avait trois autres étudiants sélectionnés, mais ne voulait pas de pratiquer l'athlétisme, pour diverses raisons. Les enfants qui ont été sélectionnés pour présenter des spectacles qui donnent de l'espoir pour l'avenir des entraîneurs, mais aussi par ceux qui veulent pratiquer ce sport. À la fin de la recherche ont été accumulés des résultats indiqués dans les tableaux, interprétées et appliquées les conclusions finales.*

Mots-clés: *sélection, les resultants, des tests.*

THE TRAINING STRATEGIES OPTIMIZATION AT YOUTH LEVEL IN ICE HOCKEY

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Abstract: *The essay elaborates a strategic project selection and training of youth ice hockey in the Romanian first formative stage, at the U8 age group (6 -7 years). For each formative stage it must be developed and tested an own analytical program, with objectives, content, instructional strategies and evaluation tools specific to that level. Also, this approach is made taking into account the requirements of the modern game, defining characteristics of worldwide schools dedicated to hockey, age characteristics, socio-economic conditions in our country, etc.*
Key words: *strategy, training, ice hockey.*

Introduction

Compared with other European countries, ice hockey in Romania is less common and practiced as a high performance sport. This state of things is due to a number of performance capacity limiting factors such as: the small number of centers or clubs where ice hockey is practiced, small number of ice rinks, lack of contact with worldwide schools devoted to ice hockey and, the last but not the least the selection and training methodology exceeded and was unable to train players (teams) at world high performance level.

Motivation

One of them could be the lack of specialty and Romanian authentic scientific research, with reference task, selection, ice hockey players and team training (especially at juniors level). 31 years experience in practice of ice hockey, where I met the selection criteria requirements and I crossed in time, all the formative stages of high performance athletes (components of the Junior National Team 1992-1996), components of the Senior National Team (2000 - 2005), National Champions with C.S.A. Steaua Bucharest team 4 Romanian Cup winner (2000, 2001, 2002, 2004).

Knowledge of philosophy and preparation of team playing ice hockey Romanian and its comparison with those used in world hockey schools.

In addition with this to theoretical information sources, I had participated to trainings and I had conversations with the following ice hockey specialists such as: Corduban Octavian, Florian Gheorghe, Marius Gliga (internally) and with: Tom Skinner, Kevin Figby, Junnu Kataya, Olexandr Kulikov (worldwide).

Purpose

Rethinking and restructuring the selection methodology and training of traditional ice hockey teams praxiological circuit model are presented below:

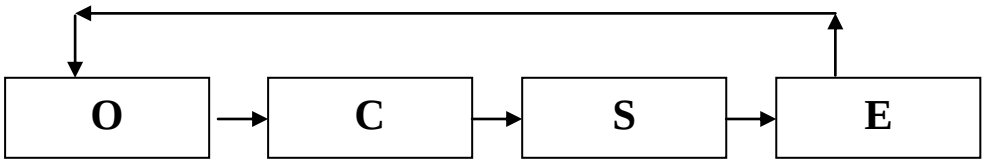


Figure no. 1 – Training process diagram

This circuit is a part of a true "praxilogical axis" which always guarantees the quality and effectiveness of training conducted in each part of the formative stage.

Research objectives

1. Studying literature and the composition of a theoretical synthesis and which sets the current level of knowledge and topics research;

2. Identifying major problems in our research topics;

3. Setting the defining features of worldwide schools devoted to hockey, focusing to training methodology of ice hockey high performance players;

4. Preliminary study on currently training strategy used in the traditional juniors teams, to identify optimization solutions;

5. To develop an analytical training program for the first formative stage, that will contain the following distinct elements: instructional objectives, content, instructional strategies, evaluation;

6. The practical application of curriculum developed;

7. Results interpretation and correction of the analytical program and of the experienced training strategies;

8. Writing a methodological teaching – learning guide of the ice hockey game at children level.

Research hypothesis

1. We believe that the currently traditional methodology could be improved whether it will be reconsidered and restructured based on the proxiological circuit model O-C-S-E (objectives, content, strategies, evaluation);

2. We believe that first hypothesis could be materialized through analytical programs and instructional projects where you could find the elements of praxiological circuit set and a number of minimum standards or scales expected for each formative stage;

3. Instructional strategies could be optimized if we succeed that teachers set targets to resolve them through an optimal combination means, methods, materials, principles, forms of training organization, teaching style and, all these in concordance with age characteristics, contemporary methodological guidelines requirements of each benchmark competitions involving formative part etc.

Target group

The initiation children ice hockey teams of C.S.A "Steaua" Bucharest, stage U8 (6-7 years old).

Research methodology

In the research achievement, we used the following methods and investigative techniques:

- bibliographic documentation;
- direct and indirect observation;
- analysis of training program used to train hockey players and their comparison with those used by worldwide schools devoted to ice hockey (Canadian, Swedish, U.S., Czech, Russian, etc.)
- development and experimentation of new independent variables curriculums structured which are reported in the hypothesis.

LEVEL 1 – INITITION PROGRAM U8 (6-7 years)

1. Objectives

- enjoyable introduction and experience in ice hockey;
- provide a healthy environment for fun and learning;
- teach the basic fundamental skills;
- stress participation, fun, and skill development;
- communication development at the players' level of learning;
- introduction to games and player achievement program.

2. Content

Table no. 1a – Core Skills of Initiation Level
Source: http://www.hockeycanada.ca/index.php/ci_id/7753/la_id/1.htm

Balance and Agility	Edge Control	Starting and Stopping	Forward Skating and Striding	Backward Skating	Turning and Crossovers
❑ Basic stance ❑ Getting up from the ice ❑ Balance on one foot ❑ Gliding on two skates ❑ Gliding on one skate – forward and backward ❑ Lateral Crossovers – step and plant	❑ Figure 8's – forward – inside & outside edge ❑ Figure 8's – backward – inside & outside edge	❑ T-start ❑ Front v-start ❑ Crossover start ❑ Backward c-cut start ❑ Backward crossover start ❑ One o'clock – eleven o'clock ❑ Outside leg stop ❑ Two-foot parallel stop ❑ One-leg backward stop ❑ Two-leg backward stop	❑ C-cuts – left foot / right foot / alternating ❑ Forward striding	❑ C-cuts – left foot / right foot ❑ Gliding on two skates – backward ❑ Gliding on one skate – backward	❑ Glide turns ❑ Tight turns ❑ C-cuts – around circle – outside foot – forward & backward ❑ Crossovers – forward & backward ❑ Backward one-foot stop and t-start ❑ Pivots – bwd to fwd & fwd to bwd ❑ Pivots – open & reverse

Table nr. 1b – Core Skills of Initiation Level
Source: http://www.hockeycanada.ca/index.php/ci_id/7753/la_id/1.htm

Stationary Puck Control	Moving Puck Control	Stationary Passing and Receiving	Moving Passing and Receiving	Sweep Shot	Wrist Shot
❑ Stance ❑ Narrow ❑ Wide ❑ Side – front – side ❑ Toe drag – side ❑ Toe drag – front	❑ Narrow ❑ Wide ❑ Open ice carry – forehand & backhand ❑ Weaving with puck ❑ Toe drag – front & side ❑ Puck in feet	❑ Stationary forehand pass ❑ Stationary backhand pass ❑ Stationary bank pass	❑ Moving forehand pass ❑ Moving backhand pass ❑ Lead pass	❑ Forehand ❑ Backhand	❑ Forehand – low ❑ Backhand – low

3. Strategy

Recommendation

- Sharing ice; each practice should conclude with a scrimmage (approximately 20 minutes of play, cross-ice, simultaneously);
- Three practices to every game;

- We recommend one hour practice sessions; youngsters are easily fatigued
- Games should be played cross-ice, especially in the case of new players being introduced for the first time (for players who have mastered the basic fundamentals, the entire rink length may be used)
- Emphasis on skill, developing and learning the fundamentals
- Smaller goals (optional, but recommended)
- We recommend that as many of the youngsters who wish to try, they will have the opportunity to play all positions
- We could give players ample opportunity to develop the limits of their potential, regardless of their abilities.
- Scoring records and statistics should be de-emphasized
- Awards should be inexpensive and based on significant achievements

On-Ice Training

- Emphasize the fundamentals
- Introduction to skating
- Introduction to passing and receiving
- Introduction to puckhandling
- Introduction to shooting
- Emphasize sharing and cooperation by organizing groups
- Use of more than one coach
- Fun games
- Cross ice/small game activities

Off-Ice Activities

- Encourage the players to participate in all sports year-round
- Set up a floor hockey game once a week if possible
- For this age, exercises that improve dexterity, agility and group participation are important
- Emphasize fun
- Daily physical education
- Emphasis on development of speed combined with agility
- Development of flexibility
- Group games which do not require a high degree of organization, such as chasing, skating and running, which all involve the use of the big muscles.

Select activities which permit all of the players to participate and achieve some measure of success and satisfaction. Praise and encouragement are important to these players.

4. Evaluation

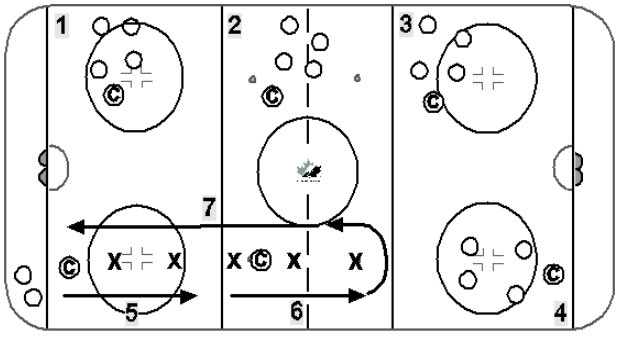


Figure no 1 – Skating Control Test no. 1

1. Basic stance
2. Getting up from the ice
3. Balance on one foot
4. Jumping - one foot
5. Gliding on two skates
6. Gliding on one skate - forward
7. Lateral crossovers - step and plant

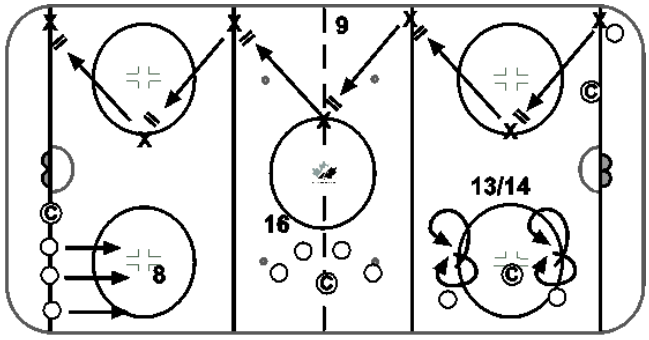
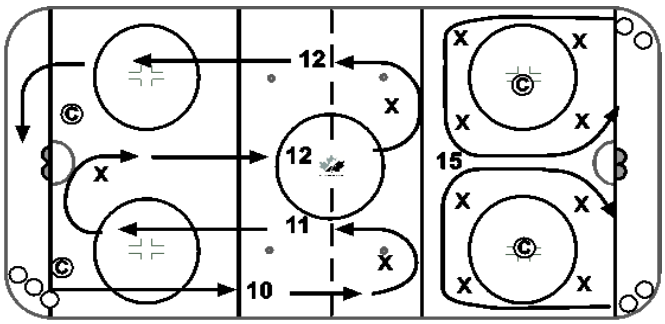


Figure no 2 – Skating Control Test no. 2

8. T-start
9. One o'clock - eleven o'clock stops
13. Figure 8's - forward - inside edge
14. Figure 8's - forward - outside edge



10. C-cuts - alternating
11. C-cuts - both feet
12. Forward striding
15. Glide turns

Figure no 3 – Skating Control Test no. 3

Conclusions

Experimental approach pursued so far allows us to make the following findings:

1. biometrical potential of children who enroll in the open group (8 years) is more than deficient;

2. It is necessary for the beginners training group at least six months to build motoric capacity and improve skating;

3. First working hypothesis is confirmed and namely that the traditional methodology must be reconsidered and restructured by the praxiological circuit model, composed of objectives – contents - strategies - evaluation;

4. We believe that efficiency and quality of training conducted could be calculated continuously by feedback operation is done through evaluation of instructional objectives set;

5. We could say that's permanent feedback provides conscious control and direction of the training process.

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Optimizarea strategiilor de instruire la nivelul echipelor de copii în hochei pe gheață

Rezumat: *Lucrarea elaborează un proiect strategic pentru selecția și instruirea tinerilor hocheiști români la nivelul primului stadiu formativ, prin prezentarea exigențelor categoriei de vârstă U8 (6 -7 ani). Pentru fiecare stadiu formativ în parte trebuie elaborată și experimentată o programă analitică proprie, cu obiective, conținuturi, strategii de instruire și instrumente de evaluare a nivelului de pregătire achiziționat. Totodată, acest demers este realizat ținând seama de exigențele jocului modern, trăsăturile definitorii ale școlilor de hochei consacrate pe plan mondial, particularitățile de vârstă, condițiile social economice din țara noastră etc.*

Cuvinte cheie: *strategie, instruire, hochei pe gheață.*

L'optimization des strategies de formation aux niveau d'équipes d'enfants en hockey sur glace

Resume: *L'article présente une sélection des projets stratégiques et la formation de jeunes hockeyeur sur glace roumain au stade de la premier formative, en présentant les exigences U8 groupe d'âge (6 à 7 ans). Pour chaque partie du stade de la formation il doit être développé et testé un propre programme avec des objectifs, contenu, des stratégies pédagogiques et des outils pour évaluer le niveau de formation acquis. Cependant, cette approche est atteinte en tenant compte des exigences du jeu moderne, les caractéristiques définissant des écoles du monde entier consacré à hockey, les caractéristiques d'âge, les conditions socio-économiques dans notre pays, etc.*

Mot-Cle: *Stratégie, la formation, hockey sur glace.*

STUDY REGARDING THE EFFECTS OF KINETOTHERAPY IN SCOLIOSIS RECOVERY TO SMALL AGED SCHOOL CHILDREN

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Abstract: *Premises: scientific research has proved the importance of kinetotherapy in correcting scoliosis in C and the quality of life. One states that the kinetotherapy programs concur to the slowing down of scoliosis and to the reduction of functional disorders. The objective of this study is the effect analysis of a complex kinetotherapeutic program on a physical deficiency, scoliosis, in C, to small aged school children. The study was effectuated on a period of 12 months, comprising 30 subjects (girls) with ages 9-11. The subjects participated in a kinetotherapeutic exercise program on 50 minutes, twice a week, the program being adapted to each and everyone's individual characteristics.*

The evaluation included specific tests, functional tests for usual movements and the spine evaluation. After 12 months of kinetotherapeutic program specific to the improvement of scoliosis, the results showed an amelioration of the tested parameters.

Conclusions The statistic analysis of the data involved proved an improvement of the tested parameters. The study points out that a complex and constant kinetotherapeutic program contributes to the cessation of scoliosis in C and induces positive effects on the functional parameters with a considerable impact on the life quality of small aged school children with scoliosis. Once the physical deficiency has been tracked down, a complex treatment shall be set up that will consider the nature and the cause of the deficiency in question as well as the morphological and functional characteristics of the deficient child.

Keywords: *kinetotherapy, recovering scoliosis, small aged school children.*

Introduction

The child's organism is in a continuous state of development, but this is not a harmonious process, for the periods of accentuated growth alternate with the ones of slow development. In children, the change of biophysical processes is done in accordance with the laws of ontogenetic growth and development that mark the passing from one stage, consecutively: childhood, puberty and adolescence.

The growth and development in normal conditions is done continuously, until the maturation period of the organism. After this period, the intensity of the processes and phenomena is starting to decrease. Alterations appear also in the rhythm of processes and phenomena that are different in duration and intensity. Many authors have tried to establish laws after which the growth and development of the organism take place, beginning with different basic criteria (Ionescu A., Mazilu, V., 1968).

The child's muscular system in the process of ontogenesis suffers important structural and functional modifications, while the functional qualities of the muscles are beginning to alter considerably. The muscular tonus modifies, as well. The child's movements are characterized by clumsiness. At the age 7-11, all the sections of the muscular apparatus are developing intensely. In the developing process of the locomotive apparatus the dynamic qualities of the muscles are also modifying: speed, strength, resistance and cunningness (Baciu, C.1981).

A primary element of the locomotive apparatus is the spine, which, in literature, is compared to a mast of the organism. The spine's attitude is not the same in all individuals and only starting from the types of posture described by Foza, the pathological accentuations of the spine's curves can be taken into account (Demeter, 1974)

In the purpose of an efficient kinetotherapeutic activity it is necessary to respect the early tracking down of the deficiency, the effort grading, and the consistent continuation of the kinetotherapeutic treatment, as well as the individualization of the recovery.

Kinetotherapy is an individualized therapeutic form that, starting from the static and dynamic physical exercises, can be used in

the prophylactic, curative and recovery therapeutic programs (of prevention) to what scoliosis is concerned. Kinetotherapy occupies a central position within the physical methods of recovery applied to the people presenting physical deficiencies of the spine. The kinetotherapist establishes the objectives and the precise tasks, as well as the means of achievement, for each patient and during every stage of recovery (Munteanu, A., 2003). Preventing vicious positions, maintaining articular mobility, favoring the recovery of the active mobility in the areas partially affected, facilitating breathing, collaborating with the rest of the crew for the common tasks, such as preventing eschar formation, are all objectives closely followed from an early stage, immediately after the stabilization of the general condition and the advancement of the acute disorders related to the deficiency or the operatory interventions.

In the recovery process, the kinetotherapist bears a special responsibility, for he is the one conducting and applying the physical recommendation in dependence with the respective affection. He is in permanent contact with the patient, following the progresses and permanently collaborating with the MD.

The most well known spine pathological deficiency is the scoliosis. In its evolution, scoliosis acquires a serious character and is accompanied by the formation of certain stable anatomical alterations of the spine and thorax. The static and dynamic function of the spine and the thorax are being defied which ultimately leads to the destabilization of the cardio vascular and respiratory functions. That is why this deformation is called the scoliotic disease (Duma, E., 1997). Scoliosis especially develops in the growth periods of the skeleton. If it appears at an early age, it becomes really severe. The scoliotic disease, at the end of the primary cycle occupies the first place among other spine deformations, being most common in girls (4-5 more that in boys)(Foza, C., 2002).

Bearing in mind that during the growth period, a scoliosis over 30 degree can aggravate with one or two degree per month, fact verifiable during the periodical checks (once every 6 months), there is the danger of advancing 50 degrees, when surgical intervention is required. The definition of the scoliosis lies in the frontal deformation and rotation of the spine (lateral curve), incompletely reducible, with progressive evolution and consequences on its morphology and functionality. In exchange, the scoliotic attitudes are part of the functional scoliosis and represent a lateral cant of the thorax in frontal plan without provoking asymmetrical deformation of the trunk or the par vertebral areas. They can be provoked by irregularities of the inferior limbs, hip ankylose in vicious positions, antialgical par vertebral muscular contractions, disk hernia, etc. These scoliotic attitudes are not evolutional and disappear once the cause that produced them has been corrected.

Nonstructural and functional scoliosis as well as scoliotic attitudes are characterized by the fact that the lateral deviation of the spine is completely reducible from the clinically and radiological point of view, in the recumbent position. These types of scoliosis are not accompanied by alterations of vertebral or gibbous structure (the deformation of the spine) and are spontaneously reduced through minimal intervention (Zaharia, C., 1991).

Scoliosis is a constant deviation of the spine in frontal plan that can either be found as a simple cast or a lateral curve – partial or total – either as a system of two or more alternative curve, accompanied by the rotation of the vertebra (the torsion of the vertebral bodies) towards the convexity of the scoliatic curve, the vertebral coastal gibbous part or the posterior accentuated form the convexity part, and towards the asymmetry of the scapular and pelvic belt (Ionescu, A., Mazilu, V., 1968).

The scoliosis with a single curve is frequently total, towards the right or left and is called scoliosis “in C”; the scoliosis with two curves is called “in S”, and at her enunciation one mentions only the sense of the dorsal curve.

Scoliosis, as other spine deviations, is divided in functional and pathological scoliosis.

Functional scoliosis is characterized by modifications in the shape and structure of the component elements of the spine and accompanies secondary functional disorders. This pathological scoliosis is determined by well defined causes. Among these forms there is the congenital, rachitic, paralytic, pleural scoliosis, very serious in teenagers and adolescents, traumatic and rheumatic through vertebral tuberculosis.

Depending on the normal benchmarks we are familiar with (the position of the spine in repose and during movement) we can draw several conclusions, depending on the mechanisms of scoliosis and the kinetotherapeutic programs designed to improve it.

In this context, we have undergone a pedagogical experiment to which small ages school children have participated (30 girls, 9-12 years old) with the diagnosis of “II degree scoliosis”. The subjects of the experiment have participated for a period of 12 months, twice a

week, to a complex kinetotherapeutic program developed together with the doctor who oversaw the evolution of subjects for slowing down the evolution of scoliosis.

The kinetotherapeutic program unrolled by the experiment group for scoliosis

The scoliosis kinetotherapy has a complex character and is especially efficient in the initial stage of development to what deformity is concerned (Rădulescu, A., 1988). Considering the tendency of scoliosis towards progress, an efficient result in recovering it is the stabilization of the pathological process. The scoliosis kinetotherapy has comprised a series of physical methods that have included a rational motile regime, procedures of organism strengthening, orthopedic measures, active correction regime (physical exercises), hydro kinetotherapy, massage, passive correction regime, physiotherapy, sport.

The recovery program followed:

- Stopping the scoliosis evolution;
- Correcting the deviations of the spine and maintaining this correction (preventing relapses or the periods of unfavorable periods);
- Reducing the functional disorders and the secondary asymmetries of the body;
- Maintaining a good muscular tonus, especially of the vertebral muscularity and the trunk.

The physical exercises used in correcting scoliosis have followed the excitation of the muscular tonus and the sense of correct attitude of the entire body, and especially the back.

The purpose of the corrective gymnastics was the following:

- Correcting the spine by innervating the back muscularity;
- Reducing the coastal gibbous tendency by mobilizing the spine and detorsing the vertebral bodies;
- Recovering the pelvis and balancing the scapular belt;
- Developing the mobility of the thorax;
- Creating a reflux of correct posture.

The methods used included static and dynamic exercises through trunk movements, superior and inferior limb movements, breathing exercises, applicative exercises of crawling and balance, recovery and relaxation exercises.

The recovery program included:

Respiratory Gymnastics

- The complex recovery and respiratory gymnastics program of the spine curves (Schroth curves);
- Practicing swimming (breast stroke, back stroke and freestyle) that comprises a series of valuable qualities form the scoliosis recovery point of view.

Self control Gymnastics – it was done in front of the mirror, fully requiring all the subjects' collaboration.

In the case of the pedagogical experiment the following specialized tests have been used:

- The mobility of the spine in frontal plan, dorsal plan, as well as the lateral mobility of the spine in the left lateral decubitus and the right lateral decubitus;
- General resistance of the back muscles;
- Static force;
- The body's muscle endurance in the left and right part;
- The frontal and dorsal muscle endurance of the inferior limbs.

Aquatic gymnastics – the therapeutic program comprised **aquatic gymnastics** as well for the therapeutic effects demonstrated over the years. Aquatic gymnastics presumed practicing physical water exercises, a therapeutic method that used simple water and presumed the immersion of the entire body. Any movement done in the sense of the floatation, meaning down and up, shall be executed with less easiness, the necessary muscular force being quite weak.

To the up and down or lateral movements there is a force opposite water, making the effectuated movement more difficult. Consequently, this determines the increase of force and the muscular resistance. The water from the recovery pools is maintained at a temperature of 35-36° C, the temperature to which the antialgical effects (pain killers) are produced, as well as the decrease in general muscular tonus and peripheral vasodilatation, with the decrease of the arterial pressure. In this context, the aquatic gymnastics presumed exercise effectuated in a pool where the water reached the chest level, and the majority of the exercises have been done with proper equipment.

The dynamic indicator values in specialized tests during the experiment are presented in table 1.

Table 1. Comparative analysis of test indicators during the specific applied tests (experiment group, nr=30)

Nr. crt.	Tests	Experiment group		t	p
		Initial testing	Final testing		
		$\overline{X}$ ± m	$\overline{X}$ ± m		
1	Muscle endurance: - in the left part (sec) - in the right part (sec)	 3,59±0,53 3,90±0,47	5,52±0,45 5,28±0,41	3,89 3,28	<0,01 <0,01
2	Thigh muscle endurance: frontal group (sec) - left foot - right foot	 16,48±1,75 15,83±1,66	 22,13±1,71 20,81±1,54	 3,46 3,28	 <0,01 <0,01
3	Thigh muscle endurance: dorsal group (sec) - left foot - right foot	 15,60±1,68 15,88±1,70	 21,71±1,53 21,62±1,63	 4,02 3,65	 <0,01 <0,01
4	Static force (kg)	36,00±1,18	41,00±1,13	4,57	<0,001
5	Spine mobility: - in frontal plan (cm) - in dorsal plan (cm)	 6,65±0,72 5,28±0,63	 9,11±0,67 7,31±0,55	 3,72 3,62	 <0,01 <0,01
6	Lateral spine mobilitye: - in left lateral decubitus (cm) - in right lateral decubitus (cm)	 11,10±1,23 12,40±1,36	 15,34±1,15 17,00±1,25	 3,75 3,71	 <0,01 <0,01
7	General resistance of back muscles (sec)	7,08±0,53	8,86±0,48	3,72	<0,01

Aquatic gymnastics helped increase the muscular resistance, the duration of a kinetotherapy session varying from10-15 minute to an hour. The session frequency was of 3 sessions per week, during 12 months.

The **therapeutic massage** was, in essence, a massage based on elongations. The pain reduced and the mobility increased. At the end of the recovery program, based on therapeutic massage, one has noticed the decrease of the gibbous part, the modification of the coastal position and the thorax. The muscular atrophy and the limb hyper laxity have made the recovery process more slow, nevertheless, the therapeutic massage along with the medical gymnastics, swimming and other physical methods brought in a beneficial help.

The data from the table prove the significant difference between the two tests, the specialized ones presenting positive modifications al the end of the experiment. Concurrently, the "Lateral spine mobility in the left lateral decubitus" test proves that scoliosis is dominant in children in the right part in the case of a weal body structure. This phenomenon can be inferred from the "Muscle endurance in the right part" test that manifests a certain asymmetry in comparison with the left part.

As one can see from the table, we mention that the child's improvement of the spine, the resistance of the spine and thighs, inferior limbs, as well as static force and all the improvements to the specialized tests have a true character (P>0, 01). We believe that the kinetotherapeutic program applied to the subjects with II degree scoliosis has been efficiently applied and has contributed to the true improvement of the specialized tests indicators, and has also decreased the degree of scoliosis in small aged school children.

In the same time, as one may see from the table, the final indicators to all the effectuated specialized tests, there is a much more pronounced modification in the sense of improvement, which indicates a higher level of credibility (P<0, 01).

The results obtained from the experiment show the efficiency of the oriented influence to what scoliosis kinetotherapy programs is concerned, which has allowed the considerable improvement of the general condition of the locomotive apparatus to the researched children and has considerably reduced the degree of scoliosis.

Conclusions

The program chosen for scoliosis recovery has followed a correction of the physical deficiency and has enhanced the rectifying of the non anatomical deviations.

Correcting the physical deficiencies must start from an early stage, immediately after the diagnosis has been set. Thus, there must be a permanent collaboration between the parents, the school and the MD to observe the apparition of deviation from normal in the child's posture. Once this deficiency kicks in a complex treatment shall be enforced taking into account the nature and cause of

the deficiency in question and child's morphological and functional characteristics.

Another basic principle in correcting physical deficiencies is getting familiar with the effects of the kinetotherapy, especially on the locomotive apparatus and its functions. No other treatment can replace physical exercise in its action of strengthening the muscularity, mobilizing the articulations, correcting the vicious positions or perfecting the coordination in movements.

The effects of the kinetotherapy on the morphological elements are quite important, especially when talking about ligaments and muscles by meeting and shortening the enlarged and thin ones, or elongating and relaxing the short and tight ones. Choosing, adapting and combining the specific and unspecific means of kinetotherapy with the corrective session must respect the principles of accessibility, of dosage and progressive grading of the physical effort, applying it in a different and individualized way.

It is important that one carries out a permanent control over the correct back position in all physical exercises. A greater importance lies in constructing a permanent preoccupation for self control in the spine position in all the activities a child effectuates during the day: practicing sitting down during classes, 5 or 6 hours per day.

A special place must be held by the development of sensibility and the child's reaction regarding the respective deficiency, especially at puberty, due to special organic and psychic conditions of fast and disproportioned growth, muscular and articular insufficiency and due to a series of psychic difficulties of concentration and self control.

Individualization is necessary not only for adapting the treatment means to the particularities of the case, but especially for the deficient child to freely execute the corrective exercises so that he/she can be easily followed, guided and controlled. The child's energy must be rationally used, in the sense of using it with a corrective purpose within the correction program.

Executing the corrective exercises demands the subject a greater effort of concentration and self control in obtaining certain correct exercises that is why one must avoid exhaustion, monotony and resignation.

Consolidating good results as well as preventing relapses is mainly a problem of continuity and perseverance to what practicing a corrective program at home is concerned.

As a consequence for systematically practicing a physical exercise, local or general effects appear, immediate or late, ephemeral or long lasting, that improve the structure and functionality of the human body. From the therapeutic role point of view, kinetotherapy has beneficial effects at any age, but especially during the growth period.

During the entire kinetic recovery program, one must keep in mind the following:

- Increasing the muscular tonus in the convexity part, in shortening conditions (one must work concentrically);
- Increasing the muscular group tonus in the concavity part, in elongating conditions (one must work eccentrically);
- Increasing the elasticity and the mobility of the thorax;
- Increasing the posture of the shoulder line, the shoulder blades and the pelvis – developing the reflex of correct posture.

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Studiu privind efectele kinetoterapiei în recuperarea scoliozei la copii de vârstă şcolară mică

Rezumat: *Premize: Cercetările ştiinţifice au dovedit importanţa kinetoterapiei în corectarea scoliozelor în C şi în creşterea calităţii vieţii. Se porneşte de la ideea că programele de kinetoterapie, contribuie la frânarea evolutia scoliozei şi reducerea tulburările funcţionale.*

Obiectivele acestui studiu sunt analiza efectelor unui program kinetoterapeutic complex asupra unei deficienţe fizice , scolioza, in C, la copii de vârstă şcolară mică. Studiul s-a desfăşurat pe o perioadă de 12 luni, cuprinzând 30 subiecţi (fete) cu vârstă cuprinsă între 9-11 ani, subiecţii au participat la un program de exerciţii kinetoterapeutic de 50 minute, de două ori pe săptămână, program adaptat în funcţie de caracteristicile individuale.

Evaluarea a cuprins teste specifice, teste funcţionale pentru mişcările uzuale şi evaluarea coloanei vertebrale. După 12 luni de program kinetoterapeutic specific ameliorării scoliozei, rezultatele arată o îmbunătăţire a parametrilor testaţi.

Concluzii. Analiza statistică a datelor a demonstrat imbunătăţirea parametrilor testaţi. Studiul scoate în evidenţă că un program complex şi constant de kinetoterapie poate contribui la oprirea evoluţiei scoliozei in C şi induce efecte pozitive asupra prarametrilor funcţionali cu impact considerabil asupra calităţii vieţii copiilor de vârstă şcolară mică cu scolioză. Odată cu depistarea deficienţei fizice se va institui un tratament complex care va ţine seama

de natura şi cauza deficienţei şi de particularităţile morfologice şi funcţionale ale copilului deficient..

Cuvinte-cheie: *kinetoterapia, recuperarea scolioza, copii de vârstă şcolară.*

STUDY ON THE IMPORTANCE OF RECOVERY IN ANKYLOSING SPONDYLITIS

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Abstract: *There is no definitive treatment for AS. An important objective of the treatment is the patient's consistent participation in an exercise program to the purpose of maintaining functional posture and preserving mobility. The "Harrison" exercise is known to increase mobility and improve this function. The objective of this article is to prove that by implementing specific and rigorously applied kinesis programs associated to the balneary and physical programs, the CDL mobility, respiratory and articulation functions that were lost as a result of AS may be retrieved, and the resulting sequelae may be consequently reduced. Material and method. The study was of the prospective, organisational type, and took place in the Lacu-Sarat resort between April 2009- April 2011. It included 21 AS diagnosed patients. They were hospitalised and were subjected to a personalised therapeutic program. They were divided into two lots: a witness lot undergoing medical and balneary treatment; a study lot undergoing, besides these, kinesis therapy. Their evolution was monitored at the beginning of the program, after 6 months and after 1 year. Results. The menton stern index improved by 0.5 – 1 cm for the patients in stages II and III. For the stages II and III, the value of the occipital-wall index increases by 0.5 – 1 cm in stages II and III. In stages III – IV and IV no significant improvement in mobility was recorded, this index being high, viz. 2 – 3.5 cm. In stages II and III, the value of the Schober index reaches 2.5 cm. For the patients in stages III – IV and IV the index value increases by approximately 0.5 cm, remaining still low (0.5 – 1.8). The Tomayer index IT–the flexion increased in amplitude for each IT category by at least 5-15 cm. The cirtometric index—as a result of respiratory gymnastics, both in hospital and at home, its value increased in the patients in stages II, III and III – IV by about 1.5 cm, reaching values of 3, 5-5 cm. For the patients in stage IV it remained low, and the witness lot registered statistically low improvements viz. 1-5cm for all indices. Conclusions. The recovering physical and kinesis treatment deeply impacts on the disease's activity variables, especially the functional index. The clinical variables of evaluating the functional status, including the area of AS disability and infirmity had a decreasing tendency during the 12 months, revealing the favourable effect of the complex recovery treatment. Statistically significant correlations were made between the activities of daily living (ADL) and the functional status indices (Schober,Tomayer, CI)*

Key word : *ankylosing, kinesiology, functional, program.*

Introduction

The last 10 years have been dedicated to researching osteoarticulatory pathology by the World Health Organisation, and thus the interest in these conditions has increased due to the considerable morbidity generating prolonged or definitive losses of work capacity.

As the life span increases, osteo-articulatory diseases represent the main cause of physical disability in developed countries, 50-60 % of the patients losing their work capacity, which leads to important financial losses. The comprehensive evaluation of the locomotive patients' health is acquiring ever more importance due to the diversity of methods of recovery treatments aiming at the functional component of the pathology of this apparatus (Harrison).

Motivation and working hypothesis

Recent studies show that AS patients are affected by this condition in the most productive period of their life. The severe, chronic and invalidating evolution of the disease determines a large number of patients to

prematurely end their professional activity or hinders their employment possibilities; hence, the considerable increase in the social costs of the disease.(1) The working hypothesis is that the ethiopathogenic treatment in may be ascribed to rheumatology, while preventing and recovering functional deficits generated by the disease fall to physical medicine and mainly kinesis therapy. The present study aimed at identifying an effective strategy in approaching the disease through physical and kinesis means. (2)

Purpose of the study

The purpose of this article is to demonstrate that by implementing certain specific and rigorously applied kinesis programs associated to balneary and physical treatment it is possible to recover the CDL mobility, respiratory and articulation functions, lost as a result of AS and its sequelae. AS is an inflammatory disease which predominantly affects the axial skeleton and sacral-iliac articulations, able to interest (in various degrees and frequency) the peripheral articulations, thus leading to a wide range of extra-articular determinations. Prototype of seronegative spondylo-arthropaties. AS is a chronic inflammatory disease of unknown etiology, associated to Ag HLA-B 27 it displays extra-skeletal manifestations: uveitis , aortic insufficiency, leading cardiac dysfunctions , etc. Diagnosis in AS is based on clinical signs associated to radiological modifications, all occurring in the conditions of HLA B 27+: *clinical criteria (New York, 1984 modified)* . R*adiologic criteria Positive diagnosis(1)*

1.Ankilosing spondilitis defined if the radiological criterion is associated with at least 1 clinical criterion. 2.Probable ankilosing spondilitis . Three clinical criteria are present. The radiological criterion is present without any sign or symptom included in the clinical criteria

Fig.1 Sacroileitis st. II, III, IV; Fig.2 complete fusion .(2,3);Fig.3.Bamboo spine. Fig 4. Romanus square vertebra

Evolution of disease: chronic, debilitating, severe, determining a large number of patients to interrupt their professional activity or to be unable to get a job. Progressive invalidation ~ rigidization in vicious positions of the spine, thorax, and the dysfunctions of the coxo-femural articulations. Progress of disease: from inflammation →to fibrosis→ finally to ankylosis. (fig,1,2,3,4)(5,6),

There is no definitive treatment for AS. An important treatment objective is the steady participation of the patient in an exercise programme to the purpose of maintaining functional posture and preserving mobility. It is common knowledge that exercise increases mobility and improves functionality. ”HARRISON “. Objectives: reducing pain and swelling; maintaining or recovering body posture and alignment; maintaining /recovering the mobility of the spine and girdles thus avoiding ankylosis. Maintaining muscle tone. Respiratory reeducation.)6)

Material and method. The study organised was of the prospective, observational type and took place in the “Lacu-Sărat” resort between April 2009- April 2010 . It included a number of 21 patients diagnosed with AS. The patients were hospitalised with a therapeutic programme adapted to the clinical evolutive form of the disease and their therapeutic option. They were divided into 2 lots:

- A witness lot undergoing medical treatment, as well as balneary-physical treatment;
- A study lot benefiting , in addition to the previous treatments, from kinesis therapy.

The evolution was studied at the beginning of the programme, after 6 months and after 1 year. The patients were introduced in the study in various periods of evolution and medical treatment, which were relatively homogeneous for the 2 lots. The standard observation sheet documenting the observation of the patients includes data allowing the personalisation of the recovery treatment: identification data for the patient, diagnosis, data on the presence and location of pain, associated pathologies, complications, investigations, evaluations of the indices assessed.

The initial assessment at the moment of entering the study is more detailed and includes, in addition to the demographic and anamnesis data, the following: pain assessment, clinical functional assessment, the analysis of the parameters of articulatory mobility (cervical, lumbar and thoracic indices), the analysis of muscle strength, assessment of the mental and

affective status. The methodology of corrective action in recovery. The recovery treatment applied was the following:1. Thermotherapy and electrotherapy for decontraction and: electotherapy: galvanisations, short waves, ultrasound 10-15 mins.; mud baths: 37 degrees, 20 mins. 2. Massage, as a complementary method, prior to the kinesis treatment for decontraction: 10 mins/day 3. Kinesis therapy 20-30 mins/ 2 sessions/day to the pain threshold 4. Occupational therapy. The treatment was effected in 2 sessions of 15 days each, separated by a pause of 6 months. General and respiratory kinesis therapy. General KT focused on preventing and combating deposturation through exercise:

- Maintaining and correcting body postures and allignment;
- recovery, maintenance and increase in articulatory suppleness for the cervical-lumbar-thorax spine, the scapula and coxo-femural articulation, recovery and maintenance of muscle tone.

Respiratory KT – indispensable in preventing restrictive respiratory dysfunction

- Corrective respiratory gymnastics (in pre-ankylosis stages);
- Reeducation of thoracic respiration;
- Reeducation of abdominal respiration (in advanced stages)

In order to accurately assess the state of AS patients included in the study, the following variables were used: demographic variables; clinical variables. The demographic structure of the 2 lots was approximately similar: 47% of rural origin and 53% of urban origin ; 86% male and 14% female. The age ranged between 23-60. The professions were varied (31%) workers, (26%)clerks, (38%) retired people. (fig.5)

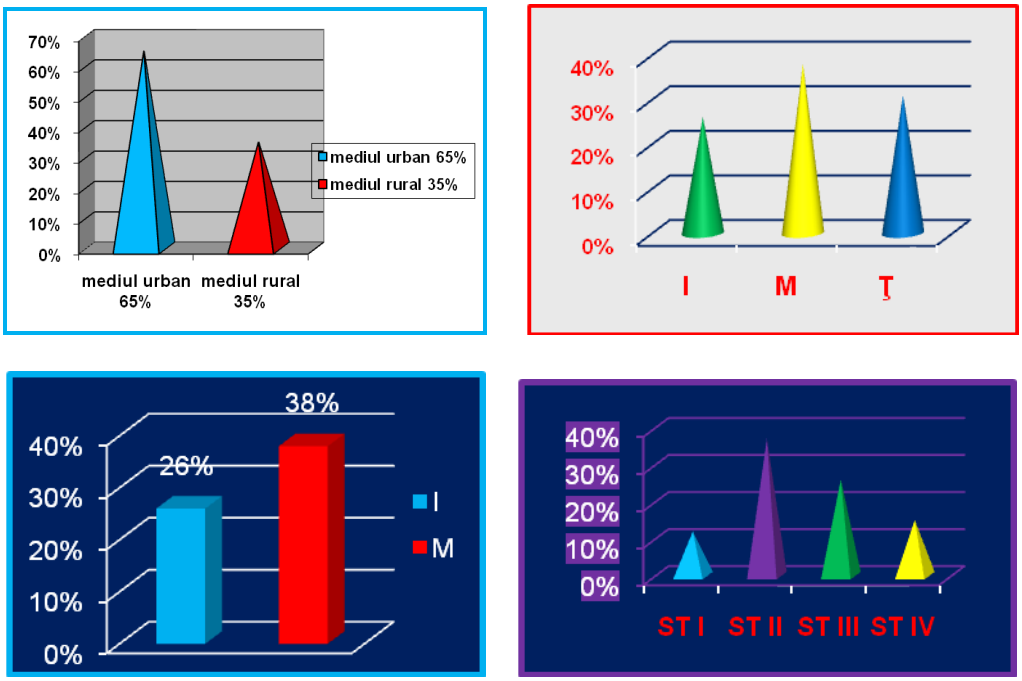


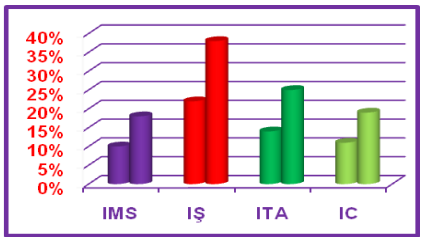
Fig 5. The demographic structure of the 2 lots

Clinical variables. The parameters studied in both lots were as follows: the menton –stern index, the occiput—wall index, the extension of the cervical spine, the tragus – acromion index, the cirtometric index, the Tomayer index, the Schober index. In the statistic processing of data the following were calculated: the arithmetic average, standard deviation, standard deviation of the average and the t variable

As a result of the treatment applied, the parameters under study were modified, as follows:

- The menton stern index IMS was modified to 10% (18%)
- The Schober index IŞ 22 (38%),
- The tragus acromion index ITA 14 (25%),
- The cirtometric index IC 11 (19%).

The post treatment evolution of IT (the Tomayer index) fingers-ground IT of 15 cm st.I to 0-10cm(22%)
IT of 32cm st. II to 16cm (28%)
IT of 45cm st.III to 21cm (36%)
IT of 71cm st.IV to 68cm (14%), (fig.6).



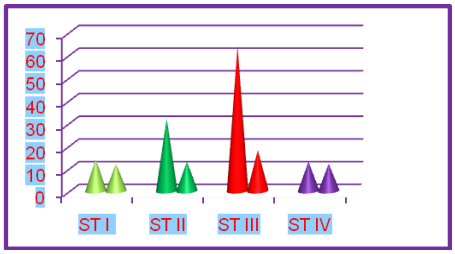


Fig. 6 .IT (the Tomayer index) fingers-ground

The post treatment evolution of IT (Tomayer index) fingers-ground witness lot
IT of 14 cm st.I to 12cm(22%)
IT of 32cm st. II to 28cm(28%)
ITof 45cm st.III to 39cm(36%)
IT of 71cm st.IV to 68cm (14%) (fig 6.)
The Schober index assesses flexion limitation. Its normal value is 3-5 cm. In AS, the limitation of the lumbar flexion is greater in stages III – IV and IV and smaller in stages II and III. The recovery of lumbar flexion is also better for the patients in stages II and III, the value of the Schober index reaching 3-3.5 cm. For the patients in stages III – IV and IV the value of the index increases by about 0.5 -1cm, remaining low (0.5 – 1.8 cm).

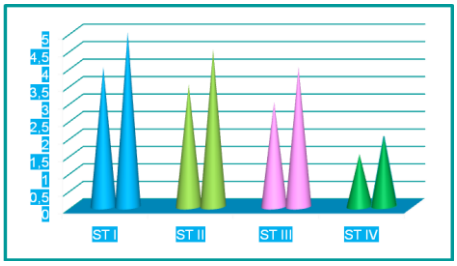


Fig.7 Post treatment evolution of the SI (the Schober index)

Post treatment evolution of the SI (the Schober index) -statistic processing, graphical representation of the t variable in the two lots (fig.7,8,9) Diagram I.

Diagram I. SI (the Schober index)—statistic processing, graphical representation of the t variable

AS stages	D	D^2	D-	Sp	Sp-	t	t variable in the Fischer table	Evoluţie
I	**0.17**	**0.34**	**0.8**	**0.44**	**0.31**	**0.31**	**6.314**	**insignificant**
II	**0.437**	**1.75**	**2.5**	**0.25**	**0.125**	**3.43**	**2.182**	**significant**
III	**0**	**0.1**	**0.01**	**0.01**	**0.17**	**0.91**	**4.303**	**insignificant**
IV	**0**	**0**	**0.1**	**0.01**	**0.13**	**0.89**	**6.314**	**insignificant**

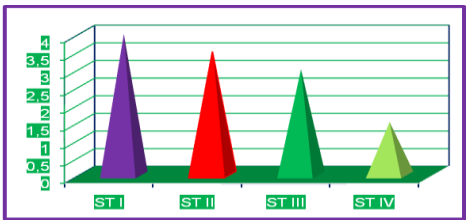


Fig.8. The Schober index t variable witness lot

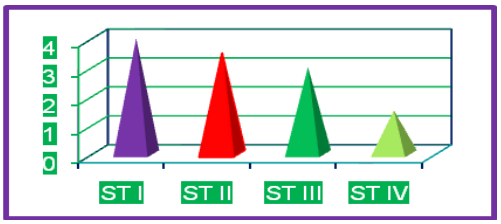


Fig.9 The Schober index variable t study lot

The assessment of functionality ascribes an important part to daily activities – ADL (Activities of Daily Living) in all respects: selfcare, social and professional life. The fields under study are seen in comparison to the lumbar pain symptom. (fig.10) the monitored activities are: personal grooming (dressing, washing, making up/ shaving), weight lifting, walking ability , sitting position, orthostatism, sleep, sex life, social life and professional activity.

Post treatment . the second lot loses approximately 34.6 -35.6% by functional deficit (moderate disability) and 59.8%- severe disability, due to dysfunctions in the activities concerning weight lifting and orthostatism, walking, professional activity as compared to the study lot where the moderate disability 65.3% and severe disability is reduced to 33.7%. 1.Study lot .2.Witness lot .Severe disability . Moderate disability

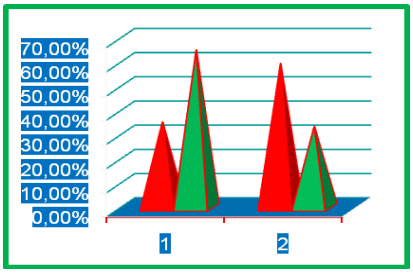


Fig.10 . Post treatment evolution of the ADL (Activities of Daily Living)

Results

Post treatment

The menton stern index improved by 0.5 – 1 cm in patients in stages II and III, while patients in stages III and IV preserve their mobility.

Stages II and III, the value of the occiput-wall index increases by 0.5 – 1 cm in stages II and III . in stages III – IV and IV no considerable mobility index was registered , the occiput-wall index remained at high values of 2 – 3.5 cm.The Schober Index Flexion recovery was better for patients in stages II and III, the value of the Schober index reaching up to 2.5 cm. For patients in stages III – IV and IV the value of the index increases by approximately 0.5 cm, remaining low (0.5 – 1.8).

The Tomayer index IT. The thorax flexion is further assessed by means of the Tomayer index (fingers – ground) and its normal value is zero. As a result of the kinesis therapy an increase was noted in the amplitude of the flexion in each category of IT of at least 5-15cm.

The cirtometric index. The thoracic spine mobility is also indirectly assessed by measuring the thoracic expansion, by means of the cirtometric index, its normal value being over 3-5 cm. In AS the problems at the level of rib and vertebra articulations determine the decrease of thoracic expansion. As a result of respiratory gymnastics, practised both at the sports centre and at home, the value of the cirtometric index increased for patients in stages II, III and III – IV by approximately 1.5 cm, reaching the value of 3-5-5 cm. For patients in stage IV it remained low, at 1.8 cm.

Conclusions

1.The recovery treatment of the kinesis type deeply impacts on the disease activity variables, especially the functional index.

2. The clinical variables of functional status assessment, including the disability and infirmity area in AS, showed a decreasing tendency during the 12 months, evincing the favourable effect of the complex recovery treatment.

3. Statistically significant correlations were made between the quality of life (ADL) and the indices of functional status (Schober,Tomayer, cirtometric index).

4. Under the influence of the balneary physical treatment the thoracic expansion increased in a statistically significant manner ($p<0.005$).

5. The pain score (assessed by the VAS index) decreases dramatically after the first 10 days of treatment in the study lot as compared to the witness lot.

6. The association of kinesis treatment to the medical and balneary one, in addition to a continuous educational process, ensures the long-term maintenance of superior therapeutic results for pain (ES=0.8) and good results for function (ES=0.4), while through medical and balneary treatment the effects for pain were good (ES=0.4) and poor for function (ES= 0.2).

7.The balneary kinesis therapy avoids polypragmasis and iatrogenic infections representing an alternative to patients with side effects, intolerance, allergies to the AINS medical therapy.

Proposals for further study

1. AS patients should be convinced that their functional perspectives depend on the seriousness of following medical recommendations, no matter how difficult it may seem. They should be made aware that therapeutic benefits depend not only on medication, but also on a recovery programme made up of physical exercises.

2. In order to obtain the desired results, kinesis programmes should begin early, and be individualised, adapted to the clinical form and evolutive stage of each patient, and last but not least, performed without interruptions.

3. It is also important to carry out respiratory exercises focusing on maintaining proper ventilation under the circumstances of constrictive thoracic ankylosis and the deformations that the disease may cause at the level of the thorax. As a conclusion of the study, it was noted that it is necessary to apply complementary means facilitating the kinesis programme, as long as they are used prior to or after the kinesis therapy sessions, with a decontracting, decongesting and relaxing effect.

4. The recommendations for home treatment when the patient is discharged should be taken seriously. Swimming keeps the correct posture of the spine and improves the respiratory function, biking keeps the correct position of the spine, as the flexion is performed from the coxo-femural articulation.

5. Psychological counselling is recommendable, as AS is a chronic invalidating disease.

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La therapie fonctionnelle dans la spondylarthrite ankylosante

Résumé: *Il n'y a aucun traitement définitif pour la SA.Un objectif important du traitement est de déterminer le patient de suivre consciencieusement un programme d' exercices pour maintenir une bonne posture et pour garder la mobilité fonctionnelle. Il est connu le fait que les exercices augmentent la mobilité et améliorent la fonction "Harrison".*

Le but de cet article est de démontrer que, par l'introduction des programmes de physiothérapie specifiques, rigoureusement appliqués, associés au traitement physique et au spa, on peut restaurer la fonction de mobilité CDL, la fonction respiratoire et celle articulaire, perdues à cause de l'évolution de la SA, et qu'on peut, en meme temps, réduire les effets négatifs de celle-ci. Matériel et méthodes. L'étude, prospectivement et observationellement organisée, a eu lieu dans la station "Lacul Sarat "(Le Lac Salé) à partir d'avril 2009 jusqu'à avril 2010. Le groupe d'étude était composé de 21 patients diagnostiqués avec la SA. Les patients ont été traités à l'hôpital avec un programme thérapeutique personnalisé Ils ont été répartis en deux groupes: un groupe témoin qui ont suivi le traitement avec des médicaments, le traitement physique et a un spa et un groupe d'étude qui ont reçu, outre les traitements mentionnés ci-dessus, de la physiothérapie. L'évolution a été suivie au début du programme à 6 mois et à la fin.Les résultats. L'index Menton Stern a été amélioré par 0,5 à 1 cm chez les patients du stade II et III. Aux stades II et III la valeur de l'index occiput – paroi augmente par 0,5 à 1 cm. Aux stades III-IV et IV on n'a pas noté une amélioration significative de la mobilité, l'index occiput-parois gardant ses valeurs élevées de 2 à 3,5 cm. Aux stades II et III, l'index de Schober atteind la valeur de 2,5 cm. Chez les patients des stades III - IV et IV la valeur de cet index augmente d'environ 0,5 cm, gardant toujours une valeur faible (0,5 - 1,8) L' index Tomayer. On a obtenu une augmentation de l'amplitude de la flexion pour chaque catégorie de cet index avec au moins 5-15cm.Index Cirtometrique. Grace la gymnastique respiratoire, réalisée à la fois dans la salle de gymnastique et à la maison, la valeur de l'IC a augmenté chez les patients à des stades II, III et III - IV avec environ 1,5 cm, pour atteindre une valeur de 3, 5-5 cm. Chez les patients de IV-eme stade cet index est resté faible, ayant une valeur de 1,8 cm.Chez les patients du groupe temoin on a statistiquement noté une amélioration faible, c'est à dire de 1 à 5cm pour tous les index.Conclusions. Le traitement physiothérapeutique de récupération a un fort impact sur les variables d'activité de la maladie, le plus pertinent etant l'impact sur l'indice fonctionnel. Les variables cliniques de l'évaluation de l'état fonctionnel, y compris l'incapacité et l'invalidité au cadre de la SA, a eu une tendance à baisser au cours des 12 mois d'etude, soulignant l'impact positif de ce traitement complexe de réhabilitation. Nous avons établi des corrélations statistiquement significatives entre la qualité de la vie (ADL) et les index de l'état fonctionnel (Schober, Tomayer, l'index cirtometrique).

Terapia funcţională în spondilatita anchilozantă

Cuvinte cheie: *spondilită, kinetoterapie, funcţionalitate, program.*

Abstract: *Nu există un tratament definitiv pentru SA. Un obiectiv important al tratamentului este participarea conştiincioasă a pacientului la un program de exerciţii în scopul menţinerii posturii funcţionale şi păstrării mobilităţii. Se cunoaşte că exerciţiul creşte mobilitatea şi îmbunătăţeşte funcţia.,,HARRISON "Scopul acestei lucrări este de a demonstra că prin implementarea unor programe kinetice specifice şi riguros aplicate asociate tratamentului balneo fizical se pot recupera funcţiile de mobilitate CDL,respiratorii şi articulare pierdute în urma evoluţiei SA şi reduce sechelele rezultate. Material şi metodă. Studiul organizat a fost de tip prospectiv, observaţional, s-a desfăşurat în Staţiunea "Lacu-Sărat" în perioada aprilie 2009- aprilie 2011 . A cuprins un număr de 21 de pacienţi diagnosticaţi cu SA. Pacienţi au fost trataţi în condiţii de spitalizare cu un program terapeutic personalizat .Ei au fost organizaţi în două loturi: un lot martor care a urmat tratament medicamentos şi balneo-fizical; un lot de studiu care a beneficiat alături de tratamentul medicamentos şi balneo-fizical de kinetoterapie. Evoluţia a fost urmărită la debutul programului, la 6 luni şi 1 an .Rezultate. Indicele menton stern s-a înbunătăţit cu 0.5 – 1 cm la pacienţilor din stadiul II şi III Stadiile II şi III, valoarea indicelui occiput – perete creşte cu 0.5 – 1 cm în stadiile II şi III, . În stadiile III – IV şi IV nu s – a înregistrat o îmbunătăşire considerabilă a mobilităţii, indicele occiput – perete păstrându – se la valori crescute de 2 – 3.5 cm. În stadiile II şi III, valoarea indicelui Schober ajungând până la 2,5 cm. La pacienţii din stadiile III – IV şi IV valoarea indicelui creşte cu aproximativ 0.5 cm, menţinându – se în continuare scăzută (0.5 – 1.8) Indicele Tomayer IT. s – a realizat o creştere a amplitudinii flexiei pentru fiecare categorie de IT cu cel puţin 5-15cm.Indicele cirtometric. În unrma gimnasticii respiratorii, efectuate atât la sală, cât şi la domiciliu, valoarea IC a crescut la pacienţii din stadiile II, III şi III – IV cu aproximativ 1.5 cm, atingând valoarea de 3, 5-5 cm. La pacienţii din stadiul IV a rămas scăzut la 1.8 cm. Lotul martor a înregistrat ameliorări semnificat statistic reduse cu 1-5cmla toţi indicii. Concluzii. Tratamentul recuperator fizical-kinetic are un impact puternic asupra variabilelor de activitate a bolii, cel mai relevant fiind cel asupra indicelui funcţional. Variabilele clinice de evaluare ale statusului funcţional, care cuprind aria disabilităţii şi infirmităţii în SA, au avut o tendinţă descrescătoare*

pe parcursul celor 12 luni, relevând efectul favorabil al tratamentului recuperator complex. Am stabilit corelaţii semnificativ statistic între calitatea vieţii (ADL) şi indicii de status funcţional (Schober,Tomayer, indicele cirtometric).

A COMPARATIVE STUDY BETWEEN THE REAL AND THE MANIFESTED PERSONALITY OF THE KINESIOTHERAPIST

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Abstract: *The real personality includes the whole processes, functions, tendencies, features and mental states of an individual which he can express anytime, fact that provides him the identity and the persistence in time.*
The outgoing personality includes the whole traits and features which the individual expresses in particular and specific modalities of behavioral externalization and objectivity.
It is interesting to realize a comparative analysis, to show how the kinesiotherapists know themselves and how they consider that it is necessary to adapt their external behavior in the relationships with the others around, depending on the daily situations with which they are meeting all the time.
Keywords: *kinesiotherapist, real personality, manifested personality.*

Introduction

The human variability is a known fact. Each individual has a set of abilities, skills, or qualities. People are different from one another when are regarded from certain points of view. But variability is not manifested only in individuals; it extends to groups of people. From a psychological point of view, the human being is seen as manifesting a multitude of differentiating elements. This idea of individual and group differences was one of the concepts that determined me to choose this research theme, wanting to clarify the aspects characterizing the kinesiotherapists, and to see the way in which these aspects influence the relations with the patients and the results of the therapeutic-rehabilitating act.

Allport (1981), in the chapter "Understanding Personality", shows that *"for the understanding of the personality, what is important is the perception of the person, involving the accessibility of the other, manifested through the desire to reveal themselves, and the ability to judge, based on experience, similarity, intelligence, cognitive complexity, self-intuition, social skill and adaptation, detachment, aesthetic attitude, interception"*.

M. Zlate (1999) thinks that *"in the total, whole human personality - looked from the perspective of philosophy, one one side, as a concrete personality, and on the other side, as an ideal to achieve - what is significant is not the skills, the traits, the structures, the systems and subsystems of the personality, but the particular way in which they are integrated and used in behavior. Thus, what is of great importance is what the person really is, what he/she wishes to be, what he/she thinks of others, what he/she believes that other people are thinking about him/her, his/her manifested behavior being according to one or another of these elements, or to the particular way they integrate and function"*. We know, from everyday life, that some people behave as they are, while others, as they think they are, or as they think other people expect them to behave. On the other side, in interpersonal relations it does not matter what is really the person like, but how he/she manifests with other people.

According to Zlate, M. (1999), "*the real personality (RP) is constituted of all the psychological processes, functions, tendencies, skills, and states that a person has in a given moment, and that the individual can use anytime, which ensures his/her identity and durability in time*."

"*The manifested personality (MP) is represented by all the traits and skills that found their expression in each individual's particular, specific, own ways of behaving; it is a synthetic psycho-behavioral construction, because it comprises either some aspects, sides, parts of each facet of the personality, or all of the facets, articulated and integrated between them*" (Zlate, M., 1999).

Subjects, assessment methods

This study comprised 100 practicing kinesiotherapists. In order to determine the real personality of the kinesiotherapists, we used the Eysenck-Wilson Questionnaire, for the extroversion-introversion dimensions, taking into considerations the following primary factors (with 30 questions for each primary

factor): assertiveness-unassertiveness, sociability-unsociability, risk-taking - prudence, impulsiveness-control, practical-reflexiveness, irresponsibility-responsibility.

In order to establish the manifested personality profile, we used the methodology introduced by M. Zlate (1999) for determining a synthetic-integrative model of the personality. For this, we conceived a self-assessment questionnaire, containing questions regarding the manner in which the kinesiotherapists believe each component of their personality is manifested in the relations with other people. Each primary factor was noted by the kinesiotherapists in five answer situations: in relation to himself/herself; to his/her ideal; to others (physicians, patients, colleagues), to their own person reflected in others (physicians, patients, colleagues), to externalized, manifested behavior.

Results

The profile of the kinesiotherapists' real personality

Following the Eysenck-Wilson Questionnaire, for the extroversion-introversion dimensions, the distribution of the scores for each of the personality primary factors is presented in Table 1. The real personality was measured with a 30 level scale.

The statistical analysis of the recorded results shows that in the case of responsibility, there are representative lower level factors (Responsibility, Expressiveness, Assertiveness, and Sociability), and relatively representative lower level factors (Impulsiveness and Risk-taking).

Distributions that are close in a certain measure to the mesokurtic ones were recorded in the case of Responsibility and Assertiveness (values of the coefficients β_1 are close to 3), platykurtic ones (in the case of Expressiveness, Risk-taking, and Impulsiveness), and leptokurtic (in the case of Reflexiveness and Sociability). This situation was caused by the high number of recorded scores, and by a distribution of the scores that came close to normal values, in comparison with the profile of the manifested personality.

The deviations from normality are small and moderate in the case of Responsibility, Reflexiveness, Risk-taking, and Assertiveness (positive asymmetries), pronounced in the case of Impulsiveness (negative asymmetry), and average towards pronounced (negative asymmetries) in the case of other personality primary factors.

Table 1. Real personality of the kinesiotherapists. Distribution of the recorded scores for each personality primary factors

Primary factors	Responsibility		Reflexiveness		Expressiveness		Assertiveness		Risk-taking		Sociability		Impulsiveness	
	N	f	N	f	N	f	N	f	N	f	N	f	N	f
	26	3	28	3	19	3	27	3	22	3	26	3	21	3
	25	6	27	1	17	6	25	3	21	3	25	3	20	6
	23	3	24	3	16	11	22	3	20	3	24	6	19	6
	22	3	22	9	15	15	21	13	18	3	23	3	18	9
	21	3	21	9	14	4	20	4	17	3	22	6	16	6
	20	15	20	15	13	14	19	6	16	5	21	21	15	9
	19	9	19	15	12	4	18	9	15	9	20	12	14	3
	18	4	18	17	11	9	17	9	14	3	19	15	13	8
	17	18	17	6	10	12	16	7	13	6	18	8	12	6
	16	9	16	3	9	6	15	15	12	3	17	3	11	6
	15	18	15	4	8	11	14	6	11	11	16	3	10	5
	14	3	14	3	7	2	13	9	10	21	15	3	9	12
	13	2	13	12	4	3	12	3	9	3	14	3	8	11
	12	2					11	3	8	12	13	4	7	3
	11	2					10	3	7	5	12	4	6	4
							9	4	5	4	8	3	5	3
									4	3				
Average score	18.03		18.69		12.33		16.77		11.86		19.18		12.80	

Type (dominant)	17.00	18.00	15.00	15.00	10.00	21.00	9.00
Dispersion	11.89	11.43	11.56	16.90	19.22	14.73	20.54
Standard deviation	3.45	3.38	3.40	4.11	4.38	3.84	4.53
Variation coefficient	19.12	18.09	27.58	24.51	36.97	20.01	35.41
Skewness	0.30	0.20	-0.79	0.43	0.42	-0.47	0.84
4th Centered Moment	405.99	460.54	326.28	817.12	1008.18	812.25	777.47
Kurtosis	2.87	3.52	2.44	2.86	2.73	3.74	1.84

The profile of the manifested personality

The manifested personality was measured with a *Likert* 9 level scale.

In Table 2 we can see that the calculated averages are strictly representative in the case of Responsibility, Expressiveness, Assertiveness, and Sociability, and moderately representative in the case of other personality primary factors.

In the case of the manifested personality, we see a symmetrical distribution for the Risk-taking primary factor; a slight positive asymmetry for Impulsiveness; a moderate positive asymmetry for Reflexiveness, and a pronounced negative asymmetry for the other personality primary factors.

The quotations for Reflexiveness, Expressiveness, and Risk-taking are distributed on curves close to mesokurtic ones (high number of choices of the quotation average), while the ones for Responsibility, Assertiveness, and Sociability are distributed on moderately or pronounced leptokurtic curves (high number of choices of the quotations are close to average values).

The presented situation shows the fact that kinesiotherapists have heterogeneous opinions regarding they way in which their personality is manifested, not orientating themselves after a model, and assessing what they believe is the truth.

Table 2. Manifested personality of the kinesiotherapists
Distribution of the recorded scores for each personality primary factors

Primary factors	Responsibility (1)		Reflexiveness (2)		Expressiveness (3)		Assertiveness (4)		Risk-taking (5)		Sociability (6)		Impulsiveness (7)	
	N	f	N	f	N	f	N	f	N	f	N	f	N	f
	9	43	6	7	9	41	9	68	6	5	9	65	6	8
	8	39	5	30	8	29	8	16	5	20	8	29	5	14
	7	12	4	53	7	20	7	10	4	48	7	3	4	56
	6	6	3	9	6	7	6	3	3	24	6	3	3	22
					5	3	5	3	2	3				
Average score	8.19		4.35		7.98		8.43		4.00		8.56		4.08	
Type (dominant)	9.00		4.00		9.00		9.00		4.00		9.00		4.00	
Dispersion	0.75		0.55		1.16		0.99		0.76		0.49		0.67	
Standard deviation	0.87		0.74		1.08		0.99		0.87		0.70		0.82	
Variation coefficient	10.60		17.06		13.49		11.77		21.79		8.15		20.12	
Skewness	-0.93		0.48		-0.95		-0.57		0.00		-0.63		0.10	
4th Centered Moment	1.81		0.89		4.07		5.69		1.72		1.52		1.49	
Kurtosis	3.18		2.91		3.03		5.87		2.98		6.42		3.28	

The comparative analysis of the kinesiotherapists' real and manifested personality profiles

I thought it was interesting to do a comparison between the kinesiotherapists' real and manifested personality, trying to see the

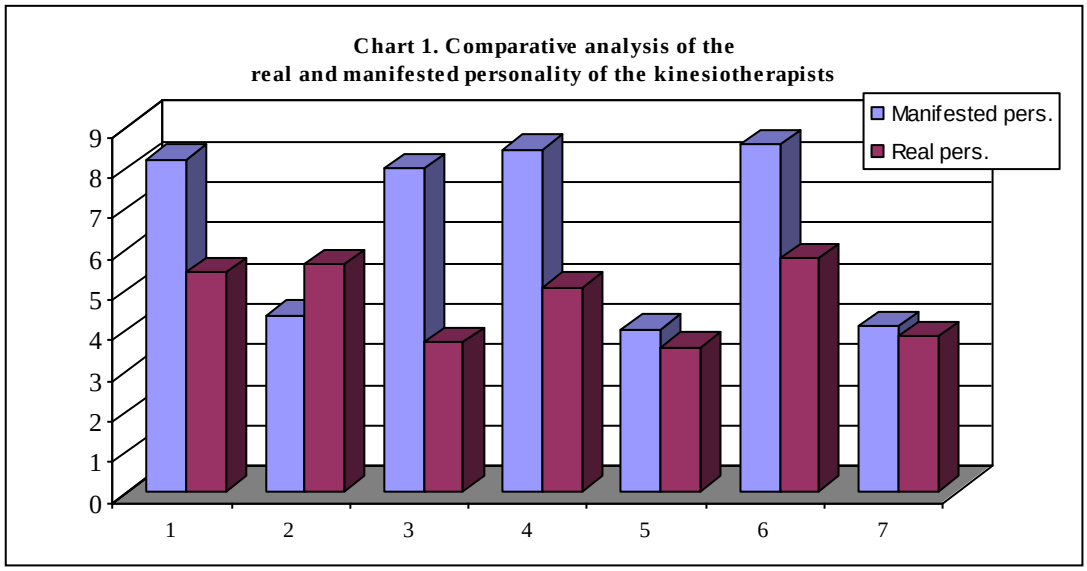
degree of concordance, harmony, or discordance, disharmony, and disagreement between them. I believed these aspects can better explained a series of the kinesiotherapists' attitudes, which were adopted through time, either out of the necessity to reduce dissonance, or out of the necessity to adapt to different situations. In order to identify the existence or non-existence of certain significant differences between the real personality, measured with a 30 level scale, and the manifested personality, measured with a 9 level scale, the 30 level scale was converted to a 9 level one (Table 3).

Table 3. Comparative analysis of the real and manifested personality of the kinesiotherapists

Primary factors	**Real p.**	**Manif. p.**	**Real p.**	**Manif. p.**
Responsibility	18.03	8.19	5.41	8.19
Reflexiveness	18.69	4.35	5.61	4.35
Expressiveness	12.33	7.98	3.69	7.98
Assertiveness	16.77	8.43	5.03	8.43
Risk-taking	11.86	4	3.56	4
Sociability	19.18	8.56	5.75	8.56
Impulsiveness	12.8	4.08	3.84	4.08
Group size	100	100	100	100
Average score			**4.70**	**6.51**
General average			**5.61**	
Total Variation V_T			3783.52	
Intergroup Variation V_E			164.3744	
Intragroup Variation V_R			3619.15	
Calculated Value F			**8.99276**	
Chosen level of significance			0,050	
Tabulated value F for the chosen level of significance			**3,840**	
The intergroup ratio for the total variation (%)			**4.344480**	

The calculated value F being higher than the tabulated one, we can say that between the two facets of the personality there are significant differences, with a significance level of 0.05.

The kinesiotherapists' manifested personality is situated above the level of their real personality. The kinesiotherapists believe that they must make large efforts to modify their attitudes and behaviors in relations to others, especially regarding the Responsibility (1), Expressiveness (3), Assertiveness (4), and Sociability (6) (Chart 1). It is not bad that the people we studied consider they must manifest themselves at higher levels of certain primary factors that have a great openness towards the social and towards relations with others, but - let us not forget these realities - in order to achieve this constantly, they make extra efforts, which in time can be perceived as exhausting. Thus, a certain tendency can appear, to renounce the adaptation efforts, the personalities manifesting as they are, a fact that may not be in agreement with the necessity to ensure harmonious relations with the people around you.



Conclusions

- The kinesiotherapists do not know themselves well enough, and they do not assess themselves objectively, a situation that is reflected in the overestimation of the necessity to adapt their behavior that is concordant with their real personality to the different situations they are confronted.
- Because of the adaptation efforts the kinesiotherapists have to make in order to reach an adaptation level they think necessary, there are a series of dissonances, the reduction of which presupposes extra efforts, leading to overwork and fatigue.
- The profile of the kinesiotherapists' real personality is characterized by a slightly low development level of certain primary factors that are susceptible to be influenced by a well organized and managed educational process, which could help also to become aware of their true personality, and implicitly, to a better self-knowledge.

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Studiu comparativ între personalitatea reală şi manifestată a kinetoterapeutului

Cuvinte cheie: *kinetoterapeut, personalitate reală, personalitate manifestată.*

Rezumat: ***P****ersonalitatea reală cuprinde ansamblul proceselor, funcţiilor, tendinţelor, caracteristicilor şi stărilor mentale ale individului, prin care ăţi poate exprima oricând identitatea şi durabilitatea în timp.*

Personalitatea manifestată cuprinde trăsăturile de ansamblu şi caracteristicile pe care un individ le experimă în mod particular şi modalităţile specifice de externalizare a comportamentului şi a obiectivităţii proprii.

Este interesant de realizat o analiză comparativă, pentru a demonstra măsura în care kinetoterapeuţii se cunosc şi modul în care ei consideră că este necesar să-şi adapteze comportamentul lor extern în relaţiile cu alţii, în funcţie de diversele situaţii cotidiene.

Etude comparatif entre la personalite reele et la personalite manifestee du kinesitherapeute

Mots-clé *: kinésithérapeute, personnalité réelle, personnalité manifestée*

La vraie personnalité comprend l'ensemble des processus, fonctions, tendances, caractéristiques et les états mentaux d'un individu dont il peut exprimer n'importe quand, ce que lui fournissent l'identité et la persistance dans le temps.

La personnalité manifeste comprend les traits de l'ensemble et les caractéristiques lesquelles un individu exprime en particulier et les modalités spécifiques d'externalisation du comportement et objectivité.

Il est intéressant de réaliser une analyse comparative, de montrer comment les kinesitherapeutes se connaissent eux-mêmes et la façon dont ils considèrent qu'il est nécessaire d'adapter leur comportement extérieur dans les relations avec les autres, en fonction des situations quotidiennes.

THE CONTRIBUTIONS OF THE PHYSICAL THERAPY IN THE RECOVERY OF PREHENSION MOVEMENT IN PATIENTS WITH STROKE

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Abstract: *At present, in Romania, stroke ranks second in terms of causes of death and approximately 80% of those who survive face multiple times with significant sequelae, leading to a decreased quality of life of both patients and their families.*
Grips strength deficit is one of the most common problems arising after stroke. The prehension is the action of clamping an object, and essential in this motoric gesture is the opponent thumb.
Physical therapy has an important role in the process of recovery of grip strength deficit, occurred after a stroke.
Through specific methods and techniques of physical therapy, made a noticeable improvement of hand functional capacity and increasing the independence of the patient.
Key words: *physical therapy, recovery, prehension, stroke.*

Scope of paper

Implement specific physical therapy methods and techniques, in the process of recovery of grip strength movement, in patients with status post stroke and evaluating the effectiveness of physical therapy in the recovery process of gripping motion.

Methods

The experimental research was conducted on a sample of 30 patients aged between 50 and 75 years, subjects who had suffered a stroke in 2008 – 2010. Patients were divided into two groups, an experimental group and a control group.

Each patient in the experimental group corresponds to another patient in the control group, the two patients have in common gender, age, diagnosis, type of injury and symptoms.

During the recovery period, the patients in the experimental group, had physical therapy, physiotherapy and medication. The patients in the control group did not do physical therapy but have followed medication and occasionally physiotherapy.

During research several series of tests and questionnaires have been applied with a view to carefully following the evolution of recovery, both from a functional deficit point of view, as well as from a patient life quality point of view. The tests applied are as follows: numerical scale of thumb opposition, testing the joint mobility, testing the prehension movement, testing the types of grasp, dynamometric test of prehension and manual ability questionnaire, Michigan hand questionnaire, life quality assessment questionnaire.

The recovery programme was organised according to the needs of the experimental group and according to the objectives set. Within the recovery programme the following specific objectives was rendered evident: fighting against pain, reducing spasms, increasing mobility, strengthening hypotonic muscles, correcting and improving vicious and compensatory attitudes, educating and re-educating finger pincers, educating and re-educating thumb opposition.

Methods and means used were part of the kinetotherapy-specific methods and of other complementary techniques. Kinetotherapy methods were the following: massage, passive mobilisation, auto-passive mobilisation, active mobilisation, neuro proprioceptive facilitating techniques, occupational therapy, active exercises, exercises involving resistance, exercises involving objects, hydro-kinetotherapy.

Classical massage is defined as a series of various manual manoeuvres systematically applied on the surface of the hand for therapeutic purposes. It may also be deemed as a series of manual mechanical processing carried out on the surface of the segment in a certain sequence according to the region, the therapeutic purpose and the general and local state of the segment.

Mobilisations are actions that aim at putting in movement one or several muscles, limbs or articulations.

Neuro proprioceptive facilitating techniques: neuromuscular proprioceptive facilitation means making the voluntary motor response easier, encouraging or accelerating the same by stimulating the proprioceptors in the muscles, tendons, articulations. To this the external and telereceptor stimulation is added. Neuro proprioceptive facilitating techniques are divided according to the four stages of motor control (namely mobility, stability, controlled

stability and ability), to which the fundamental ones are added and the special ones with a general character.

Occupational therapy is a non-medication treatment with important role in rehabilitation and social and professional reintegration of patients with functional disability. Occupational therapy is the art and science of directing ill individuals towards the participation in certain activities in order to restore, strengthen or improve the performances thereof, in order to facilitate the assimilation of those abilities and functions that are necessary for adaptation and productivity and diminution or correction of pathology, for maintaining the state of health.

Physical exercise is the motion act consciously and systematically repeated for the purpose of increasing the biological potential of humans, expressed through the improvement of physical development, the increase of motor capacity, the correction of physical deficiencies and motor recovery.

Hydro-kinetotherapy is the execution of physical exercises in water; this is a method that uses plain water, thermal water or sea water. Partial hydro-kinetotherapy is used with a view to increasing joint mobility by carrying out various types of movements (passive, passive-active, active) in warm water, which generates muscle relaxation and pain relief. It is applied into individual pools for partial immersion for the purpose of extremity recovery;

Results

During the research we have seen a number of common features in the mode of the recovery of the grips strength deficit in the experimental group, and these features are presented in the following. In all modern human communities cerebrovascular diseases have become a major health issue and survivors thereof are severely marked and require care and long-term recovery.

Motor deficit of the upper limb is more often that not severe during the first days after a stroke. Spontaneous re-appearance of voluntary motor functions of upper limb is gradual and for the majority of people progress is achieved during the first 3 months. Proximal motor functions are normally recovered sooner than the distal ones.

In the upper limb the degree of motor function recovery achieved within 30 days following a stroke is a clinical predictive factor and it makes up the most precocious factor of long-term prehension attitude. Thus the patient may evolve towards one of the following 2 cases:

- Low recovery, with deficient motor functions and spasms, preventing the hand from performing prehension movement.
- Good recovery, with possibility of performing prehension movement.

The precociousness of the programme is a fundamental issue since the post-lesion cerebral plasticity is maximum during the first 3 months. The studie have shown that intensive training initiated during the first month following the accident manages to restore significantly the capacity of upper limbs.

Recovery process after stroke requires a long period of time and effort in terms of patient and family and in terms of medical and paramedical personnel involved in the patient functional recovery.

Functional evolution of the patients is dependent on a number of factors, which are divided into two categories:

- Factors that can not be changed: age, severity of stroke, brain siye of the area affected by stroke.
- Modifiable factors: precocity treatment, the consistent application of the recovery program, complexity of the program.

Final testing results have shown that physical therapy is the basis of the rehabilitation program, on a person with post stroke sequelae.

Exercise applied in the form of the medical gymnastics, determine a favourable evolution of the patient functional status; this is evidenced by observing and evaluating the test results from the application of the research conducted.

Patients followed in the rehabilitation program, a program of physical therapy associated with physiotherapy and medication, had a more rapid and efficient evolution, compared with patients who have undergone medical treatment and only occasionally physiotherapy sessions. After applying manual skills assessment questionnaire, were recorded data according to we can say that, patients in the experimental group, who made the entire recovery period physical therapy, saw an improvement of the self care capacity, becoming independent in terms of their capacity to perform daily activities, leading to an increase in quality of life of patients.

Conclusions

Kinetic treatment is the key point in the process of recovery of the prehension motion after stroke; it contributes to increasing the quality of life.

Studies in order to recover functional capacity of the hand increase the quality of the act of recovery, reduced cost and increased accessibility of patients recover from these treatments.

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Contributions de la kinésithérapie dans la récupération de préhension chez les patients ayant subi un accident vasculaire cérébral

Mots-clés*: Kinésithérapie, récupération, préhension, accident vasculaire cérébral.*

Résumé: *En ce moment en Roumanie, accident vasculaire cérébral occupe le deuxième rang, en cause de mortalité et environ 80% de ceux qui survivent souvent face á des séquelles importantes, conduisant á une diminution de la qualité de vie pour les patients et leurs familles. Le déficit de préhension este le problème le plus courant apparu après un accident vasculaire cérébral. La préhension este l'action de capture un objet, essentielle dans este l'action de pouce. Kinésithérapie a un rôle important dans le processus de redressement du déficit force de préhension este survenu après un accident vasculaire cérébral. Grâce á des méthodes et techniques spécifique kinésithérapie on voir une amélioration notable de la capacité fonctionnelle de la main et l'accroître d'indépendance du patient.*

Le but de cet article este d'appliquer les méthodes spécifiques de la kinésithérapie, dans le processus de récupération du mouvement de préhension, chez les patients ayant subi un accident vasculaire cérébral et évaluer l'efficacité de la kinésithérapie dans le processus de récupération de préhension.

Contribuţiile kinetoterapiei în recuperarea mişcării de prehensiune la pacienţii cu accident vascular cerebral

Cuvinte cheie: *kinetoterapie, recuperare, prehensiune, accident vascular cerebral*

Rezumat: *În momentul actul, în România, accidentele vascular cerebrale ocupă locul doi în ceea ce priveşte cauzele de mortalitate iar aproximativ 80% din cei care supravieţuiesc se confruntă de cele mai multe ori cu sechele importante, care duc la o scădere a calităţii vieţii atât a pacienţilor cât şi a familiilor acestora.*

Deficitul de prehensiune este una din cele mai întâlnite probleme apărute post accident vascular cerebral. Prehensiunea reprezintă acţiunea de prindere a unui obiect, esenţial în acest gest motric fiind acţiunea policelui cu rol de opozant.

Kinetoterapia are un rol important în cadrul procesului de recuperare al deficitului de prehensiune apărut în urma producerii unui accident vascular cerebral. Prin intermediul metodelor şi tehnicilor specifice kinetoterapiei se realizează o îmbunătăţire vizibilă a capacităţii funcţionale a mâinii şi creşterea gradului de independenţă al pacientului. Scopul acestei lucrări este de a aplica metodele şi tehnicile specifice kinetoterapiei, în cadrul procesului de recuperarea a mişcării de prehensiune, la pacienţii cu status post accident vascular cerebral şi de a evalua eficienţa kinetoterapiei în cadrul procesului de recuperare a mişcării de prehensiune.

THE ROLE OFPHYSICALTHERAPY IN THE MANAGEMENT OF THE RECOVERY PROCESS AFTER STROKE

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Abstract: *According to World Health Organization, stroke is a major socio-medical problem, given that each year worldwide, 6 million people suffer a stroke. Stroke is a major cause of disability population: more than 80% of patients who survive are disabled. Their clinical and functional evolution depends to a large extent and the clinical management of this disease. Rehabilitation after a stroke is an active process by which people with disabilities get the best potential to achieve a physically, mentally and socially. The recovery process is open to all persons who have suffered a stroke and who have gained from this disorder, a motor deficit more or less serious.*

Physical therapy plays a key role in the recovery of stroke patients after the accident, is based on a number of methods and techniques aimed at reducing the deficit in the patient's functioning, increase independence and improve quality of life.

Key words: *physical therapy, recovery, stroke.*

Scope of paper

Registration data, from the recovery process, necessary during the aftermath of stroke, and revealing the role of physiotherapy in this process of recovery.

Methods

This paper is based on a study, conducted through a questionnaire, applied to a sample of 100 subjects, 38 women and 62 men aged between 50 and 75 years, in Arges County. Subjects were individuals who suffered a stroke.

The questionnaire is designed to collect data on the management of the recovery process and of the deficits after stroke. Through this, we performed an analysis of recovery services offered to patients in hospital, in the acute phase of stroke and while we gathered information on the management of the recovery process after discharge from hospital.

Name: Sex: Date of birth: Marital Status: Residence: urban / rural Diagnosis: Time of the stroke:

The first four questions will be completed if the patient has previously suffered another stroke. Where in the past never did another stroke proceed directly to question 5.

1. In the past you have suffered another stroke?
□ If YES: - what kind of stroke have had .....
- When product .....
□ NO

2. How have you recovered after the previous stroke?
□ hard □ easy □ at all

3. You made recovery by physical therapy:
□ Yes - where did you recover: □ home; □ hospital; □ recovery centers; □ clinic;
□ NO

4. How long have you had physical therapy after stroke?
□ under 6 months; □ 6 months - 1 year; □ 1 year - 2 years; □ 2 years;

Regarding recently suffered a stroke, please answer the following questions by ticking the appropriate response to the situation where you are.

5. Who will be given first aid after cerebrovascular accident?
□ Emergency medical crew; □ Neurologist; □ Physician;
□ Others, please specify who.....

6. What analysis and tests you have done in the first 48 hours after stroke:
□ EKG; □ computerized tomography; □ RMI; □ complete blood count;
□ glucose; □ others, indicate that.....

7. In the hospital who were the specialists who have helped in the recovery of acquired deficits after stroke?
□ neurologist; □ physical therapist; □ physiotherapist; □ masseur; □ speech therapist;
□ occupational therapist; □ Others, please specify who.....

8. During the recovery process have received orthosis or prostheses for hand or foot?
□ yes □ no

9. What segments of the body have the most serious deficits?
□ upper limb; □ leg;

10. How many times have you benefited from intervention of the physical therapist, following the stroke in the hospital?
□ 5-7 times/week; □ 2- 5 times/week; □ under 2 times/week; □ at all

11. At hospital you were told to continue physical therapy at home?
□ yes □ no

12. What were the services you received recovery after discharge?
□ physiotherapy; □ speech; □ occupational therapy; □ massage; □ physiotherapy
□ others, indicate that.....

13. Where did you / do physiotherapy?
□ home; □ in clinic; □ private centers; □ hospital; □ at all

14. How long from cerebrovascular accident, then recovery:
.....

15. What part of the affected body, respond best to the recovery process?
□ upper limb; □ leg; □.....

16. How important do you think is in the process of recovery of physical therapy after stroke?
□ not important at all; □ somewhat important; □ important; □ very important;
□ essential in the recovery process
17. You may use the services of a physiotherapist if you need the recovery:
□ yes; □ no; □ I do not know;

Results

We found increased incidence of ischemic stroke for men aged between 50 and 65 years and for women after age 65. 67 of the total lot of patients have had in the past or an ischemic stroke or a transient. 60% of these patients have suffered severe disabilities, so did not need physical therapy and have recovered slightly. 32% have suffered disabilities environments, but who needed physical therapy for a period of between 6 months and 1 year. And 8% have suffered ischemic strokes with moderate deficit, needing physical therapy for more than a year but have recovered almost completely.

Stroke causes a range of disabilities in both upper limb and lower limb. The disability may cause a greater or lesser degree of deformity of the hand and foot. Deformations occur because of imbalance between spastic and hypotonic muscles. Thus, this muscle imbalance brings the hand and foot in positions which are often debilitating. To prevent installation of those vicious strain or position we must use a series of orthosis. However, at present, in Romania, these orthosis for hand or foot are not often used, even if these benefits are very high. Following the questionnaire applied on the sample of 100 subjects, only a quarter of respondents used orthosis for a period greater or less time in the recovery process.

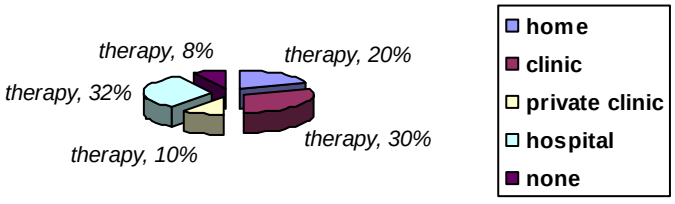
Evolution of patients with motor deficit, post stroke, depends in large measure the frequency of physiotherapy sessions undertaken during the recovery process. The physical therapy sessions are more frequent as the patient is better and progress faster recovery. In the hospital, the number of physiotherapy sessions is inversely proportional to the number of patients requiring neurological recovery and the small number of physiotherapists working in such departments. The data results from the application questionnaire, has been shown that physical therapy sessions varies from one medical facility to another, depending on the number of staff for the service of neurological recovery.

Neurological recovery requires a large period of time, so it is imminently necessary to continue physical therapy after discharge from hospital. The recovery process must have a continuity to achieve a visible improvement as the patient's functional status. Of the 100 patients interviewed, 80 of them had indication for continued physical therapy after discharge from hospital. Indicated that 15 patients suffered a minor stroke and did not require recovery, and 5 patients said they had no further indication of physical therapy.

The effectiveness of the recovery process after stroke depends on accurate and efficient combination of multiple specialties that lead ultimately to reduce motor deficit and increasing the quality of life for patients. In the process of recovery physical therapy works with physiotherapy, speech therapy and occupational therapy in order to address all the functional deficits in place and improve the patient's condition.

In terms of strict physiotherapy, patients' preferences, for the place of meetings, are divided. The venue for these meetings, depend of the financial situation of the patient. Cost recovery in private centers, are much higher compared to the costs of recovery in clinics or hospitals. Advantages of private recovery centers are those that are of high quality services and at the same time it offers an interdisciplinary approach to the process of recovery after stroke. This interdisciplinary approach occurs because private centers can benefit from physiotherapy, massage and occupational therapy.

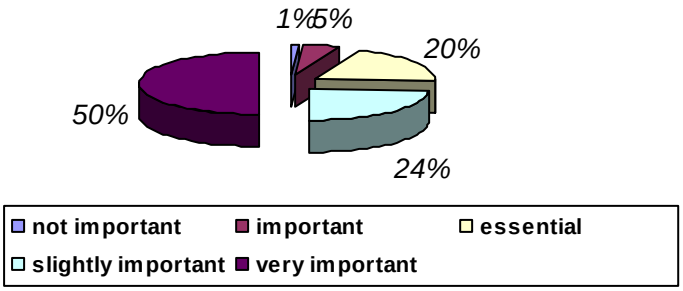
Figure 1 Where did you / do physiotherapy:



Another trend in the recovery process is to carry out physiotherapy sessions at home patient. Thus it should not longer move to another location, physical therapy session is taking place in a friendly and homely atmosphere.

Physical therapy is a form of individualized therapy that, based on static and dynamic exercise programs can be used in therapeutic and rehabilitation programs. Its role in neurological recovery is essential; this can be seen in the last two questions the answers to the questionnaire.

Figure 2 How important do you think physical therapy is in the recovery process?



Conclusions

Kinetic treatment is the key point in the process of recovery after stroke; it contributes to increasing the chances of survival and increased quality of life. This treatment is started early during hospitalization and in particular the acute phase of disease and continues after discharge from hospital.

Because of the complex functional deficit, the recovery process requires an interdisciplinary approach, over a long period of time, with an increased frequency of physical therapy sessions, with the participation of both the subject and the family in achieving goals.

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Le rôle de la physiothérapie dans la gestion du processus de rétablissement après un accident vasculaire cérébral

Mots-clés: *physiothérapie, rétablissement, accident vasculaire cérébral.*

Résumé: *Selon l'Organisation mondiale de la santé, l'accident vasculaire cérébral est un problème socio-médical, étant donné que chaque année dans le monde, 6 millions de personnes sont victimes d'un l'accident vasculaire cérébral. L'accident vasculaire cérébral est une cause majeure de la population des personnes handicapées: plus de 80% des patients qui survivent sont handicapés.*

Leur évolution clinique et fonctionnelle dépend dans une large mesure de la gestion clinique de cette maladie. Réadaptation après un accident vasculaire cérébral est un processus actif, par lequel les personnes handicapées d'obtenir le meilleur potentiel physiquement, mentalement et socialement.

La physiothérapie joue un rôle clé dans la récupération de patients après l'accident, est basée sur un certain nombre de méthodes et techniques visant à réduire le déficit de fonctionnement du patient, l'indépendance et améliorer la qualité de vie.

Le but de ce travail, était d'enregistrer les données relatives à la période de récupération nécessaire après la survenue d'accident vasculaire cérébral, et de souligner le rôle de la physiothérapie dans ce processus de la récupération. Cela a été fait par le biais d'un questionnaire appliqué à un échantillon de 100 sujets, des questionnaires conçus pour recueillir des données sur la gestion du processus de rétablissement, les déficits après un accident vasculaire cérébral. Grâce à ce nous avons effectué une analyse des services de récupération offerts aux patients à l'hôpital dans la phase aiguë de l'accident vasculaire cérébral et pendant que nous recueilli des informations sur la gestion du processus de récupération après la sortie de l'hôpital.

Rolul kinetoterapiei în abordarea procesului de recuperare post accident vascular cerebral

Cuvinte cheie: *kinetoterapie, recuperare, accident vascular cerebral.*

Rezumat: *Conform Organizaţiei Mondiale a Sănătăţii, accidentul vascular cerebral este o mare problemă socio-medicală, având în vedere că în fiecare an, în lume, 6 milioane de oameni suferă un accident vascular. Accidentul vascular cerebral este o cauză majoră a invalidităţii populaţiei: mai mult de 80% din pacienţii care supravieţuiesc devin persoane cu dizabilităţi.*

Evoluţia lor clinică şi funcţională depinde în mare măsură şi de managementul clinic al acestei afecţiuni. Reabilitarea după un accident vascular cerebral este un proces activ, prin care persoanele cu dizabilităţi, obţin atingerea unui potenţial optim din punct de vedere fizic, mental şi social.

Kinetoterapia are un rol esenţial în recuperarea pacienţilor după producerea accidentului vascular cerebral; se bazează pe o serie de metode şi tehnici care au ca scop diminuarea deficitului funcţional al pacientului, creşterea independenţei şi îmbunătăţirea calităţii vieţii acestuia.

Scopul lucrării a fost acela de a înregistra date referitoare la procesul de recuperare, necesar în perioada după producerea accidentului vascular cerebral, şi de a evidenţie rolul pe care îl are kinetoterapia în cadrul acestui proces de recuperare. Acest lucru s-a realizat prin intermediul unui chestionar, aplicat pe un eşantion de 100 de subiecţi, chestionar conceput în scopul colectării unor date cu privire la managementul procesului de recuperare, al deficitelor post accident vascular cerebral. Prin intermediul acestuia am realizat o analiză a serviciilor de recuperare, oferite pacienţilor în cadrul spitalului, în faza acută a accidentului vascular cerebral şi în acelaşi timp am adunat informaţii cu privire la managementul procesului de recuperare după externarea din spital.

RESEARCH ON THE LEVEL OF DISABLED STUDENTS' MOTOR CAPACITY

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University "Constantin Brancusi" Tg-Jiu

Abstract: *The paper signals a reality for public schools regarding the attendance of the pupils with special needs to Physical Education classes. The majority does not attend these classes because there is not a special counselor to support them as there is for other subjects. More than that, the curriculum is not adapted to pupils with physical disabilities.*

The research was made on a group of 80 students with special needs. The study revealed a positive evolution of their motor ability. Even though the improvement was low, it is enough to motivate the students to attend the P.E. classes together with their peers with normal physical evolution. The morpho-physiological characteristics of these children urge the necessity for an adapted curriculum. Apart from improving their physiological level, a distinctive curriculum will avoid marginalization and will work for a better social integration of the students with special needs. Getting them involved in physical activities leads to building team and competing spirit, important characteristics for integrating these children and avoids the risk of social failure.

In conclusion, practicing physical exercises is a real benefit, especially for the students with physical disabilities.

Key words: *motor capacity, disability, special needs, improvement.*

Introduction

Nowadays, there is the tendency to remove the disabled students from special institutions and to integrate them in normal school as younger as possible. There are more and more students with disabilities in public schools, whose integration is an urgent priority. For the subjects that are considered of uttermost importance, such as Romanian and Mathematics, there is a special counselor that offers additional help to the teachers. The other subjects are viewed as less important and among them there is Physical Education. This work aims to reveal the importance of physical exercise for students with special needs. It targets to finding the means for these children to attend Physical Education classes. Its goal is to signal the officials involved in education on the positive influence that physical activities have on the improvement of disabled students' motor capacity.

Hypothesis or alternative hypothesis in describing the experimental variables

The research revealed that there is certain a positive evolution of motor capacity for students with special needs that practice regularly. That means it is important to find the ways to integrate these students within the Physical Education classes.

The research has monitored the evolution of different motor abilities such us: speed, strength and skill for students with special needs.

The data were taken by specific measurements at the beginning and the end of the school year 2009/2010.

Subjects, methods, procedure

The students chosen to take part in the research attend "The Inclusive Education

Center" in Targu Jiu. The methods used in the experiment were:

- Gathering documentary evidence from specialized literature about motor capacity;
- Investigating motor capacity by means of specific tests (speed running on 50 meters, standing jump, throwing "oina" ball from a standing position, "Marotin" test stretching the body from lying on a ventral position, rising the body from lying on the back.

Statistical method that used simple concepts such as: arithmetical mean (X), amplitude (A), standard deviation (S), the variability value (Cv).

The research was made on 80 students, boys and girls, equal in number for each secondary level. The activities were chosen according to the curriculum for this type of school. The former data were the results of the activities organized according to the planning.

Results

The measurements revealed the following results:

Table no. 1
Parameter: Running speed - 50m girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	10,	3,	0.8	8,54
	Final	9,9	2,	0,7	7,1
	Diferences	-0,3	-	-	-1,44
Cls. a VI-a	Initial	9,7	3,	1,0	10,9
	Final	9,5	3,	0,9	10,4
	Diference	-0,2	0	-	-0,58
Cls. a VII-a	Initial	9,9	2,	0,8	8,25
	Final	9,6	2,	0,7	8,14
	Diference	-0,3	-	-	-0,11
Cls. a VIII-a	Initial	9,9	1,	0,5	5,49
	Final	9,6	1,	0,4	4,97
	Diference	-0,3	-	-0,6	-0,52

Schedule Nr. 1
Parameter: Running speed - 50m girls

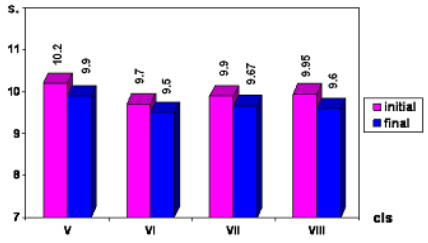


Table no. 2
Parameter: Running speed - 50m boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	9,8	1,	0,5	5,81
	Final	9,5	1,	0,4	4,71
	Diferences	-0,3	-	-	-1,1
Cls. a VI-a	Initial	9,4	2,	1,1	11,9
	Final	9,2	3	1,1	12,1
	Diference	-0,2	0,	-	0,25
Cls. a VII-a	Initial	9,2	2,	0,8	8,92
	Final	9,1	2,	0,7	8,43
	Diference	-	-	-	-0,49
Cls. a VIII-a	Initial	8,9	2,	0,8	9,36
	Final	8,7	3	0,8	9,3
	Diference	-0,2	0,	-	-0,06

Schedule Nr. 2
Parameter: Running speed - 50m boys

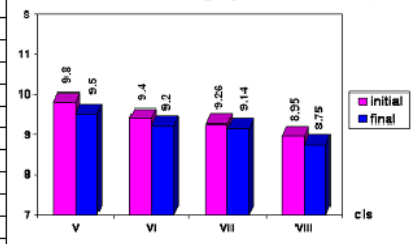


Table no. 3
Parameter: Standing long jump - girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	125,	3	11,4	9,09
	Final	132,	3	12,5	9,45
	Diferences	7	0	1,11	0,36
Cls. a VI-a	Initial	124	5	16,4	13,2
	Final	129	5	16,8	13,0
	Diference	5	0	0,38	-0,25
Cls. a VII-a	Initial	132,	3	9,20	6,94
	Final	137	2	8,88	6,48
	Diference	4,5	-5	-0,32	-0,46
Cls. a VIII-a	Initial	134,	3	9,84	7,32
	Final	138,	3	9,44	6,81
	Diference	4	0	0,4	-0,51

Schedule Nr. 3
Parameter: Standing long jump – girls

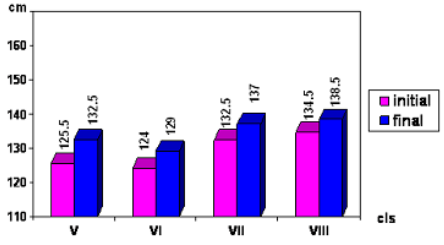


Table no. 4
Parameter: Standing long jump – boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	129	3	11	8,53
	Final	137	4	11,5	8,46
	Diferences	8	5	0,59	-0,07
Cls. a VI-a	Initial	142	4	17,3	12,2
	Final	146,	5	16,8	11,4
	Diferences	4,5	1	-0,51	-0,73
Cls. a VII-a	Initial	145,	5	16,3	11,4
	Final	146	5	16,4	11,2
	Diferences	5,5	0	0,09	-0,21
Cls. a VIII-a	Initial	153	5	17,0	11,1
	Final	169	5	17,6	11,0
	Diferences	7	0	0,61	-0,11

Schedule Nr. 4
Parameter: Standing long jump – boys

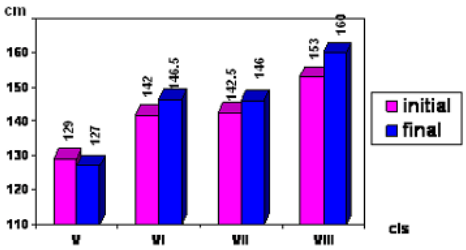


Table no. 5
Parameter: Throwing the ball oina place – girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	10,	1	3,0	28,8
	Final	12,	1	3,6	28,7
	Diferences	2,1	2	0,6	-0,05
Cls. a VI-a	Initial	13,	1	3,7	27,4
	Final	15,	1	3,6	23,9
	Diferences	1,4	0	-	-3,51
Cls. a VII-a	Initial	19,	1	4,4	22,8
	Final	20,	1	4,3	21,2
	Diferences	1	2	0,1	-1,59
Cls. a VIII-a	Initial	18,	1	3,8	20,6
	Final	21,	1	4,5	21,1
	Diferences	2,5	2	0,6	0,51

Schedule Nr. 5
Parameter: Throwing the ball oina place – girls

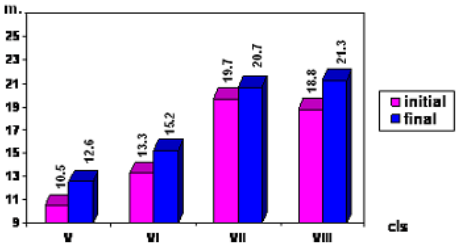


Table no. 6
Parameter: Throwing the ball oina place – boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	14,	1	4,8	32,7
	Final	17,	1	4,3	25,0
	Diferences	2,5	-1	-	-7,78
Cls. a VI-a	Initial	20,	1	3,8	18,8
	Final	22,	1	4,4	20,1
	Diferences	1,8	1	0,6	1,32
Cls. a VII-a	Initial	22,	1	4,9	21,7
	Final	24,	1	4,0	16,6
	Diferences	2	-1	-	-5,17
Cls. a VIII-a	Initial	22,	1	4,7	21,0
	Final	24,	1	4,6	18,9
	Diferences	2	-1	-	-2,85

Schedule Nr. 6
Parameter: Throwing the ball oina place – boys

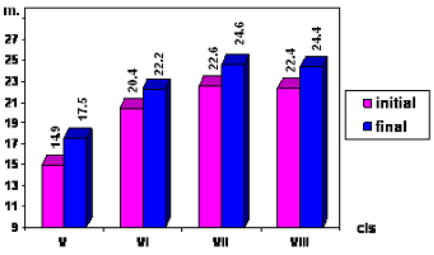


Table no. 7
Parameter: Closure of the vertical trunk of lying back - girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	9,8	1	4,21	42,9
	Final	13	1	5,47	42,1
	Diferences	3,2	4	1,26	-0,84
Cls. a VI-a	Initial	13,	1	4,59	33,5
	Final	14,	1	10,1	68,1
	Diferences	1,2	-2	5,55	34,5
Cls. a VII-a	Initial	15,	2	6,49	41,3
	Final	16,	2	7,2	42,9
	Diferences	1,1	1	0,71	1,51
Cls. a VIII-a	Initial	22,	1	5,30	23,9
	Final	24,	1	5,45	22,5
	Diferences	2,1	0	0,15	-1,45

Schedule Nr. 7
Parameter: Closure of the vertical trunk of lying back - girls

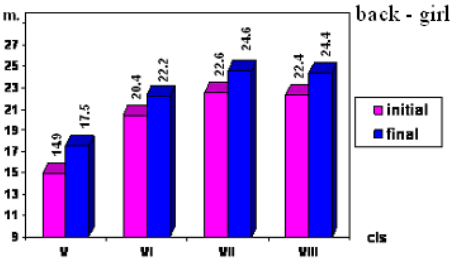


Table no. 8

Parameter: Closure of the vertical trunk of lying back - boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	18,	2	6,6	35,2
	Final	21,	1	9,4	47,1
	Diferences	2,3	-5	2,8	11,8
Cls. a VI-a	Initial	18,	1	4,3	22,9
	Final	21,	1	6,6	31,5
	Diferences	2,3	2	2,3	8,58
Cls. a VII-a	Initial	21,	3	9,5	43,8
	Final	23,	2	8,0	33,8
	Diferences	2,1	-3	-	-9,99
Cls. a VIII-a	Initial	21,	2	6,3	29,3
	Final	24,	1	5,8	23,7
	Diferences	3	-3	-0,5	-5,55

Schedule Nr. 8

Parameter: Closure of the vertical trunk of lying back - boys

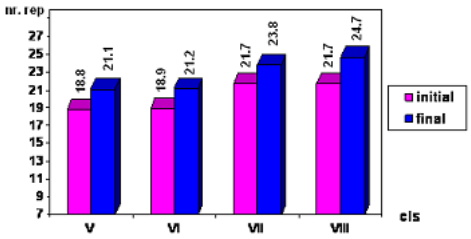


Table no. 9

Parameter: Extension of lying ventral torso upright - girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	6	7	2,0	34,2
	Final	8,7	1	3,0	35,1
	Diferences	2,7	3	1	0,89
Cls. a VI-a	Initial	7,9	8	2,6	33,4
	Final	9	6	5,3	59,2
	Diferences	1,1	-2	2,6	25,7
Cls. a VII-a	Initial	11,	1	5,3	46,0
	Final	14	1	6,1	44,0
	Diferences	2,4	3	0,8	-1,98
Cls. a VIII-a	Initial	13,	1	4,1	30,8
	Final	16,	1	4,0	25,0
	Diferences	2,7	-1	-	-5,79

Schedule Nr. 9

Parameter: Extension of lying ventral torso upright - girls

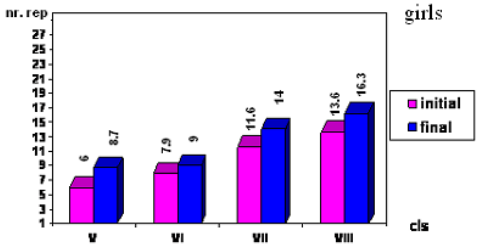


Table no. 10

Parameter: Extension of lying ventral torso upright - boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	11,	1	4,9	42,6
	Final	13,	1	4,8	36,5
	Diferences	1,5	0	-	-6,09
Cls. a VI-a	Initial	11,	1	3,3	29,5
	Final	13,	1	4,4	34,2
	Diferences	1,8	0	1,1	4,71
Cls. a VII-a	Initial	15,	2	7,1	45,9
	Final	17,	2	7,0	39,8
	Diferences	2,3	2	-	-6,06
Cls. a VIII-a	Initial	16,	1	4,9	30,9
	Final	18,	1	4,7	24,8
	Diferences	2,8	-1	-	-6,04

Schedule Nr. 10

Parameter: Extension of lying ventral torso upright - boys

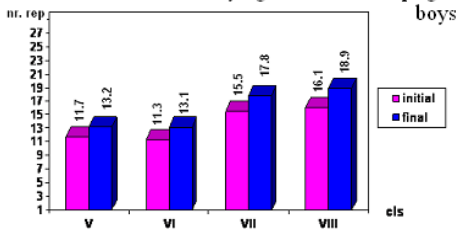


Table no. 11

Parameter: The "Matorin" dr – girls

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	179	90	39,84	22,26
	Final	200	130	52,70	26,35
	Diferences	21	40	12,86	4,09
Cls. a VI-a	Initial	201	190	53,63	26,68
	Final	212	210	59,02	27,83
	Diferences	11	20	5,39	1,15
Cls. a VII-a	Initial	200	180	52,49	26,24
	Final	214	180	51,68	24,15
	Diferences	14	0	-0,81	-2,09
Cls. a VIII-a	Initial	205	180	52,96	25,83
	Final	217	160	51,43	23,70
	Diferences	12	-20	-1,53	-2,13

Schedule Nr. 11

Parameter: The "Matorin" dr – girls

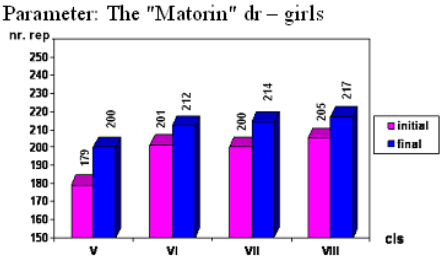
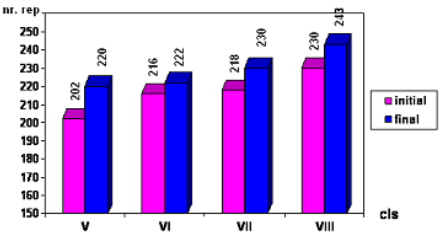


Table no. 12
Parameter: The "Matorin" dr – boys

Indicators / Statistics / Class	Time of data acquisition	X	W	S	Cv
Cls. a V-a	Initial	20	13	41,3	20,4
	Final	22	12	39,7	18,0
	Diferences	18	40	-1,59	-2,4
Cls. a VI-a	Initial	21	20	76,6	35,4
	Final	22	20	76,9	34,6
	Diferences	6	0	0,37	-0,79
Cls. a VII-a	Initial	21	19	76,1	34,9
	Final	23	18	73,1	31,8
	Diferences	12	-10	-2,94	-3,11
Cls. a VIII-a	Initial	23	21	78,3	34,0
	Final	24	19	77,3	31,8
	Diferences	-13	-20	-0,99	-2,23

Schedule Nr. 12
Parameter: The "Matorin" dr – boys



The meaning of the results

Speed running

The results revealed that all groups of students have progressed during the experiment. The variability value shows that they have evolved towards higher homogeneity.

Standing jump

At this test the results were very clear but they underestimated the values for children without special needs. The groups of children are relatively homogenous.

Throwing "oina" ball from a standing position

Except for one group of students, there resulted a high evolution. The data also revealed a relatively homogeneity of the students involved in the experiment.

Rising the body upwards from lying on the back.

Concerning this value, the results showed a positive evolution, although the slightest of all the values tested during the experiment.

Stretching the body from lying on a ventral position

This value has evolved in the same manner as the one above showing the same lack of homogeneity.

Conclusion

Analyzing the evolution of motor capacity values, there can be noticed an improvement in the final results comparing to the initial tests. Even though the progress is low, the improvement is notable taking into account the distinctive characteristics of the students involved in the experiment.

The students' progress rises the necessity that the students with special needs involved in public schools should attend the Physical Education classes. The first step to be done is to adapt the curriculum in accordance with the necessities of the target group.

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Studiu privind nivelul capacităţii motrice a *copiilor cu dizabilităţi*

Cuvinte cheie: *Capacitate motrică, dizabilitate, nevoi speciale, ameliorare, exerciţiu fizic*

Rezumat: *Lucrarea de faţă semnalizează o realitate existentă în şcolile de masă, în ceea ce priveşte participarea la orele de educaţie fizică a elevilor cu nevoi speciale. Astăzi marea lor majoritate nu participă la astfel de activităţi, neexistând un profesor de sprijin, aşa cum există la alte discipline, dar nici o programă adaptată nevoilor acestor copii.*

Din datele obţinute în urma desfăşurării experimentului asupra celor 80 de elevi cu nevoi speciale, se constată un progres, o evoluţie pozitivă a capacităţii motrice. Chiar dacă datele obţinute indică un progres relativ mic, acest lucru este suficient pentru a motiva şi susţine necesitatea ca elevii cu nevoi speciale, cuprinşi în şcolile de masă, să participe la orele de educaţie fizică. Particularităţile morfofiziologice ale acestor copii indică în mod clar necesitatea existenţei unei programe de educaţie fizică adaptată, care să ajute copilul să-şi îmbunătăţească capacitatea motrică, să-l ajute să se integreze, în primul rând în colectivul de elevi respectivi, iar în al doilea rând în societate, în general.

În afara îmbunătăţirii parametrilor fiziologici, participarea la astfel de activităţi fizice, are ca finalitate şi dezvoltarea spiritului de echipă, al spiritului combativ, parametri foarte importanţi pentru integrarea acestei categorii de copii, la care

riscul marginalizării este relativ mare. Practicarea activităţilor fizice într-un cadru organizat constituie un beneficiu pentru toţi indivizii, chiar şi pentru aceia aflaţi în dificultate, din cauza unor deficienţe de diferite naturi, motiv pentru care este foarte necesar ca aceşia să poată participa la acest tip de activităţi.

Étude sur la capacite de conduire des enfants handicapés

***Mots-clés**: la capacité motric, le handicap, des besoins spéciaux, l'amélioration, l'exercice*

***Résumé:** Cet article indique la réalité existante dans les écoles ordinaires, en termes de participation aux cours d'éducation physique pour les élèves ayant des besoins spéciaux. Aujourd'hui la grande majorité ne participent pas à une telle activité, il n'y avait pas enseignant de soutien, comme il y a dans d'autres matières, mais pas de programme adapté aux besoins de ces enfants.*

Les données obtenues à partir de mener l'expérience sur les 80 élèves ayant des besoins spéciaux, il y a des progrès, une evolution positive de la capacité motric . Même si les données obtenues correspond à une étape relativement faible, il suffit de motiver et de soutenir la nécessité pour les élèves ayant des besoins particuliers inscrits dans les écoles ordinaires, à participer à des cours d'éducation physique. Morphophysiologique particularités de ces enfants indique sclairement besoin d'un programme d'éducation physique adaptée qui aident les enfants à améliorer leurs capacités motrices, pour faciliter l'intégration, principalement ceux des classes participantes, et dans le second place dans la société en général.

En plus des améliorations dans les paramètres physiologiques, une telle participation à l'activité physique a pour but et le développement de l'esprit d'équipe, l'esprit de combativité, des paramètres très importants pour l'intégration de cette catégorie d'enfants à risque d'exclusion est relativement élevé.

La pratique d'activités physiques dans un cadre organisé un avantage pour tous les individus, même pour ceux qui en ont besoin, en raison de carences de diverses natures, il est donc très nécessaire que ces derniers soient en mesure de participer à ces activités.

NUTRITION IN SPORTS PERFORMANCE

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***Abstract:** Children involved in sports should be encouraged to participate in a variety of different activities and develop a wide range of skills. Young athletes who specialize in just one sport may be denied the benefits of varied activity while facing additional physical, physiologic, and psychologic demands from intense training and competition.*

This statement reviews the potential risks of high-intensity training and sports specialization in young athletes. Pediatricians who recognize these risks can have a key role in monitoring the health of these young athletes and helping reduce risks associated with high-level sports participation.

There appear to be increasing numbers of children who specialize in a sport at an early age, train year-round for a sport, and/or compete on an "elite" level. Media coverage of national and international competition in sports such as gymnastics, figure skating, swimming, diving, and tennis has focused attention on a number of very talented but very young competitors. The successes of young athletes can serve as a powerful inducement for others to follow. Most Olympic sports have selection processes that attempt to identify future champions and initiate specialized training—often before the prospect finishes elementary school. The lure of a college scholarship or a professional career can also motivate athletes (and their parents) to commit to specialized training regimens at an early age. The low probability of reaching these lofty goals does not appear to discourage many aspirants.

To be competitive at a high level requires training regimens for children that could be considered extreme even for adults. The ever-increasing requirements for success creates a constant pressure for athletes to train longer, harder, more intelligently, and, in some cases, at an earlier age. The unending efforts to outdo predecessors and outperform contemporaries are the nature of competitive sports. The necessary commitment and intensity of training raises concerns about the sensibility and safety of high-level athletics for any young person.

Adverse consequences from intense training and competition have been reported in the lay and medical literature. Many pediatricians can cite examples of undesirable outcomes from sports participation involving patients in their own practices. Unfortunately, anecdotal reports and case studies are insufficient grounds for drawing conclusions about the safety of intense training or high-level competition.

The short-term and long-term health consequences of such training in young athletes need to be further investigated. Physical, physiologic, and psychologic tolerances to stress in children have been studied in laboratory settings and can be defined by observing the threshold for injury in clinical settings. Unfortunately, this information is difficult to directly apply to the specific clinical scenarios of concern to the pediatrician. Studying the risks of "specialized," "intensely trained," or "elite" athletes is hampered by the lack of clear definitions of these at-risk populations. Even if a study group could be defined, the level of variation between sports, individuals, and training regimens creates further methodologic challenges for investigators.

Despite recognized inadequacies of current information, pediatricians can still help safeguard their young athletic patients by being aware of potential problems associated with intense training. Because pediatricians serve as the primary medical contact for most young athletes, they may have the best opportunity to recognize, treat, and monitor injuries or illnesses resulting from strenuous training. To respond to parental concerns and to more effectively monitor the child athlete engaged in intensive training, increased awareness of the following issues is suggested.

Keywords: *nutrition, sport, athletic performance* **.**

Nutrition

Proper nutrition is critical for both good health and optimal sports performance. For child athletes, an adequate diet is critical because nutritional needs are increased by both training and the growth process. Young athletes and their parents are frequently unaware of the appropriate components of a training diet. The following 4 areas are of particular concern.

Total Caloric Intake

Athletic training creates a need for increased caloric intake, and requirements relative to body size are higher in growing children and adolescents than at any other time in life. In child athletes, the energy intake must be increased beyond the needs of training to maintain adequate growth. Children who engage in sports in which slenderness is considered important for optimizing performance (ie, gymnastics, ballet dancing) may be at risk for compromising their growth. A risk for pathologic eating behaviors also may be increased in children participating in sports where leanness is rewarded.

Balanced Diet

Balance, moderation, and a variety of food choices should be promoted. The Food Guide Pyramid can be used to plan a diet that is balanced and provides sufficient nutrients and calories for both growth and training needs. Athletes who focus on particular dietary constituents (such as carbohydrates) at the expense of a well-rounded diet may potentially compromise their performance as well as their health.

Iron

The body's requirement for iron is greater during the growing years than at any other time in life. Adequate iron stores are important to the athlete to provide adequate oxygen transport (hemoglobin), muscle aerobic metabolism (Krebs' cycle enzymes), and cognitive function. However, athletes often avoid eating red meat and other iron-containing foods. Moreover, sports training itself may increase body iron losses.

Calcium

Inadequate calcium intake is common in athletes, presumably because of their concern about the fat content in dairy foods. Normal bone growth, and possibly, prevention and healing of stress fractures, are contingent on sufficient dietary calcium.

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Alimentaţia în sportul de performanţă

Cuvinte cheie : *alimentaţie, sport, performanţă sportivă.*

Rezumat*: Succesul tinerilor sportivi poat servi ca un stimulent puternic pentru alţii să le urmeze performanţele obţinute. Cele mai multe discipline olimpice au procesele de selecţie, care încearcă pentru a identifica viitorii campioni şi de a iniţia formarea lor profesională de specialitate. Pentru obţinerea rezultatelor de valoare în toate disiplinele sportive, alimentaţia ştiinţifică reprezintă un element hotărâtor dobândirea lor.*

La nutrition dans le sport de performance

Mots-clés: *nutrition, le sport, la performance sportive.*

Résumé: *le succès des jeunes athlètes peuvent constituer une incitation puissante pour les autres de suivre leurs performances. La plupart des sujets ont été processus de sélection olympique, qui vise à identifier les futurs champions et de commencer leur formation dans le domaine. Pour obtenir des résultats valables dans tous les sports disiplinele, science de la nutrition est un élément crucial de leur acquisition.*

"DRAMA AND ECSTASY IN DANCE. BODY LANGUAGE"

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Summary: *The paper mentions aspects of dance as an expression of life, as well as dance as a language and the secrets of body language. By using "Drama and Ecstasy" in dance in forming and shaping students one may obtain a new means of expression—nonverbal, through body language—going beyond one's limits in a plastic manner.*

The use of metaphorical phrases improves the comprehension and expression process manifested by movement. It is a preparation process for the complex modelling of the physical and mental part which makes up a well-defined and strong personality in students. It has a tremendous influence on the young students' personality, giving them self-confidence. Dance serves as a main means of education in school.

Dance is a much easier and efficient means of educating students. Dance has evolved based on imagination, spirit, feeling, knowledge, realism. In dance, the Body is subject to the Idea, while choreography is a speech. Dance involves total commitment, expressivity in the movement of the body, and the limbs.

Metaphorically speaking, art has the role of transporting us from the material to the spiritual. In dance the metaphor of drama and ecstasy are used in order to give meaning to our emotions. Metaphor aids in knowing our own individuality, it develops emotion and self-awareness. The paper presents issues on the so-called"magic of the ecstasy and drama" and their manner of use. The important dance functions, the role of dance in our daily lives, the need to dance and the secrets of body language are main aspects.

Key words: *Drama in Dance, Spiritual Anxiety, stress, confusion, despair;*

Ecstasy in Dance, smile, joy, expressivity, explosion, life, happiness, flight.

Dance, the expression of life, the need to unwind

"Dance is Geometry", of the shape we achieve by using the parts of our body. It is a means of expressing feelings, emotions, and states. It is a manner of living and expressing oneself. Dance is a means of expressing life.

The dance of nature, the dance of our bodies, which means motion. Motion is energy, and energy is life. Dance creates emotion, allows the free flow of feelings. It means courage, love of space, a wish for flight, for liberty. It endows the body with grace, beauty, femininity, health. The Choreographic culture should be seen as part of our spiritual culture. As any other art, the art of dance reflects the world as its form as an artistic image, the specific element being that human feelings, thoughts, moods may be transmitted through movements, gestures, facial expressions.

Through the corporal movements of the dance man may express both outer beauty—the physical side of art, and inner beauty—the spiritual side of art. The Language of dance

disposes of the force of expressing feelings and emotions, living life with heightened sincerity and accuracy. The idea of dance was born from the need of expressing the rhythm of this life. Through movements coordinated with a certain rhythm, a wide range of feelings may be expressed: from sadness to joy, from jealousy to love, from fury to happiness, from Drama to Ecstasy.

Drama in Dance

This is the story of a real world, the story of a victim, witnessed by many onlookers. It is not at all a "Japanese Spring" with flowers and butterflies, but a wild Russian one, with howling splitting earth, the premonition of a terrible change: anxiety, stress, everything surrounded by a spiritual unrest, the whole mankind seems overwhelmed by confusion and despair.

The end does not appear undesirable, and the thought that all comes to an end comes as a solace. As the topic is cruel, but basic, it is easy to realize that this is the manner in which Art has the mission to transport us from the material into the spiritual, here the dancer's body representing the victim. In the many forms of dance, the drama theme is represented by movements of contraction, squats, bends, violent lunges, twisted movements, drooping arms, heavy feet, difficult walking, heavy breathing, sad, depressed look, rolling on the ground, slow movements supported by the partner, encountered in dances such as: choreographic fantasy, contemporary dance, thematic dance, classic dance, etc.

The dance on a dramatic theme has evolved, starting from feeling, passion, total commitment, expressivity; the movements of the body, arms, and legs form a broken but fluid line. The choreography is full of passion, knowledge, imagination, fantasy, spirit, realism, explosion, and outburst. There are improvisations on the topic of balance, and the use of the floor, not only as a support point, but also as an element suffusing the dance with energy.

High performance dramatic dance is a genre well liked by spectators, as if offers a life lesson and has always a message to convey. It is a plastic form of representing drama and a more reception-prone manner of acquiring the life lesson presented. It prefers loose, simple, dull-coloured, extremely expressive costumes to sophisticated ones.

Essentially , dance has always been a "sum of natural gestures' coming from our inner self, a means of expression, which is used sincerely and gracefully, of the various states of the soul: sadness, depression, fury, pain, constrained obedience, inner drama, hope, vain hope, praise., worship. In dance, the body is subject to idea, tending towards the perfectly geometrical line, circle, semicircle, ellipsis or broken line.

Dramatic dance, making use of well rehearsed movements, included in a precise form, evinces the diversity and profoundness of inner states. This genre uses lots of mimicry, harmoniously combining ballet with rhythmic and plastic movements, openly expressing the feelings encountered in daily life, as life itself is pain, suffering, torment, but also flow, transformation, transfiguration.

In the dance on a dramatic theme, the degree of complexity increases, being possible to include more parts. For instance, an initial part may be entitled"I am the Body and Soul Poet", and a second part may be"I leave myself as a heritage to the ground, to raise from the grass I love, and if you want to find me, look under your feet". It is a game of life and death, an intertwining of arts, dance, poetry and music. It contains superb moments of tension, created by wild athletic ability, gestures requiring maximum concentration from the dancers and powerful emotions from the audience. It aims at representing Grace as a virtue. It is a dance that rises up the audience, serving as a means of non-verbal communication.

It may also be seen as an analogy, as it embodies a manner of empowering the dance— the power of communication. Otherwise, it would be just a series of random movements. Thus, it carries the same emotional power and meaning as a word. Each dance movement symbolises something specific, and it may suggest a feeling, a manner of perceiving reality, always having a tremendous impact. One should always bear in mind the fact that certain movements have a certain connotation and cultural context, just like minding some of the words uttered. So, choreography may be considered a speech.

To further the analogy, dance uses such "words", combined to create "sentences", "paragraphs", and on the whole, an entire "story".

If a bunch of "words-movements" are drawn together, without thinking about them carefully, the result is either a set of states, or nonsense. Dramatic dance is a way of communication.

The metaphor dance=language may be furthered by comparing the diversity in speech to the variety we find in dance. In the case of dramatic dance, movements are diversified according to inner states by changing the rhythm, speed, direction, difficulty, quality, viz. fluid, undulating, or marked movements. Dance is embellished by the expressivity of the head,

limbs movements or by enriching the basic movements.

Dance is non-verbal communication, not a random sequence of movements. If the same concepts are applied in speech and dramatic dance, the communication capacity is improved. The dance will therefore be more suggestive and forceful, as it acquires the power to communicate. Dramatic dance represents the comprehension of nature and life, a profound spiritual pathway leading to self-knowledge. In order to dance in this manner, the dancer has first and foremost to know himself, thus evincing the spiritual dimension of the performance. An effective way of bringing awareness to the denser parts of the body is to allow the more open parts to teach the less conscious ones.

When the dancer's face is devoid of plastic expression, despite the beauty of his gestures, it means that he is blocking his emotions. Thus, dancers have to develop their deficient parts, improve their skills and especially release their emotions. They should dance in accordance with the need for emotions to show in their performance. A quality typical of dancers guiding them on their artistic and spiritual pathway is the ability to be self-conscious, situating them in the present moment.

This is the wish coming from the heart, aimed at embracing truth and passion. Its artistic sensitivity, costumes, music, movements, the dance theme are all expressed through its unique archetype, touching universal inner depth in the audience. An extraordinary dancer generates a wonderful and necessary collective healing. The dancer's commitment to perform at high standards and quality and put on a good show will allow the successful representations leading in their turn to real greatness on stage. During a stage show, a real dancer manages to reunite all aspects into one integrated form. His artistic sensitivity, the movements and the dance in its entirety touches the audience's feelings and states of mind and soul, connecting positively and transforming those around.

The Secrets of Body Language

The main principles in body language will allow the dancer to impress the audience. It is about his appearing as an open, positive and attentive individual. The dancer communicates with the audience in a perfect manner, as not the voice, but the body is the real speaker!

Ecstasy in Dance

Once upon a time, the wonderful Samba, the Dance of Ecstasy, was discovered in Brazil, meaning thanking prayer, invoking God. African rhythms were assimilated into the Latin music, with the same original purpose, viz. invoking various deities. The Greeks refined dances and later the Romans took them over and changed them, adding leaps and acrobatics.

The woman, in her beauty, charm and refinement, has always known how to use and enhance dance movements. Older people still remember Ginger Rogers and Fred Astaire, dancers able to blow the audiences away at the beginning of the 20th century. In the large number of dance forms, the thee of ecstasy is represented by energetic movements, expressed by extensions, leaps, twirls, rapid movements at the floor level, acrobatics with the help of the partner, which appear in acrobatic artistic dances, modern dances, cheerleading-type dances, energetic rhythm dances in the sporting genres like rock's roll, jive, samba, paso doble, musicals. The choreography is full of energy and life.

The dance of ecstasy prefers complex, festive, brightly coloured costumes. It increased its pace, becoming much faster, a sort of a physical training with many acrobatic elements suggesting the idea of flight, able to improve blood flow, increased breathing capacity and fortifying the entire muscle structure. Essentially, dance has always been a sum of natural gestures, expressing the various states and emotions in our soul, which is to be used harmoniously and gracefully. The dance including techni8cal well prepared movements evinces the body's joy and energy.

The Functions of Dance

Here are a couple of the dance functions: harmonious development, therapeutic function, entertainment, educational and artistic function, psychological function, and socialisation. The most important is obviously the educational and artistic one, as it changes conceptions, brings emotions to the surface ,poses problems, gives rise to emotions and conflicts, ending in changing people and even societies.

The Artistic, Educational Function

Dance serves many functions in daily life. Dance as an artistic form may be very powerful, sometimes brutal, dramatic, or mild and soft. It may change, bringing awareness to personal or social issues. Art aims at raising awareness on aspects that have been forgotten, or merely ignored. They are shown under a different form, The „Art of Metaphor", with expressing modalities, a form able to produce changes in the audience.

The Socialising Function

More often than not dance is a pretext to come into contact with various people in order to make acquaintances, establish relationships, and socialize. Essentially, through

dance communication is achieved in an intimate and personal manner, and very often in an unmediated conscious manner.

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SPORTS AND PHYSICAL EDUCATION IN NEW EDUCATIONAL BACKGROUND

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Summary *Physical education as a process contributed to the continuing education specialist, education is a systemic approach (each component of the educational process influences the others and they, in turn, is influenced by other components).*
System components are: the goals and objectives, learning content, teacher and students, teaching strategy, assessment, between these components establish different types of relationships (causal, organization, mailing it complements the functional nature) - for example: identifying goals and objectives and determine the performance assessments of skills.
Content learning is the primary means of achieving educational goals, depending on the specific teaching content and objectives, the teacher can choose the directory type strategies (algorithms) or permissive type (heuristic, creative).
Component of physical education and sport is given adult personality development. In the context of the creative dimension of personality refers to "a complex psychological traits and skills, which under favorable conditions, generate new products and value for society."

Keywords: *education, personality, human training.*

Introduction

Values education is completed, intertwine to determine the final value purpose, namely, personality development, in order to receive new social and adapt to new situations that arise.

The complexity and pace of contemporary life to which man is forced to adapt to new conditions imposed by the globalization, educational require searches to be more sustainable form of skills from school.

It is imperative to implement the new education knowledge among students, to apply on time causes and effects dangers surrounding our society from globalization and productivity growth.

Education - general and specific

Education aimed at training the ability to make decisions and to anticipate the future to find concrete solutions to solve problems faster. Due to the complexity of the contemporary world of globalization and formed two lines of critical response to contemporary issues in education.

1. Department of damnation, refers to the decline of education and inability to react quickly to prepare tomorrow's world.

2. Department of constructive criticism, says the power of education and its ability to improve the complex situation of globalization. In this context individual contributes equally to its development and other development. Organization of education is carried out around four pillars of knowledge (UNESCO report on

education in the twenty-first century):

- Learning to know (knowledge acquisition tools);
- Learning to do (working with the environment);
- Learning to live together with others (cooperating with others);
- Learning to be (resulting from the first three).

Concepts of Education

1. Formal education includes all the intentional and systematic influences, developed within schools, for training and personality development.

2. Non-formal education, formative influences recovered after step outside and schooling (family, peer, youth institutions and organizations).

3. Informal education includes all the influences of unintended and not organized through the experience of life through participation in cultural life, facing the individual.

Education - the key determinant of development psihoindividuale

Etymologically, the word "education" (from educo, education) is to raise, train, etc. to form. Education involves removing individual "state of nature" and insert "the state of culture."

Education is a specialized activity, specifically human, deliberately supporting development.

Education is an organized form, sitematică and continuous training of human personality, education, optimizing, if possible, the relationship heredity - environment.

Education creates the conditions conducive to domestic action conducive to certain external factors, the formation of personality is both a result of educational activity and to conduct its premise.

Personality development is achieved through continuous education, continuous teaching communication and teaching.

Information field calls for new benefits and the performance of contemporary educators and trainees alike.

Teaching communication is a transfer of information in the context of the educational process.

Teaching Communication involves an interaction type feedback - retroacţiunea.

Educational message is the result of three sub-signs: verbal and nonverbal para.

Minutes subsystem (communication teaching) occupies a central place in teaching-knowledge verification. Verbal language are just not a function of communication, but a function call and an expressive function (destination-oriented). Verbal language is the language developed with words.

The teacher-student dialogue and other resorts are communication that can convey information content, making court expressive dialogues, modeling, to involve affected both issuers (teachers) and receivers (students) - Action stimulus / response. Para language is a form of non-verbal language, a form represented by the tone and inflection of voice, rhythm of speech, way of emphasizing the word, the breaks between words, verbal tics.

Teacher-student dialogue through the channel widens and nonverbal (nonverbal subsystem), ie, visual message, physical posture, gestures or facial physiognomy educator can arouse intellectual or emotional reverberations on students.

Communication encompasses the didactic and pedagogic information flows (verbal, nonverbal, para), Profiland pluridirecţional speech, and multi multivocal. The outcome approach indersciplinaritate / inter-domain studied.

Optimizing communication is the result of two cerebral hemispheres (emisfericitatea). Sensory-motor functions (motility, sensitivity, hand movements, leg movements, eye movements) are controlled by each hemisphere (right, left) directly and vice versa (crossover).

Each hemisphere reverse order half her body with the same functions and the same roles, which is not the case with language, thought so.

The left hemisphere is related to language, words, figures, analysis and abstraction ability, dependence on time (care to proceed methodically).

Right hemisphere has specific features, spatial thinking and the ability to see abstract. Her arrangements are non-verbal expression.

Imagination and intuition are its dominant features, for which office is held artistic and musical competence. Intuitive approach is the opposite of rational. The operation is based on the association of ideas, interactive approach, the synthesis of relations between objects, to reconstruct the information into a coherent whole.

The two hemispheres on the one hand and opposing on the other hand is completed

The left hemisphere	Right hemisphere
Minutes - use words to name, describe, define	Nonverbal - the consciousness of things, but minimal connection with words. Verbal stimulus (tone of voice).
Analytical - discover things step by step, item by item	Synthetic - puts things together to form wholes
Abstract - extract information using it to represent all	Actual - refer to things as they are in the moment

Teachers must pay attention to the communicative act, and start providing students instrumentalization of discourse strategies so that they will be able to notice, understand and prioritize the information received in different ways and to form an information competency, premise that learning is effective.

Education in today's society - New education

1. Environmental education - environmental responsibility and its problems.

2. Economic education - acquiring consciousness of direct participation in the economic development of society and economic conduct.

3. Modern health education - education for leisure activities, nutrition education, sex education, education, modern housewife.

4. Population Education - refers to specific populations.

5. Intercultural education - promotion of international cultural coperării.

6. Human rights education - developing attitudes of tolerance, respect and solidarity.

7. Education and mass media communication - speech recovery capabilities.

8. Education for leisure activities.

Regarding education for leisure activities, it is recorded that sport is a culture of body, evolving into a consumer market news, sports, leisure type (recreational) belong to a cultural dimension. It requires that the social value of the current generation, which may influence the behavior of these new sports and life forms to carry on traditional activities, sports festivals, folk dances, festivals, and new guidelines for the type eurhythmy artistic expression, modern dance , aerobic dance, music, art, fitness, sports games, jogging, to approve the formation of attitudes and leisure habits of practice, aimed at training human implications of contemporary health hazard prevention: stress and anxiety, physical inactivity and obesity, the environment and regeneration, the Internet and the book, movement and nutrition.

Globalization of products, the explosion of advertising and media, the emergence of many jobs in confined spaces (buildings vertically, air conditioning, long corridors, computer), sedentary lifestyle, tend to cause physical sport and to lose the moral substratum against personal goals of health, leisure time consumed, the pleasure of living in an environment as natural, social distinction, here are some issues that contemporary society must not overlook.

Leisure behavior of individuals depends on: the profession, competence, group needs, the capacity for cooperation. Sport is a means of training the group through a stimulus-response relationship with nature through the first relationship with the psyche. All these realities are the privilege of continuing education activities through movement rehabilitation that spare time is consumed.

Lifelong Learning

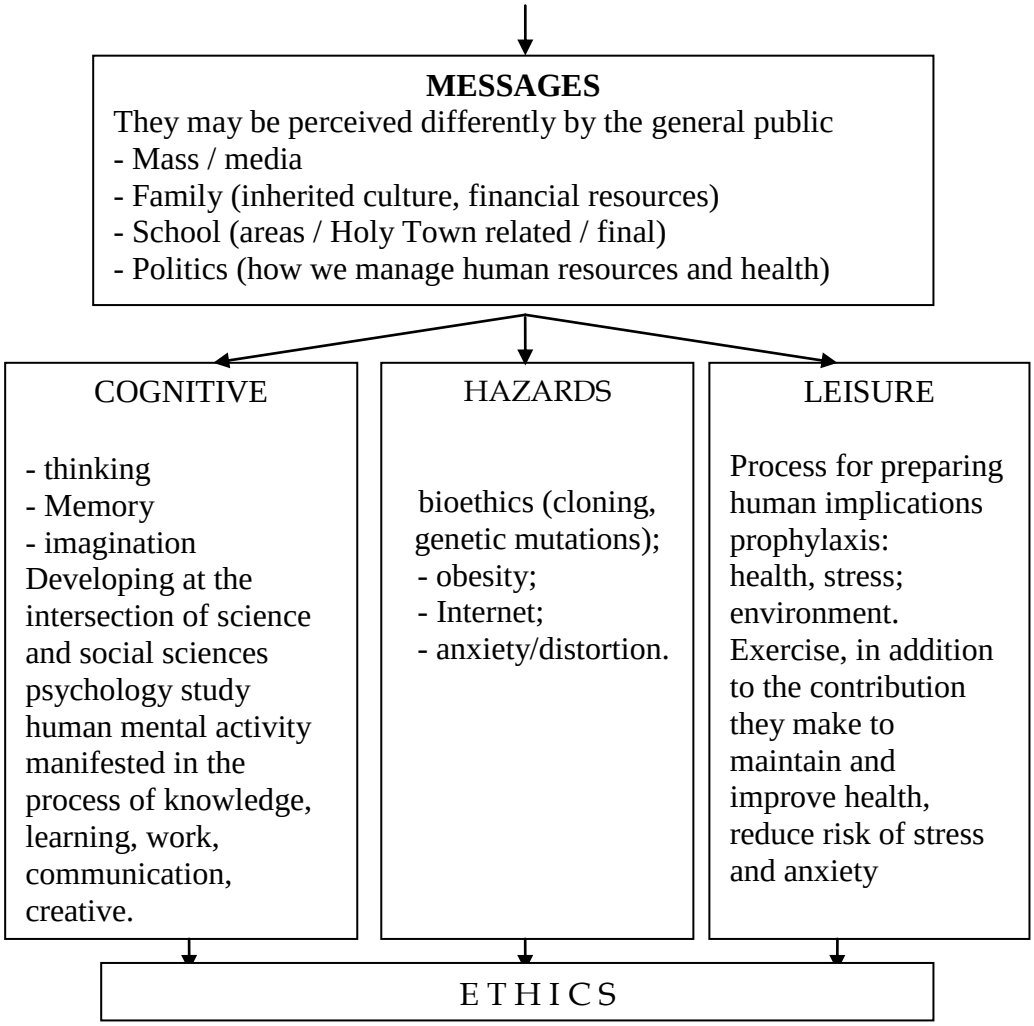
Lifelong learning is all ways for people to inform and shape continuously in order to develop the individual personality and participation in the advancement of society.

School physical education contributes greatly to continuing education completion (health, socialization, environment).

Home is the adaptive function of personality, to produce correct answers to requests for natural and social environment.

Sports Personality develops some common features such as: the need for activity, the need to dominate, the need to affirm the action, the need for pragmatic reasons, the need for communication.

Preparation of human complements education. Consumed leisure activity (leisure) seeks enhancement of human resources for health and wellbeing, taking part in the process of human training.



A new psychological dimension focuses on the culture of sport as a means of solving human problems, asked to focus on learning: imitation, socialization, literacy, the skills, manners.

Sport as part of the leisure elements of social consciousness with language and education, has a universal and permanent moral rules depends on legal, social control, administrative, common goods. Sporting values are part of nature (human nature), ethics education (moral) that athletes develop a respect and is the expression of the spirit (human contact with outside forces soul) subjective incorporated into the objective world by means of norms, rules, principles of conduct that tend to be absolute: Well, nice and right.

In this respect we refer to the sport for health. School contribute to the knowledge and differentiating features of adaptation to exercise. The desire to improve health and adaptive capacity through exercise, without knowing to know their actual capabilities, often leads to incompatibility effort - systems and functions. Body differs from the untrained trained through a cheaper physiological functioning both at rest and at moderate physical demands. Improving long-term adaptation is achieved only under conditions of constant requests from long-term exercise.

Small steps are taken under a consumer society to bring sporting activity to the rank of "Sports for All", ie health sport and recreation, to find the best offers programs both at school and in adults, which aim towards increasing affluence of young people to freely practice a sport or institutionalized.

In the context of new education, requires the differentiation of information taken from newspapers and spoken, especially given the students information on the Internet. There can be no accumulation of new procurement skills that are not scientifically thus can form skills, work can be channeled to a healthy lifestyle.

Advertising is often the echo of truth. Among the factors responsible for the shortcomings and difficulties of promoting physical education and sport have decision-makers by reducing the mass sports activities at

school level by the lack of commercials advertising the expansion of visa-vi unlimited and often aggressive advertising and advertisements in other areas. Fortunately sport receive moral support, images which may express or imply a variety of ideas and states of good and beauty.

Education and learning

Physical education as a process contributed to the continuing education specialist, education is a systemic approach (each component of the educational process influences the others and they, in turn, is influenced by other components).

System components are: the goals and objectives, learning content, teacher and students, teaching strategy, assessment, between these components establish different types of relationships (causal, organization, mailing - ie it complements the functional nature) - for example: identifying goals and objectives and determine the performance assessments of skills.

Learning content is the main achievement of educational objectives, depending on the specific content taught and the objectives pursued, the teacher can choose the type directive strategies (algorithms) or permissive type (heuristics, creative).

Component of physical education and sport is given adult personality development.

In the context of the creative dimension of personality refers to "a complex psychological traits and skills, which under favorable conditions, generate new products and value for society."

Creativity in education training can be done by:

- Cultivation of innovative thinking;
- Professor attitude, his relationship with students. It is not indicated his position authoritarian, despotic somewhat, because it creates emotional blockages;
- Formulation of educational objectives.

To develop creativity, to avoid bottlenecks (external obstacles, inhibitory factors) and to stimulate creative potential. The game takes positive failures / barriers of communication.

Inhibiting factors of creativity in school

Characteristics of students: the views of colleagues intolerance, devalued self-perception, captured in statements like "I have never done anything particularly" ridiculous fear, conformism, the tendency to interpret any structure to be closed

Teacher characteristics: some behavioral situations, such as sanctioning audacity to ask awkward questions, put excessive emphasis on competition or cooperation in the classroom, early criticism, the use of phrases like "that's not logical," who knows the correct answer "" Can you prove "the emphasis on reproductive neaprecierea sufficient originality.

Conclusions

Integration of content by switching to a mechanical learning, undertaken on a principle, the assimilation of theoretical knowledge to detail not only the effects but also their causes.

Training the students' self-regulation mechanisms and by addressing socio-pedagogical positions.

Physical education for the physical act, but also for psychic phenomena and personality traits, also by its specific activities, physical education and acting on the functionality of the nervous system, thereby improving intellectual activity.

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Educaţia fizică şi sportivă în contextul noilor educaţii

Cuvinte cheie: *educaţie, personalitate, pregătire umană.*

Rezumat: *Educaţia fizică ca proces specializat contribuie la întregirea educaţiei permanente, educaţia are o abordare sistemică, (fiecare componentă a procesului de învăţământ le influenţează pe celelalte şi, la rândul ei, este influenţată de celelalte componente).*

Componentele sistemice sunt: scopurile şi obiectivele, conţinutul învăţării, educatorul şi elevii, strategia didactică, evaluarea; între aceste componente se stabilesc diferite tipuri de relaţii (cauzale, de organizare, de corespondenţă – adică se completează, de natură funcţională) - de exemplu: scopurile şi obiectivele determină identificarea şi evaluarea conţinuturilor îndeplinirea competenţelor.

Conţinutul învăţării este mijlocul principal de realizare a obiectivelor educaţionale; în funcţie de specificul conţinutului predat şi de obiectivele urmărite, educatorul poate alege strategii de tip directiv (algoritmice) sau de tip permisiv (euristice, creative).

Componenta educaţie fizică şi sportivă în rândul adulţilor este dată de dezvoltarea personalităţii.

În contextul ***dimensiunii creative a personalităţii*** *se face referire la „un complex de însuşiri şi aptitudini*

psihice, care în condiţii favorabile, generează produse noi şi de valoare pentru societate".

Sports et de l'éducation physique en etudes nouvelles

Mots clés: *éducation, personnalité, formation humaine.*

Sommaire: *L'éducation physique comme un processus a contribué à la spécialiste de l'éducation continue, l'éducation est une approche systémique (chaque élément du processus éducatif influe sur les autres et, à leur tour, est influencé par d'autres composants).*

Les composants du système sont les suivants: les buts et objectifs, des contenus d'apprentissage, enseignants et étudiants, l'enseignement de stratégie, d'évaluation, entre ces éléments en place différents types de relations (de causalité, de l'organisation, de diffusion - c'est à dire qu'il complète la nature fonctionnelle) - par exemple: l'identification des objectifs et des objectifs et de déterminer les évaluations du rendement des compétences.

Contenu d'apprentissage est le principal moyen d'atteindre des objectifs pédagogiques, selon le contenu de l'enseignement et des objectifs spécifiques, l'enseignant peut choisir les stratégies de type annuaire (algorithmes) ou de type permissive (heuristique, créatif).

Composante de l'éducation physique et du sport est donnée au développement de la personnalité adulte.

Dans le cadre de la dimension créative de la personnalité se réfère à «un des traits psychologiques complexes et des compétences, qui dans des conditions favorables, engendrent de nouveaux produits et la valeur pour la société."

THE COMPETITION ATHLETE ISSUES IN ENGLAND IN THE RENAISSANCE PERIOD

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Abstract: *Structured as a distinct social phenomenon with a qualitative determination of its own, the phenomenon of physical exercise practice, this particular form of human action is a necessary and ongoing component of social life.*

Research in the realm of scientific knowledge has to solve the problem of the historical origin of exercise, their evolution, the essence and structure of the phenomenon in which such activity, their social role, etc.. It will present some aspects Running practice in England beginning in the Middle Ages.

Keywords: *running, exercise, research, history, etc***.**

English History in the field of physical culture, Peter Lovesey, in his work we present further foray into athletics history in England, very interested and informed especially in regard to history clubs.

We find from the diary of Samuel Pepys showing unusual interest in things from a royal race of 1663. We do not know whether King Charles II had ever practiced athletics - the conventional type - but the answer is positive in terms of some of its predecessors. Thus it is said that Henry V surpassed in running a deer, and Henry VIII, before the marathon morning, used his strength in throwing the hammer, weight, and jumping in the race to cross. The nobles of Stuart and Tudor times is dominated wanted to be regarded as first tier athletes. There is documentary evidence that Sir Philip Sidney (1554-1586), who this male ideal of the Elizabethan era was the best at cross country and jumping. About the first Duke of Buckingham (1592-1628), the favorite of Jacob I's court, saying that "no other man to run or jump better", and about James Scott, Duke of Monmouth (1649 -1685), pretender to the throne, he "won the cross country racing shoes to boots, from nimble runners wear shoes."

According to the testimony of Venerable Bede, England came from athletics sec. VII, when St. Cuthbert (634-687) was unbeatable in the vault, running and wrestling. Following centuries are rich in data on special racing tracks held on the field or on open land. In England there were two strong but separate traditions regarding physical exercise, namely: representatives of classes made up practicing "manly exercises, while ordinary people competing to be amused in rural sports competitions.

People considered athletes as a form of relaxation after the religious ceremonies of the holidays, or settlement, small towns. Running, jumping and throwing the weight, along with dances, wrestling and football since the Middle Ages were regarded as popular forms of entertainment. Men and women, old and young compete for prizes in general had a practical nature - the usual shirts, thick linen shirts, hats, different kinds of cheese and hunk of meat. And sometimes the prizes were more consistent. Addison, writing in "The Spectator" about sports competitions in the region of Bath, from the eighteenth century, stated that "as a per-competitor was lucky to win here and a mistress," 'and that' s very normal for a slim and smart girl or herself and the country to earn both a husband and a thick linen shirt. " Despite actions to suppress the entertainment and games, King Edward III, alarmed that free peasants neglected British archery, throwing the weight of smoking, and at a certain time the Puritans had banned "all sports and public entertainment" , but nevertheless some festivities continued. Most fairs have gone in the first quarter of the nineteenth century. Their traditional place in many cities in the timing of the Easter races held in the summer months was taken from athletic competitions. Races were as prizes in burlap shirts and various cheeses. This does not present any kind of interest but made up for the class representatives. They would be much more motivated to practice athletics. It was a kind of preparation for life. In his crucial role in educating the ruling classes "The Boke Named the Governour" (1531) Sir Thomas Elyot considered running, jumping and throwing in the year to be part of every gentleman necessary. Moreover, he argued that the jog is "both a great year and a commendable form of relaxation, a feeling we experience every runner. This message has been received enthusiastically in at least one public school. Richard Mulcaster, the first director of the Merchant Taylor's School, devoted six chapters of the book "positions" (1581) athleticism. Unfortunately, representatives of the seventeenth and eighteenth century were less interested in the practice races. In most cases, sport in schools has been maintained more amateur than specialists. Only the 1834 horse racing barriers at Rugby, where in 1837 it says that Crick Run was considered the winner, was the year which have been officially declared Etton running races over the fence. In universities, and less progress was evident. Only in 1850 was established the first annual tournament at Exeter College at Oxford.

But do not neglect athletics wealthy classes. They organized private competitions running, as described by Pepys. Crosses, well known among those who ran gambling, were promoted and patronized by the gentry, where their subjects are among the competitors. Those who ensured the century. XVII messaging between rural and urban areas were professional runners. They proved to be more swift and more confident than forecast due diligence. Defending against them by their masters who were attacking them or against those who proclaimed themselves runners. When the quality of roads has increased, they had other duties, in the mid eighteenth century cross country races were part of the sport even more, there were runners earned their living through the cross.

In the early nineteenth century aristocracy no longer control the cross races. There were runners who were denied their employers withdrew from this activity. Replica ruling classes was the participation and organization of their own race. Thus, a Scottish landowner, Robert Barclay Allard, later known as the Captain Barclay, bet a thousand guineas that is able to pass 90 miles 21h1 / 2. It has however lost and lost. Fire tenacious, he doubled the prize and he has given a chance. He lost again. Barclay who represented him did not hesitate to increase your bet to 5000 guineas, while Barclay has not proved to be so shaped as it seems. On November 10, 1801, he added another hour race, and this encouraged him to support the race. He obtained a number of successes in long distance cross country races of between 440 yards and two miles, over long distances proved to be insurmountable. All these successes have led to the development of athletics. In both races attending nobles, officers and wealthy. In terms of number of spectators, rivaled fisticuffs. More than 10,000 people gathered at Newmarket in 1809 to see Captain Barclay to race 1,000 miles, a pace of one mile per hour. For this he received £ 16,000, probably the biggest ever prize ever won by an athlete for a single race.

In the next 40 years, cross country races saw great popularity, though beginning to flourish around 1810. Steady urbanization of England led to the establishment of professional athletic organizations, which were developed especially in large industrial centers. Control over the cross country races began to take more often in pubs in Birmingham, Manchester, Newcastle, Sheffield and London than in clubs or mess. More and more representatives of the poorer classes have turned the race into a source of income, although gains were very small previctoriene standards. At stake was usually 5

pounds and can grow to 100 pounds if the value of the championship races (official). "Exploitation" was great, so that few athletes could pierce without supporters. Inevitably, it is practiced all sorts of tricks: the backlog in order to lose a race, concealing the true physical form, etc.. The name they adopt runners, the name inspired fear and respect - Young England, North Star, catcher crows, etc.. - But failed to mask the low reputation of this sport.

But there is another side issue. Running has brought many changes, he never trusted enough landowners century sports. nineteenth century in order to build modern athletic meetings. The first tracks were built in the late 1830 and in 1850, there were at least 12 major cities land runways. They ranged in size and shape - the first around the cricket field "Lord" (1837), was a narrow track for races for 2 - and generally were covered with gravel and specialist surveyors measured. The fact that the exact timing was increasingly led to the possible publication of results. They began to develop the track racing with those on land and allow the cups and straps for jumping championships. The most popular racing distances were: 110 yards, 440 yards, 880 yards, 1 mile, 2 miles 4mile, 6 miles, 10 miles. In his 40 years' samples showed an increased interest of fencing. Regarding clothing, 1850 runner was very modern. He wore shoes (sports) sharp and silk shorts. Only when the ladies race and witnessed, they are wearing tight pants leg and long sleeve shirts!

Cross has seen an unprecedented development. How many attended a race and bet around 25,000 spectators. These athletes formed the fierce competitions. They race to get the best results, not necessarily records, although in 1844, George Seward (1817-1883), an American who settled in England, he ran 100 yards in 9.1 / 4 seconds in 1849, Henry Reed (1825-1874) ran 440 yards in 48.1 / 2 seconds, and in 1854.880 yards in 58 seconds. In 1845, William Jackson (born William Hewitt in 1821 and known as "American Deer" ran 11 miles and 40 yards in one hour.

Although Cross has reached a certain level of technical development, he remained working class sport. In a society where social class has a role, what would happen if a nobleman would like pointed shoes footwear (with nails) and compete. " Some army officers, and Sir John Astley (1828-1894), bravely, took part in running races on land, is considered amateur, but compete with those who practiced the sport as professionals. No matter that those running the betting competing, because, as Astley said in his memoirs, "any amateur was a gentleman, whether run for money or honor, or both, - I combine them both. Others, less bold, met at sunrise and ran on Primrose Hill or other large areas of London."

In the next decade, appeared in university athletics. Exeter College since its inception in 1850, were quite strange. A group of students disappointed with their results to the races with obstacles kept in the college, proposed a pedestrian race, the country road and a winter competition in Exeter, according to the laws of the club jockeys, who went weighing up to guard leaders, or the introduction of a consolation prize for "horses" (runners) losers. Then sports were introduced in other colleges as they were at Oxford and Cambridge, it was being "muscular Christianity" 'when the practice became a game of trust in public schools only, over time, were able to take the evangelization of the universities. In 1853, Cambridge University invited a professional long jumper to make a demonstration in front of teachers and students, jumping 8.53 m. This initiative had a positive echo, because the first was founded at Cambridge University of Physical Education and Sport in 1857, and în1860, was also set up a university similar to Oxford. Pretty much the same time, a lawyer from Cambridge, named Jack Macdonald, who, like Astley, organize and participate in amateur races on the existing land, had a decisive role in convincing athletes to give up heavy sweaters and boots cricket and move on shorts and pointed shoes. In December 1861, Macdonald brought him to Cambridge, the most famous runner, the Indian American leg of deer (Hagasadoni known as the Louis Bennett, 1828-1897). 6,000 spectators, including the Prince of Wales, have watched him win a race for six miles. The fact that the future king would have had to patronize such a race after the race and that he welcomed the winner and had lunch together at Trinity College led to a little scandal, but does not served only to enhance athletic movement both in Cambridge and on a much wider area.

Influenced by the middle class, running back gained in importance. In addition to members of the community schools, universities and the army there were others who wanted to run the American Indian. Business people who wanted to exercise, especially on Saturday afternoon, they could go boating or play cricket, but no athletics club. In winter, Rowing and cricket were interrupted. Cricket Ground "West London" at Brompton was used to run. Why would this land have been used by people with a greater reputation? Therefore on 30 November 1861, West London Rowing Club has leased the land and cross country races held between its members. They had so much success that they were regularly and repeatedly opened and

people were not club members. William Price, manager of Hakney Wick land, offered a silver cup for a race of men with disabilities. It was held on 26 July 1862. Walter Chinnery (1843-1905), the first rig that would run a mile in less than 4.12 minutes, recalls how race came to a pair of shoes with leather shoes and Teddy Mills, the famous runner long haul, which was the companion of one of the contestants, "I took pity on me and gave me a pair of shoes cross." He was defeated by Major Honorable Artillery Company of Spicer. Chinnery had to wait almost a year to open up an athletics club in London. It was founded by business men in town have organized races in Brompton Cross in June 1863 and called it Mincing Lane Athletic Club.

Athletics has developed not only in London. At Liverpool in January 1862, Charles Melly and John Hulley Athletic Club was founded in Liverpool. It was developed with the local volunteer brigade. Voluntary movement has been reactivated since 1859, when there were fears that Napoleon III was going to invade England. Hundreds of thousands of people across the country were enrolled in short-defense units, making military training every weekend. In preparation for their sport was included. On 14 June 1862, the parade ground at Mount Vernon, Liverpool was the scene of a real Olympic competitions.

Fascinating idea of resuming the ancient Olympic Games have had more people. An attempt has been isolated in England in 1612. When Captain Robert Dover (1575-1652) with the support of King Jacob I general (1603-1625), made to his residence at Costwold, Olympic type games.

It is interesting to note that the program included running races, throwing the hammer, fencing with sticks, fighting, walking and standing on the hands (probably acrobatics gymnastics) and ball games. In some samples, and women were invited to participate. Nice idea but has not caught era conservatism (not necessarily the UK) was stronger. Was commendable initiative.

Conclusions

At the end of the presentation of this sequence to practice exercise in the present era, we can say today that these gains can not be conceived without human spirit and participation in this activity.

There is no doubt that the athlete and then, but now, he just does not make a physical effort, it is not just a bundle of nerves and muscles. It manifests and participates with his whole spiritual being obsessed by the desire to conquer, overcome with emotion and satisfaction of winning the contest. and viewers can live the same drama and sometimes more intense.

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Aspecte privind întrecerile atletice din perioada renașterii în Anglia

Rezumat: *Structurată ca fenomen social distinct, cu o determinare calitativă proprie, fenomenul de practicare a exercițiilor fizice, această formă specifică de acțiune umană reprezintă o componentă necesară și permanentă a vieții sociale.*

Cercetare pe tărâmul cunoașterii științifice are de rezolvat problema originii istorice a exercițiilor fizice, a evoluției lor, a esenței și structurii fenomenului în care se desfășoară această activitate, a rolului lor social, etc. Se vor prezenta în continuare câteva aspecte privind începutul practicării crosului în Anglia în Evul Mediu.

Cuvinte cheie*: cros, exerciții fizice, cercetare, istorie, etc.*

Les questions de concurrence dans athletic en Angleterre, periode renaissance

Résumé: *Structuré comme un phénomène social distinct, avec ses propres détermination qualitative, le phénomène de la pratique d'exercice physique, cette forme particulière de l'action humaine est une composante nécessaire et en cours de la vie sociale.*

La recherche dans le domaine de la connaissance scientifique a pour résoudre le problème de l'origine historique de l'exercice, leur évolution, l'essence et la structure du phénomène dans lequel une telle activité, leur rôle social, etc. Il présente quelques aspects du film la pratique en Angleterre début du Moyen Age.

Mots-clés*: course, exercice, la recherche, l'histoire, etc.*

SPORT-BY MEANS OF COMMUNICATION CAPACITY MANIFESTATION

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Summary: *Man is by definition a social being, the essence of this communication is the ability of man, that is very specifically human capacity to establish a particular relationship with himself and with other fellows. Here is information about the type of relationships that occur wherever people interact. The ability to communicate there are two parts, first language, communication predispositions on physical and mental and social one, developed after a formative process, learning the rules for communication. The difference between the two components is that the first is finished genetically, being hereditary, and the second is acquired through education. Man is not just a human being, but an entity endowed with the will, emotions and feelings, individuals who perform physical exercise is not just a robot that executes some commands, but an active subject that has certain goals.*

Key-words*: communication, physical motion, features*.

Content

Study of physical movement was always a field of investigation for teaching science, but it is a little investigated field of social sciences and here we refer to communication through sports. Continuing to explore this area would come, perhaps, to increase efficiency conclusions sports, and communication problems.

Why, say communication problems, because the individual in sport or physical activity to express himself and beyond his addiction to execute certain moves at a different level of development according to motric performing such moves as possible certain quality parameters, which aims expressiveness and relevance of psycho physiological traits of the individual. From the above it follows that any physical movement can be an expression of the ability to communicate, in fact, the literature refers to the 'body language, expressive and relevant non-verbal language in human relationships. The literature illustrates a variety of meanings of various bodily manifestations. This ability to communicate is different from one sport to another, for example, simple gymnastic movements and those of an individual or rhythmic gymnastics or other sports.

What can communicate through physical movement at the level of competence? The entire range of human emotions, all human-specific features and its spiritual manifestations. Not a few times with a sport or artistic execution is compared with the art. Also through are sports which are emphasized certain features such as: strength, speed, strength, etc

Profile of adolescent training was a matter of dispute between specialists in social sciences and humanities. Body movements, hand position, seeing the ... however tell us much more about a man than what we say in words.

Gestures, eyes, body movements are controlled by the unconscious mind and that they generally express what we really are. What matters in communication? 55 items of non-verbal language: mainly facial expressions, gestures and posture.

Paralanguage: intonation and inflection of voice, words.

Proxemica distances is the science that studies the role of communication, adoption of a behavior, attitude and social position to indicate the speaker / audience, setting up rules / regulations in the act of communication.

There are four major types of distance communication, identified by Edward T. Hall:

1) intimate distance - close - reserved area close friends, children, remote area (more than ½ m): handshake;

2) personal-area nearest distance (0.5 to 0.8 m), reserved for those close ¸ remote area (0.7 to 1.3 m) - limit physical domination, offer a degree of familiarity for interpersonal dialogue.

3) social distance - the nearest (1.2 to

2 m) - reserved for casual conversations: can be be strongly associated). However, those who are used to indicate dominance, superiority or aggressive on the field are not necessarily the same power, remote area (2 to 3.5 m) - used for social in family relationships. relations, allows a freedom of behavior.

4) public distance - the nearest (3.5 to 8 m) - suitable for briefings, visits, remote area (more than 8 m) reserved for politicians, emphasizes personal domination. It is important to keep in mind the cultural differences.

Athlete must adapt to a different bodily existence that is not always an easy mastery. Own image (body schema), focuses progressively representing the core of consciousness and self-reference and the court also in regulating motor actions.

Education body expressiveness, use non-verbal language, have rules as strict as those of communication.

In sports, movement indicators are used intentionally or unintentionally to deceive the opponent, so that body work and sports, well directed, is a language with special meanings. (Epuran M., 1982)

To analyze the structure of our behavior need to have in advance a system of behaviors. Some theories postulates the existence of personality dimensions on which individuals are situated mainly in stable and can be described in words: the traits.

Observing, then describe the features allows individuals, through statistical means (factorial analysis) is structured observation of how these dimensions.

Currently it is considered that the true description of the five personality dimensions ("the big five"), which shows that bipolars factors. Aceste features are defined by their poles, they described the traits themselves. These features are (after Costa and Mc Crae):

- Extraversion: warmth, gregariousness, self-confidence, activity, sensation seeking, positive emotions.
- Agreability (be nice): trust, loyalty, selflessness, cooperation, humility, attention to others.
- Conscientiousness: competence, order, sense of duty and desire to succeed, self-discipline, reflection.
- Emotional instability emotional: anxiety, aggression, depression, self-centered, impulsiveness, vulnerability.
- Open: imagination, opens the fields of aesthetics, feelings, action, ideas, values.

These traits are quite stable, but stability is lower in the young. If traits are internal provisions allowing explain behavior in many situations, should we find a degree of consistency in behavior humanity (conduct alleged to hold a same trait and that manifests itself in different situations, should

Coherent behaviors in different situations is far from being always very strong, some flexibility is observed behaviors depending on the situation and context. Therefore, some critical theory the notion of character (intended as an internal device that allows a general explanation), which is relative depending on individual dispositions and situatiionali factors. Some studies have shown how the anxiety trait may vary depending on different situations (social evaluation, physical danger, ambiguous situations and everyday situations).

Attitudes are most often expressed in behavior through character traits. For example, attitude toward self is expressed by features such as modesty, dignity, self esteem, self-confidence, self confidence, etc.. You can call character traits, those that meet a series of requirements:

- are essential to defining human. are stabilized, durable, resulting in a constant expression of the individual and allows the individual to anticipate future reactions.
- are consistent with all other (character traits means not isolated, but rather than synthesized).

are associated with a moral value. are specific and unique.

Since 1948, Jean Maisonneuve analysis and other groups feeling self (inferiority or superiority) psychosocial feelings (vanity, sympathy, sociability) (after Zlate, 2000). Emotional expressions have an important role in athlete development, namely:

- Role of communication (it is known outside the sport experienced emotional state, in contact with others, coach, family, etc.).
- Role of influencing the behavior of others to commit acts (can complain to impress, etc.).
- Role of self in order to adapt the situation is.
- Role of contagion (to be sent and to provoke similar and others). Emotional expressions are not only an individual significance, but also a social one. But if we were to analyze only the communication process itself through sports, the problem becomes very complex and requires an interdisciplinary approach. For example, in the situation of disabled people through sport, physical recovery is an individual performs more than normal people.

Communication is related to the same understanding of specific statements by both

sides through the specific language (scientific, technical, pedagogical).

A particularly important aspect of physical education teacher activity is specific .in this way the proper use of terminology, terminology of physical culture is an area of science called semiotics signs, a subsystem of terms within the general signs of a language. More broadly, it encompasses the entire nomenclature used in the theory and practice of physical exercise.

Role properties-language terminology is crucial in achieving effective learning, an optimal way of teaching communication of the message, delivered by the teacher and the student's ability decoding its implications in understanding the requirements formulated by the teacher and the development of correct answers (A. Stroescu, R. Podlaha, 1974).

For the teacher teaching the language is not only a pure means of communication, but also the basis of vital activity. There is no problem teaching that does not relate to language, there is no educational process which in one way or another, have not been and process languages (V A Mudrik, 1986). Any instructional discipline has its own specialized language, which is manifested by occupational and operationalization of concepts specific terminology. At the same time, in all disciplines, but particularly in physical education, language is primarily educational and professional means of communication.

The latest analysis of communication that emphasizes teaching the pedagogical activity is an occupation, but only within those statements, where professionalism, its specificity and activity are limited by space typology of human activity (SNDanail, 1989).

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Sportul –mijloc de manifestare a capacităţii de comunicare

Rezumat: *Omul este prin definiţie, o fiinţă socială, esenţa acestui lucru îl reprezintă capacitatea de comunicare a omului, adica tocmai capacitatea specific umană de a stabili relaţii de un anumit tip cu sine şi cu ceilalţi semeni. Aici fiind vorba de relaţii de tip informaţional care se manifestă pretutindeni unde oamenii interacţionează.*

În capacitatea de comunicare se disting două componente : cea nativă, dată de predispoziţiile de comunicare de natură fizică şi psihică şi una socială, dezvoltată în urma unui proces formativ, de învăţare a regulilor de comunicare. Diferenţa dintre cele două componente este aceea că prima este determinată genetic, fiind ereditară, iar cea de-a doua se dobândeşte prin educaţie. Omul nu este doar o fiinţă, ci şi o entitate dotată cu voinţă, afecte şi emoţii, individul care execută un exerciţiu fizic nu este doar un robot care execută nişte comenzi, ci este un subiect activ, care are anumite ţeluri, scopuri.

Cuvinte cheie: *comunicare, educatie fizică, caracteristici native.*

Sport-au moyen de la capacite de communication manifestation

Résumé: *L'homme est par définition un être social, est l'essence même de la capacité de cet homme à communiquer, que la capacité propre aux êtres humains de déterminer avec précision la relation de quelque sorte avec lui-même et avec d'autres boursiers. Voici des informations sur le type de relations qui se produisent partout où les gens interagissent.*

La capacité de communiquer, il ya deux parties, la première langue, les prédispositions de communication sur un physique et mental et social, élaboré après un processus de formation, l'apprentissage des règles de communication. La différence entre les deux composantes est que le premier est terminé génétiquement, étant héréditaire, et la seconde est acquise par l'éducation. L'homme n'est pas seulement un être humain, mais une entité dotée de la volonté, les émotions et les sentiments, les personnes qui effectuent l'exercice physique n'est pas seulement un robot qui exécute quelques commandes, mais un sujet actif qui a certains objectifs, les buts.

Mots-clés: *communication, éducation physique, les caractéristiques d'origine.*

SPECIFIC FACTOR OF THE GAME - RACQUET STRINGING A COMPONENT OF MATCH PREPARATION IN PROFESSIONAL TENNIS

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Abstract: *In professional tennis, match preparation is realized to the smallest detail regarding the game's components and/or training, known being the fact that little things can make a big difference on the court. Besides the traditional game factors (technical, tactical, physical, biological, psychological and theoretical), tennis implies a special one: racquet preparation, with emphasis on the importance of the string choice and stringing job. The string type and tension is chosen accordingly to the player's style of play and the level of absorbtion of the frame, an additional factor to be considered being the atmospheric conditions.*
Key words: *string, tension, evolution, climactic effects.*

Introduction. Racquet strings can be divided in two main categories: natural and synthetic. Natural strings are made from cow intestines through a complex process. Its principal characteristics are its superior elasticity, stable tension, and liveliness. However, they are very expensive and affected by weather conditions. Examples of natural gut strings include: Klip Legend, Bow Brand Championship, Pacific Prime Gut and Babolat VS (which has been produced since 1875, and was used by Ilie Nastase). Synthetic strings, respectively, are divided in two groups: nylon and polyester. They are high-tech products, constantly improved in order to get as close as possible to the performance of natural gut, while having a distinct durability advantage. The higher the string tension, the more control it has, but at the expense of power. Lower tensions have more power, but less control.

Evolution and analysis. String tension is a matter of personal preference and the best way to find the ideal tension for someone's style of play is through repeated experimentation with different tensions. Therefore, different levels of string stiffness must be tried out. Additionally, the racquet frame, its shape, and more specifically, its structural material composition can influence the type of string and its tension. Moreover, a stiff frame with a small head size would need a lower tension and preferably a softer string. A flexible frame requires a higher tension and a stiffer string in order to obtain a favorable balance of ball control.

Although poor technique is generally the main cause of joint sprains and tennis injuries, the importance of the strings cannot be ignored. Essentially, the string is the only element that makes the initial contact with the ball at speeds of over 100km/h. Below, we will attempt to summarize strings and their properties, weighing not only the way they respond to impact, but also the vibration feedback they produce to the arm.

For over 100 years, natural gut has been the prime choice of tennis players for its superior feel, comfort, elasticity, and reaction to impact. However, it has the inconvenience of easy breakage in today's stiff, widebody racquets with open patterns, and also poor resilience to atmospheric conditions, like humidity and extreme heat. As a result, in the 1970s, technological advances made nylon monofilament synthetic strings a viable option. Although cheap and durable, they lacked feel and control due to the ball's decreased "dwell time" (the time of energy transfer on impact).

Natural gut remained popular as long as serve & volleyers such as Becker, Sampras and Henman were around, but as the game evolved (with more and more baseliners), its popularity continued to decrease. Two of the last artisans of the serve & volley game are Max Mirnyi, who still uses natural gut at 22 kg tension and Michael Llodra at 23 kg. Natural gut offers that "ball pocketing" feel, enabling crisp volleys.

We will discuss the development of modern racquets, firstly through the technological advancements regarding materials, and then, as a necessity, the creation of compatible strings.

One of these technological breakthroughs came about in the 1980s, namely the invention of multifilament strings, a densely woven fiber wrapped around a solid or

sometimes hollow core. This created a material close to natural gut but more resilient, even during extreme atmospheric conditions. As a general rule, the tension must be lowered in cold, wet, low altitude conditions (½ to 1 kg) and raised in hot, dry weather or high altitude. However, the increased elasticity was a problem for players with modern, large head size racquets and fast swing speeds, resulting in poor control. To counteract this elasticity, the strings needed to be either pre-stretched or strung at extremely high tensions, causing damage to the frame. Jim Courier used Gosen strings at a tension of 32 kg. Additionally, Chang, at the 1989 French Open, was one of the first pros to use synthetic gut, Prince Duraflex, at 29-30 kg and also Jeff Tarango with Yonex at 30kg. A big problem was the fact that the strings lost a lot of tension in a short amount of time. In order to minimize losing tension during the stringing job, and also to avoid putting too much stress on the frame at those high tensions, the stringers used the "boxy" or "square" method: after completing the mains, the string will go across the bottom of the racquet for the last cross and then going up to complete the last main on the opposite side, then continuing with filling all the crosses from the top down. Still, multifilament synthetic gut has remained more popular at the recreational level.

In the early '90s kevlar, a very solid material (bulletproof), almost impossible to break, began to be used. It did not stretch at all, resulting in a perfect "dead feel" preferred by many hard-hitting baseliners. Agassi was one of the first users, although only for the main strings, combined with synthetic gut in crosses (Problend hybrid), which gave a new perspective to the game. This combo was the perfect choice to counterbalance his powerful 107 sq. in. oversize racquet, and also gave him better ball control. However, the extreme harshness of kevlar made it unsuitable for intense play due to the tremendous vibration it produced to the arm (especially on off-center shots). Kevlar fell out of players' preferences, but continues to be used to some degree only in hybrid set-ups, usually on the mains (at about 20% lower tension), with synthetic or natural gut on the crosses. This combo reduces the harshness significantly while still maintaing the excellent durability kevlar is famous for.

A big step forward was the introduction of polyester, a solid core string, with specific properties. One of the first companies to market the product was PolyStar in the '80s. Michael Stich and Brian Gottfried were among the first users. It was a prime choice of strings for their durability and resilience, especially for clay court players with extreme grips and heavy topspin. Tensions must be dropped in polyester strings by 10% compared to natural or synthetic gut due to their lack of power. As a result, a new generation of players, stronger and with faster swings, grew up with and adopted the new string as being suitable for their game. Among them were Alberto Berasategui, Carlos Moya and Albert Costa, all topspin baseline players.

Luxilon, a high-tech Belgian chemical company, manufactured the most succesful string, adopted now by about 60% of professional players. The first notable top player to endorse it, after A. Costa at US Open '96, was Gustavo Kuerten at Roland Garros in '97. It is far less stiffer than kevlar, but has the same "dead feel", so the player can hit as hard as he can while still maintaing control. It provides excellent spin at medium tensions due to its recoiling properties, allowing strings to move freely. Among current players who use Luxilon are (note that all are power baseliners): Soderling (28 kg), Gulbis (29/28 kg), Verdasco (24/22 kg), Montanes (25 kg), Ferrer (24 kg), Ferrero (25/24 kg), Gasquet (24/23), Blake (30 kg), and Nalbandian (23 kg). It has also been used in hybrid combination, mostly in the main strings (Roddick-29 kg, Karlovic-27 kg, Serra-25 kg, Baghdatis-24/26 kg), but also in crosses (Federer, Chiudinelli, Ancic, Ljubicic, Stepanek). The big advantage of hybrids is that they compensate the stiffness of polyester with the softness of gut (or synthetic), making it suitable for an all court game.

Another important aspect in choosing the strings is the thickness, which varies between 1,10mm and 1,35mm. A thinner gauge has better overall playability, including better feel, more spin and more power. The player will always look for a balance between playability and durability.

Conclusions

Besides the classic approach, tennis implies a particular element, racquet preparation, with its most important part: the string and tension selection. String composition has undergone a constant evolution, influencing the game itself, making it faster and more spectacular. The strings and tensions are dictated by the player's style of play, and the level of the frame's absorbtion can be influenced by the climate.

Below is a chart of the playability of the strings based on gauge and tension.

STRING TENSION	POWER	CONTROL	DURABILITY	COMFORT
LOW	INCREASED	DECREASED	INCREASED	INCREASED
HIGH	DECREASED	INCREASED	DECREASED	DECREASED

Table 1 - Characteristics of tension hooks on strike

STRING GAUGE	ELASTICITY	DURABILITY	SPIN	COMFORT
THIN	INCREASED	DECREASED	INCREASED	INCREASED
THICK	DECREASED	INCREASED	DECREASED	DECREASED

Table 2 - Characteristics of the diameter of the hooks on strike

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Evidence of racquet stringing in atp tournements:

1) 1984 Congoleum Classic – La Quinta

2) 1993 - 1999 Newsweek Champions Cup – Indian Wells

3) 2000 - 2001 Cincinnati Masters

4) 2002 - 2008 Pacific Life Open – Indian Wells

5) 2009 - 2010 BNP Paribas Open – Indian Wells.

Factor specific de joc - racordarea rachetei parte componentă a pregătirii de meci în tenisul de performanţă

Rezumat. *În tenisul profesionist pregătirea unui meci se realizează pâna la cele mai mici amănunte pe fiecare dintre componentele de joc şi/sau antrenament fiind cunoscut şi recunoscut faptul că detaliile mici pot face diferenţa pe teren. În afara factorilor de joc clasici (tehnic, tactic, fizic, biologic, psihologic si teoretic) tenisul implică o componentă aparte şi anume pregătirea rachetei în cadrul căreia o importanţă deosebită este reprezentată de tipul şi modul de realizare a racordajului. Tipul racordajului şi tensiunea acestuia este ales şi realizat în funcţie de tehnica jucătorului, de nivelul de absorbţie al ramei rachetei şi poate fi influenţat de condiţiile climaterice.*

Cuvinte cheie: *racordaj, tensiune, evoluţie, efecte climaterice.*

Facteur specifique de jeu - racccordement de raquette, partie de la preparation de match dans le tennis professionnel

Résumé: *Dans le tennis professionnel la preparation du match est realisé minutieusement sur touts les aspects du jeu parce qu'il est recconu le fait que les detailes pouvent faire la différence sur le terain. En plus des facteurs de jeu clasiques (technique, tactique, physique et theorique) le tennis entraine une autre componente specifique, plus exactement, le raccordement de la raquette. Le type ou le modèle du fil, la façon d'insertion ou la tension de celui ci est realisé en fonction de la technique du joueur, du niveau d'absorbtion de la raquette et il peut etre influencé par les conditions climatiques.*

Mots clé: *raccordement de la raquette, tension, evolution, efects climatiques.*

THE EFFECT OF GAME CONDITIONS IN PLASMA INDEXES ON WOMEN SOCCER ATHLETES

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Many surveys refer to the relationship between exercise and enzyme parameters in the serum, and specifically to the relationship between exercise and the changes that happen in the enzymes which are released from the intercellular space. The research of such a relationship may be a basic "index" for the prevention and handling possible consequences which have occurred from the type and the kind of exercise is applied. So it was essential to study the kind and degree of the changes caused in the enzyme concentrations of the Creatine Kinase (CK) and the Lactic Hydrogenase (LDH) after the formal event of the Female Greek Championship (2 x 45 min).

PURPOSE

The purpose of the present study was the research of the enzyme levels of the Creatine Kinase (CK) and of the Lactic Hydrogenase (LDH)in a soccer match , with female athletes of the Greek Football Championship.

MATERIAL AND METHODS

In present study 10 of a national category women athletes were examined, aged 21,7 (TA=2,5). The study took place during 2009-2010 gaming season in an official game of the Greek women football championship trying to be of high level in the order to be possible to check. (e.g. crucial match, derby). All the examined athletes played during the whole game. The match took place on plastic lawns, with environmental temperature 12-15 degrees during 15.00-17.00. The examined athletes were professional athletes (training age M=5,15, TA=1,80 years) and had training 3-4 times a week of varied intensity and duration (65-80 min / training). The choice was made with the random sampling method among several volunteers, after relative draw. The athletes consumed minimum amount or no alcohol at all and didn't smoke. During the blood samples they didn't use any drugs and no pathological finding was found after clinical examination. For their attendance in the research they had been informed in every detail and had given their written consent according to the declaration of Helsinki 1975.

The blood tests took place in the morning of the same day of the match in a state of calmness, and right after the match. Before the test of the first sample, there hadn't been an effort for exercise for at least 36 hours and under that condition, the first sample was made the control sample.

The blood was placed in glass tubes without an anticoagulant and the centrifugation of the samples was done inside a half hour period after the retrieval, for 10 min at 2500 rpm. The serum was kept at - 80^{o} C.

The determination of CPK was done with the kinetic method, with CK NAC HUMAN (LOT H067) reactor lab on a KONELAB analyst 30 by KONE Company.

The determination of LDH was done with the kinetic method, with LDH UV Liquid.

Zafeiropoulos (LOT 9677) reactor lab on a KONELAB analyst 30 by KONE Company.

The levels of the Creatine Kinase (CK) and of the Lactic Hydrogenase (LDH) were studied.

STATISTICAL ANALYSIS

The statistical analysis was done through the parameter control Student – t for dependable samples.

RESULTS

According to our results, there was observed:

a/ an increase of the CK levels ($tg = 20.74$, $p < 0.001$), and

b/ an increase of the LDH levels ($tg = 7.57$, $p < 0.005$)

TABLE 1 N=10

	CK	Std Deviation	Std Error
0h – 8h	P < 0.001 156.30 → 336.60	40.620 63.181	12.845 19.980
	LDH P < 0.005		
0h – 8h	200.80 → 286.90	49.439 53.898	15.634 17.044

Conclusion

From the conclusions of the present study it seems that women football athletes are in biochemical recession, a fact that shows the urge to apply a special program of training and rest (relax methods and special diet) for the fastest reset and standardization of the body.

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THE EFFECT OF ORTHOSOMIC EXERCISES TO STRENGTHEN THE MUSCLE GROUPS THAT CONTRIBUTE TO THE CULTIVATION OF GOOD BODY POSITION IN THE PRIMARY SCHOOL STUDENTS

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Abstract: *The purpose of this study was to explore literature and to highlight the need orthosomiki gym at the time of the course of Physical Education. Also stress the influence of orthosomic exercises to strengthen the muscle groups involved in proper body position, pupils of primary school. According to modern researchers estimate the positions and postures affecting physical fitness and motor development of the trainee and inhibit or promote the transition from inactivity to move.*

It is obvious that the correct body position is one that ensures perfect functioning of the body and systems. The orthosomiki gym is the kind of exercise that aims to prevent, correct and strengthen the muscle groups that contribute to the upright body position. Physical education in primary education, establishes a basis for curriculum, physical, spiritual, mental, social development, promote health and quality of life of students.

During sports activities the upright body position ensures the implementation of gymnastic exercises gymnastic program, concentrating his practice, the accuracy in execution and proper respiratory function. Particular importance is attached to the methodological choice of exercises, so to exercise the symmetrically associates and competitors muscles involved in maintaining the upright body position and guarantee success in the orthosomias in sensitive age for primary education.

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FOUR-YEAR LONGITUDINAL STUDY OF PENALTY THROW IN TEAM HANDBALL

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The purpose of this study is to investigate the efficiency of shooting from 7 meters (penalty) in the period of time between 2007 and 2011, to determine the contribution percentage of penalties to the final score, to examine differences between halftimes and to seek possible important differences between home teams and visitor teams. All official score-sheets from the Greek A1 men's league (a total of 132 games per season) during four game seasons have been analyzed.

Measured per season: the total number of goals, the total number of executed penalties, the goals achieved from penalties per game and per halftime, as well as the goals achieved through penalties by home teams and visitor teams. Calculated for each season: the contribution percentage of penalties in the final score and the overall efficiency of penalties.

Table 1.

Variables	**2007-08**	**2008-09**	**2009-10**	**2010-11**
Total number of goals	6429	5752[ade]	6191	6485
Total number of penalties	1008	1030	1087	1073
Number of goals from penalties	716	727	787	746
Contribution % of penalties	11,2	12,6	12,7	11,5
Efficiency % of penalties	71	70,6	72,4	69,4
Successful penalties-A' (first) half	330[b]	335	398	346
Successful penalties-B' (second) half	386	392	389	400
Home team's successful penalties	331	347	400	347
Visitors team's successful penalties	385	380	387	399

a: p<0,05 2007-08 vs 2008-09 b: p<0,05 2007-08 vs 2009-10 c: p<0,05 2007-08 vs 2010-11
d: p<0,05 2008-09 vs 2009-10 e: p<0,05 2008-09 vs 2010-11 f: p<0,05 2009-10 vs 2010-11

No significant differences were found among most variables in the four seasons. The total number of goals in the period of time between 2008-09 that had a significant difference from the other three, is an exception. The scored penalties in the first half of the 2007-08 season also differed significantly from the corresponding period of 2009-10. In conclusion, the results show stability in the repetition of values with no significant differences between game seasons.

COORDINATION CAPACITIES IN PRIMARY SCHOOL

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Summary: *Supporting the development of motor skills requires a safe open space, where children of similar ages may interact under the supervision of a specialised teacher. The support of developing coordinative capacities is more complex. Helping a child develop his coordinative capacities requires time, planning and various didactic materials. At a young age, children have sufficiently developed coordinative capacities and are able to ride a tricycle or bicycle, climb stairs, tip toe, jump over an obstacle, catch and throw a ball, dress themselves, use the*

scissors and draw or paint a figure. Physical activity has a key role in the physical, cognitive and social-emotional development of the child.
Key words: *physical education, motility, coordination capacity, primary school, lesson.*

Practising physical exercise has been acknowledged since ancient times as an important contribution to the physical development, as well as the ethical and aesthetic education of the individual.

In education in general and in primary school in particular, teaching physical education has a very important role in point of the favourable influence upon the process of developing and strengthening the body, and as a didactic process meant to favour the children's fast adaptation to the newest social requirements. Also, through physical education one may achieve the balance of intellectual requirements and psycho-motor and ludical requirements, which is of utmost importance in organising didactic activities with pupils aged 6-11.

During a school year primary school pupils have to cover 68 lessons of physical education, divided into 2 semesters of 17 weeks each, each week containing hours of physical education. As it is well known, the development of coordinative capacities is achieved through an especially created instructional situation, placed in the lesson structure immediately after the selective influence of the locomotive apparatus. As a rule, this didactic action is allotted about 10 minutes, the pupils performing running with changes of direction, hurdle avoidance, placing and collecting objects, passing below obstacles, carrying and relaying objects, handling the jumping rope or the circle, etc. the Methodological Guide of Physical Education and Sport Curriculum Application in Primary School elaborated by the Ministry of Education and Research provides for a number of 22 lessons on the development of coordinative capacities, among which 9 lessons count as main learning units, the rest of 13 being seen as secondary. Thus, out of the total of 68 hours of physical education per school year, approximately 3 hours are allotted to the development of coordination capacities.

Similarly, in order to develop the school curricula drawn up and approved by the Ministry of Education and Research mention under the learning contents for the first two grades only the coordination of motor actions performed individually, and for grades 3 and 4 the coordination of body segments in actions of increasing complexity, the coordination of actions in relation with a partner, object handling. All these learning contents are subjected to the main objective "the extension of the own background of basic motor skills, which are utilitarian applicative and elementary, and the development of the related motor qualities". These main objectives are compulsory, together with the reference objectives, and the standards of curricular performance. The reference objectives are disseminated along the 4 years of school , aiming at acquiring the capacity of performing motor activities with the fastness indices, promptly and appropriately responding to visual, auditory and tactile stimuli; performing motor tasks with progressively increasing degrees of complexity, body handling (running, jumps, climbs, crawls, tractions, pushes, etc.) only by the force of the muscles; performing and bearing uniform and variable efforts of prolonged duration.

An equal or approximately equal number of lessons as the ones devoted to developing coordinative capacities are allotted by the Methodological Guide to the other basic motor skills. Thus, speed development is given 22 lessons (9 as a main learning unit and 13 as secondary learning unit), strength development 19 lessons (as a secondary learning unit) and endurance development 28 lessons (as a secondary learning unit).

In the structure of the school year the coordination capacity is approached at the same time as speed (due to the mutually beneficial influences) in one main unit, being studied in two times four lessons at the beginning of each semester, and in the initial part of the open air work in the 2nd semester as a secondary learning unit, focusing mainly on stimulating the reaction speed and performance in conditions of handling, placing, collecting, relaying, carrying objects. This secondary learning unit is achieved through relays and games, organised as competitions in an instructional situation especially inserted in the lesson structure, usually after the "selective influence of the locomotive apparatus".

Primary school includes pupils aged between 7 and 11, an age group that represents an essential moment in the child's life due to the transformations it implies. Together with the final stage of kindergarten, primary school constitues the first step in our shool system, compulsory for all pupils. In the case of young pupils (before puberty 6 – 11 years of age for girls and until 12 for boys), characterised by school debut and impetuous gestural behaviour, it is obvious that they are attracted to sports and

competitions. This age (children being small and light) may be seen as a stage of extreme easiness in learning, in acquiring basic technical training.

Coordination training, according to specialists, has to be introduced when the plasticity of the nervous system is high (in pre-adolescence) and the motor habits have not yet become permanent. The coordination training scope changes at the age of adolescence, when physical development alters the movement habits already formed. During this period the movement refining should be mire important than acquiring new motor skills. In post-adolescence the coordination training may again be brought to a new level.

The degree of manifestation of motor capacities changes as the pupil ages. In a simpler version, 3 main periods of development may be stated: an increasing period (relatively fast) of motor capacities in childhood and adolescence, a ”plateau” period and a gradual regression stage in adult life. The level and evolution of motor performance depend on a series of factors such as sex, biological development, environment influence, physical effort, etc. As a result, certain sensitive and critical periods were noticed in individual development and described in specialised literature. They are characterised by the fact that the body, in certain periods, responds more intensely to external stimuli. On the other hand, critical periods are considered either as a stage when, if certain determined development effects are to be obtained, it is absolutely necessary to apply certain stimuli, or a stagnation period, if not decline.

The table below shows the model of the sensitive stages elaborated more than 2o years ago by Volkov (Deutscher Tennis Bund, 1986), quoted by A Conzelman.

Table 1 Model of the sensitive stages of motor capacities (cf. Volkov)

No.	**MODEL OF SENSITIVE STAGES**			
	Motor capacities	**School age**	**Puberty**	**Adolescence**
1	Aerobic resistance	XX	XX	XX
2	Anaerobic resistance	X	XX	XX
3	Strength (intramuscular coordination)	XX ?	XX	XX
4	Strength (muscle section)	X	XX	XX
5	Speed (high strength component)	X	XX	XX
6	Speed (high coordination component)	XX	X ?	X ?
7	Motor capacities	XX	X ?	XX ?
8	Coordination (simple movements)	XX	X ?	X ?
9	Coordination (complex movements)	XX	X ?	XX

Legend: XX – high trainability; X – lower trainability; – not sure

All motor capacities can be positively influenced all through life by adequate exercises/ training processes (there are no critical periods, in the sense that during certain periods a certain motor capacity may be influenced). In point of the biological aging processes, the extent to which they may be influenced through appropriate training measures is quite high. In this respect, it should be said that for instance aerobic resistance and maximum strength may be influenced in a higher degree than strength in a speed regime and speed all along life in regard of the maximum strength in men, there is the possibility to influence it more at the end of adolescence and the beginning of adult life, as compared to the beginning of childhood and old age in adulthood. In point of coordination capacities, in general, they respond better to stimulation in the first half of life than the second.

Concerning the trainability of coordinative capacities, the optimal period is young school age. The age of adolescence is described as critical. Progress in achieving the tasks of motor education for various age groups depend more on previous motor experience than on age. Simple motor mechanisms, which do not involve special conditional requirements and not requiring long periods of training, are learnt faster by children than by adolescents. That is why the sports field operates with the saying ”what little Petey has not learnt, Peter will never be able to learn” which is quite relevant for motor capacities.

The more complex a motor movement or series of motor movements, the more developed the coordination capacity, manifested through precision, economy, strength optimisation and muscle energy consumption, delay in fatigue occurrence, harmonious and expressive evolution of movement, release of cortical control as a result of forming an automated stereotype and prevention of injuries.

By interconditioning motor capacities and coordinative capacities, a maximum output

of conditional capacity may be obtained, influencing performance. A satisfactory development of coordinative capacities leads to improving performance during the training period.

Table 2 Plasticity of motor capacities in life (cf. Cozelman)

Age	6	7	8	9	10	11	12	13	14	15	16	17
Joint mobility	X	X	X	X	X							
Coordination capacity			X	X	X	X	X					
Speed					X	X	X	X				
Strength						X	X	X	X	X	X	X
Strength- speed (boys)									X	X	X	
Strength -speed (girls)							X	X	X			
Endurance					X	X	X	X	X	X	X	X
Growing bout (boys)						X		X		X		X
Growing bout (girls)						X			X			X

The importance of coordinative capacities is also salient in the fact that they lay at the foundation of sensory-motor learning, as the higher its level, the faster and more accurate the learning of new movements.

In conclusion, it may be stated that coordinative capacities have the role of elaborating motor skills, depending on the ability to guide and process the information issued from the analysers involved in movement. The main role of motor capacities is manifest in motor learning, but the role of conditional capacities is equally important. Among the motor capacities the separation between conditional and coordinative capacities is purely theoretical, as they cannot be strictly delineated, but rather an interconditional relation.

It is very important to understand that exercises based on coordination should be introduced at ages prior to adolescence, as adolescence is not a good moment to start the training elements of coordination. As strength, speed, height, body mass develop significantly during these years, it is more recommendable to fix down movements that are already known, instead of learning new ones.

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Les capacités de coordination chez les elèves de l'école primaire

***Mots clé**: éducation physique, motricité, capacité de coordination, éol primare, leçon*

***Résumé:** Le soutien du développement des qualités motriques a besoin d'un espace sur et ouvert, où les enfants du même âge puissent intéractionner sous la supervision d'un professeur spécialisé. Le soutien du développement des qualités de coordination est plus complexe, en nécessitant temps, planification et matériaux didactiques variés. Au début de l'enfance, les enfants ont des capacités de coordination assez développées, étant capables dee sauter, user une biciclette, monter des escaliers, dessiner ou peindre une figure, etc. L'activité physique joue un rôle clé dans le développement physique, cognitif et socio-émotionnel de l'enfant.*

FORMS OF MANIFESTATION OF THE COORDINATION ABILITIES AND THEIR DEVELOPMENT IN PRIMARY SCHOOL

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Summary: *So far the theory and methodology of physical education display large possibilities of developing motor capacities and especially coordinative ones at ages preceding adolescence. The use of a system of specific means for the development of coordinative capacities may produce arguments in favour of reconsidering the orientation of the contents of physical education for primary school pupils.*
Key words: *coordination capacities, manifestation forms, pupils, favourable periods, development.*

In order to better understand the concept of *coordination capacities,* one should take into account the meaning of the verb *to coordinate*, and also of the meaning of the noun capacity. In the work "Motor skills. Structure and evaluation", Thomas R., Eclache J. P., Keller J., adopt as a definition for the notion of *capacity* the opinion of Piéron H., who opines that *capacity* "represents the ability to succeed in performing a task or exercising a profession".

All types of coordination are not evinced separately, but always in combination with a system proper to the individual's objective and physiological peculiarities. Many specialists in the field have accepted *coordination capacity* as a block with a complex structure and a high number of *coordination capacities* designed for activities with a high coordination content.

An important argument in this sense may be the study of the German scholar Blume D. D. Who considers 7 forms of manifestation for the coordination capacities: orientation; response; kinetic differentiation; balance maintenance; rhythmic; concord; restructure.

However, according to the same author, the previous capacities are all-encompassing, but they are not all. Thus, Hirtz P. discovered over 80 forms of coordination capacity. P. Hirtz, G. Ludwig, J. Willnitz, when referring to school sport, list 5 forms of fundamental coordination capacity: the capacity of kinetic differentiation; the capacity of spatial orientation; the capacity of reaction; the capacity of maintaining balance; the rhythmic capacity.

Matveev C. classifies coordination capacities into 3 subgroups: the capacity of balance maintenance; the capacity of rational relaxation of the body muscles; the capacity of obedience and accurate regulation the movement spatial parameters.

Martin D. considers as coordination capacities the following: the capacity of control; the capacity of rhythm; the capacity of differentiation; the capacity of balance; the capacity of reaction.

Renato Manno, in his book "the Basics of Sports Training", settling the fact that a complex capacity as coordination involves the cumulated action of more analysers, enumerates the following qualities that determines this capacity: the capacity to combine movements; the capacity of spatial-temporal orientation; the capacity of kinaesthetic differentiation; the capacity of balance; the capacity of motor reaction; the capacity of movement transformation; the capacity of rhythm perception.

V. Platonov discovers the following relatively independent coordinative capacities : the capacity of assessment and regulation of dynamic, spatial and temporal parameters; the capacity of muscle coordination; the capacity of kinaesthetic differentiation; the capacity of visual and spatial orientation; the capacity of balance; the capacity of rhythm; the capacity of response; the capacity of restructuring motor programs; the capacity of motor acquisition; the capacity of guidance and control; the capacity of adaptation.

P. Hirtz, for children of up to 10, evinces the following forms of coordination manifestation: the capacity of coordination under duress; the capacity of spatial-temporal differentiation; the capacity of response to acoustic and visual stimuli; the rhythmic capacity; the capacity of spatial orientation; the capacity of balance.

Studying the pupils' coordinative capacities, V. Leah divided them into 3 broad groups: *special coordinative capacities; specific coordinative capacities; general coordinative capacities.*

As mentioned previously, the coordinative capacities are very varied and specific. That is why the dynamic of their development in ontogenesis has a specific character for each of the capacities.

Thus, according to B. Farfel, both static balance, and dynamic balance develop progressively from 3 to 13 years of age. It is worth mentioning that at 3-4 children may reach a level of manifestation of the dynamic balance equal to old people. The indices of static balance characteristic to mature people may be seen in children aged 7. The capacity of regulating temporal, spatial parameters and parameters of movement strength actively increases between 6-7 years-old and 10-12 years old.

According to the same author, a similar age dynamics is also characteristic for the natural development of the capacity of voluntary (free) relaxation of the muscles. P. Hirtz and Azil, quoted by C. Dragnea and S. Mate-Teodorescu, consider that the most favourable periods for the development of coordinative capacities are childhood, puberty and adolescence, when the organism possesses a better plasticity than in adult years. At the age of 6-7 the following are well developed and one may act on them: balance, joint mobility, muscular (local) endurance, which makes it possible to acquire a large number of motor skills founding the marked development of coordinative capacities between the ages of 6 and 11. According to the authors, this age period is the most important for acquiring new motor skills, which are born in an integrative manner, out of movements already known.

Relative to this topic, V. Chicu considers that a more intense development of coordinative capacities occurs at the age of 4-5. Taking into account the development tempo of the coordinative capacities, the authors call this age the golden age. If during this period one acts directionally on the coordinative capacities development, later, at the age of 7-10 they will reach a higher level of development. The authors also mention that as a rule, at all ages the level of development of coordinative capacities in boys is higher than in girls.

Common research in Germany and Poland included over 3000 individuals aged between 8 and 23. They aimed primarily at assessing mainly the level of balance development, but also the other components of the coordinative capacities. Research proved a positive dynamics of the results, both in boys and in girls. In boys, the improvements were more visible. The highest progress was registered until the age of 11. But maximal results were reached at 15-20. On the basis of the analysis of these results, the so-called critical periods may be detected in the development of coordinative capacities. Between 11 and 13 one may observe a temporary stagnation or a decline in this development, especially in the girls and the boys who don't practise physical exercise.

V. Leah, examining over 1600 pupils, and also taking into account Hirtz's research, reached the conclusion that the indices of the various coordinative capacities increase the most from 7 to 11-12 years of age. In the same age span there occur the most favourable periods of development for coordinative capacities. Mainly, at the age of 8.3 (boys) and 8.1 (girls) children make progress in proportion of 25 % of the total possible increase of results; 50 % - at 10.2 years of age and at 9.6 years of age; 75 % - at 12.4 years of age and, respectively at 11.9 years of age.

The manifestation of coordinative capacities is conditioned by the maturation processes, especially of the nervous system, and the number of motor skills the subjects master. After early childhood, subjects possess a background of basic and applicative motor skills (walking, running, jumping, throwing and catching, pulling, climbing, pushing, crawling, etc.). At this stage the cognitive and motor capacities support each other.

According to scientific investigations, studied by Volkov, movement coordination undergoes an increased tempo of biological development in girls between 8 and 9 and between 10 and 11. At the age of 11-12 the increase tempo is average. From 12 to 14 movements coordination worsens, but during the process is restored and stabilised. In boys, the biological development tempo of this capacity increases between 8 and 9 and between 11 and 12. At the age of 13-14 average development tempos are registered. The periods between 9 and 10, 12 to 13, and 14 to 17 are characterised by stabilisation of movement coordination that is essential changes, either positive or negative, do not occur.

Studying the tempo of coordinative capacities development (the capacity of maintaining static and dynamic balance, the capacity of spatial orientation, the reaction speed and the movement coordination) in children aged 8-14, B. Minarsky quoted by V. Chicu observed that these capacities develop intensively at the age 8-12, after which their development dynamics decreases considerably. Also, the author found that the male sex dominates significantly the level of movement coordination development, the speed of the motor reaction and the capacity of spatial orientation. Thus, the author concludes that the best period for the development of coordinative capacities is the age 8 to 11-12 when a higher natural increase is noticeable.

The knowledge of sensitive periods, and more importantly, of the critical ones in

developing coordinative capacities should contribute to elaborating strategies (training plans), corresponding to the pupils' abilities, that is taking into account the difficult period in motor development. It is important especially in events which are complex from a technical point of view. It is a frequent occurrence that pupils are considered hopeless especially during this period.

Therefore, the results of the research mentioned above clearly showed that there are sensitive periods in the development of coordinative capacities between 7 and 12. In other words, the possibilities ignored in this period can hardly be recovered later. However, the idea that this period is the most suitable in developing the coordinative capacities cannot be definitive. It is believed that coordinative capacities can be successfully developed in all school years (especially if a solid foundation is laid at a young school age and in the first half of adolescence), even if the training effect is not the same: the highest – between 7 and 11-12; average – from 14 to 16-17; the lowest – from 12 to 14. The lowest development period may be deemed as a critical one (of stagnation or decline) in point of coordinative capacities development. In this respect it is imperative to manifest an increased attention towards these capacities, both qualitatively, and quantitatively. The lack of appropriate measures in this period may trigger the decrease of the development level of the coordinative capacities and lead to losses that may never be compensated.

In conclusion, the authors consider that in the ontogenesis of the development of motor coordination, the individual's capacity to form motor skills reaches the climax at the age of 11-12, this age being optimal from the point of view of guiding sports training.

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Formes de manifestation des capacités de coordination et leur développement dans l'enseignement primaire

Mots clé: *capacités de coordination, formes de manifestation, élèves, période favorable, développement*

Résumé: *Jusqu'à ce moment la théorie et la méthodologie de l'éducation physique regardent comme la période favorable pour le développement des capacités de coordination l'âge qui précède l'adolescence. L'utilisation d'un système de moyens spécifiques pour le développement des capacités de coordination peut produire des arguments en faveur d'une reconsidération du contenu de la leçon d'éducation physique dans l'enseignement primaire.*

THE IMPORTANCE OF APPLYING THE TRAINING DEVICES IN PHYSICAL EDUCATION AND SPORT

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Abstract: *It could be said that society, in all its complexity, has evolved exponentially in recent years and we refer to technical and cognitive marks our debut in the new millennium and to change people's behavior across the exercise. Modern technology and, especially, the future technology with its often*

disconcerting dynamics, will certainly make, in my opinion, their mark on the investigation of specific high-performance sport.
Keywords: *method, apparatus aids, physical education, means, inventions.*

Introduction

Most of the major achievements recently in the fields of science and technology are due also to informatics, which has created new possibilities of making complex calculations and processing large volumes of information in a shortened period of time. The emergence of personal computers and computerized mini-laboratories represent the qualitative leap made in the technological evolution. Through new technologies, a large amount of information is processed and stored for their subsequent use. Its appearance constitutes the seed and the essence in the new scientific-technical revolution.

Material

The introduction of auxiliary equipment in the training has deep roots: fighters from the Orient used pulleys, wooden mobile models, the knights used mobile targets remotely operated with rope by using gravity or animal traction, ballistas, catapults, shield, helmet, armor are just some of the ancillary equipment used in the past and about have heard most of us. For a better representation of the supporting apparatus, especially of the efficiency of their application in the preparation of athletes and not only, we must look in the past at the appearance of sports and sports materials, many of them lost in the mists of history and reinvented much later.

Frederick Ludwig, the representative of the German old school is the person who invented the gymnastics equipment (fixed and parallel bars) laying the foundation for gymnastics as we know it today, and the person who founded the system of "Swedish gymnastics" was Per Henrik Ling was, these innovations occurring on the background of military needs, referring to game, combat and physic. Also as needs, but coming this time in the pedagogical field were the inventions of J. Naismith and W. Morgan the forefathers of basketball and volleyball, games that nowadays have millions of practitioners all over the world.

C. Kirițescu [2, p. 183] believed that ball games are the oldest, most popular and most varied of games. Their strong character and the playful nature have imposed the ball games as far back as the Middle Ages in the consciousness of most people on the old continent. V. Albu, [1, p. 69-71] presents the most popular games in the Middle Ages called "Jeu de Paume"; "la Soule"; and "La Crosse", games where the ball was made of wood, then leather and filled with sawdust, sand, bran, hay, moss and even stone and was hit with hand, foot or a cane.

From the thirteenth century, when the practice of the bowling game is documentary testified, until today when in addition to significantly improved materials and rules, appeared the device for arranging the pins, machine which although does not interfere directly in the preparation of athletes or in the course of running the competitions is an integral part of both, reducing greatly the time required to recover the ball and rearranging the pins, making this game more attractive.

From these beginnings until today, the materials making up the balls, clubs, pucks, sports equipments etc., the rules of the games and training facilities have evolved dramatically. The development of materials and equipment unfold in parallel with the evolution of games in the technical and tactical account, sometimes even conditioning it. All these improvements are the preserve of science development, of the enlargement of the area of knowledge and have as main pawn the inventor, who often practiced these games.

The evolution of sports, as part of universal culture, is the result of needs, desires, innovative ideas, regional peculiarities, sitting at the human desire to compete, relax and improve their biometrical potential. The last century is marked by the emergence of numerous sports, each more different, being the preserve of the feverish search for new ways to spend enjoyable time and to combat the negative effects created by modern means of communication and transport (television, computer, telephone, escalators, cars, etc.). With the improvement of competition's regulations, which takes place over time, as a result of factors that need to be considered such as dynamism, spectacular, duration (for television broadcast), protection and other, new elements and techniques appear in those sport games, which leads to the need to implement new methods and means for training. At the same time, reducing the duration of apprenticeships and the desire to compete sooner, requires the use of new means to increase efficiency and achieve goals.

I believe that a classification should be made on line sports equipment. In my view they are divided into: 1. apparatus with the role of training (ball launchers, models, sensors, electronic devices, weight lifting etc.), 2. the Protective equipment (helmets, harnesses,

aprons etc.), 3. Additional equipment (baskets with balls, nets restraint, devices for arranging pins etc.), 4. apparatus used in the race (tools of gymnastics, athletics, shooting, cycling etc.).

Although, in advanced form, these types of devices are currently in place, they have been used since antiquity, in more rudimentary shapes, being used mostly for military purposes. Their usefulness has been established since time immemorial, V. Albu, considers throwing as the most important moment of the evolution of primitive man, who passed from the screening of various objects with his own muscles, to the projection by mechanical means (sling, bow, ballista, catapult etc.). Using mechanical means is known throughout the Olympics preparation, the preparation of athletes participating in competitions, the competitions of chivalry, of learning martial arts and examples can continue. Equipment in general, according to I. Șiclovan's view [6, p. 141], increases the exercise's efficiency, adding to this structure functional values which could not be achieved only by repeating themselves.

Therefore specialized professionals are looking to create more diverse models of devices, appropriate to the accomplishment in the best conditions of the objectives in the instructive-educational process. Supporting devices are applied, according to V. Filipov's view, for the development of motrical or combined qualities, with simultaneous effect, they also meant improving the technical elements of different compartments [61, p. 23]. Some authors consider the specialized equipment not only a specific part of the combination of means, but a part of various sports, such as parallel, flat bar, rings, wheel, spear, net and others. They are created and used as tools in different ways and for different purposes. For the development of the motrical qualities there are fixed scale, sticks, weightlifting, expanders etc., for improving the technique there are lanyards in gymnastics, mannequins in combat, throwing balls appliances and electronic devices in sports games. In some sports, the equipment is used to protect athletes from shocks such as the helmet in boxing, cycling, hockey etc.

I. Șiclovan [6, p. 199] mentions the mechanisms used to speed the development of the swimmer afloat, made in various forms which are operated by coaches in various technical methods and float on adjacent lanes, driving the swimmers' training. In the same field of study there can be remembered many innovations related to technology training, training in nautical disciplines such as swimming training devices on land (1812 – the Prussian general Pfuel who conceived a swimming "hall" in the absence of a traditional swimming pool). After M. Olaru there are given accurate simulation apparatus, on the scientific and modern way of the movements and muscle clenching from the contest, sport-Sat 101, „made in Romania" – made at the CCDS – the Research Center in the field of Sports by a team led by Pierre Hillerin, V. Schor, C. Obreja, M. Olaru) and devices from the Western world such as the Exer-Geny, Mini-Gym, Biokinetik bench.

It also deserves to be mentioned the special equipment which uniform hinders the effort of forwarding through the water (sponges, jackets, mittens etc.). This list may also include the new swimming suits, suits launched by prestigious companies, which have the meant to facilitate the submission of the body (through lower frenulum currents formed as the water passes along the body, such as „shark skin" used by Michael Fred Phelps, the winner of eight gold medals at the Beijing Olympics in the summer of 2008.

Another device used in the preparation of athletes is „the conditions simulator ERGOSIM", designed and built by a group of scientists from Romania, being well-known to the Romanian swimming field for 15 years. Training on the simulator has helped, along with traditional training to deliver outstanding results, over the years, by the country's best athletes since 1982, such as Carmen Bunaciu, Nicolae Butacu or Camelia Potec.

Another example of a device for improving the technical preparation is the creation of Nicholae Ochiană, the supporting device called „DECT" or „electronic device for the correction of the technique" which is basically a table tennis robot. The electronic device „DECT" can be used successfully both in teaching and correcting and also in self-correcting technique. Furthermore, the system self-control, in conjunction with reduced gauge and the information storage capacity, gives researchers, teachers and coaches in the field a high degree of mobility.

Results: The performances proven over time by the developments in sports and their practice more effective and safer conditions, coupled with previously unimaginable performance confirms the value and importance of specialized equipment in the preparation and conduct of sporting competitions.

Based on these considerations, supplemented by opinions of specialists I have achieved a chart of supporting apparatus applied in physical education and sports, aiming also for the effect of interdisciplinary in the conceiving of the training systems as well as the methodological route of their creation, as shown in Figure 1.

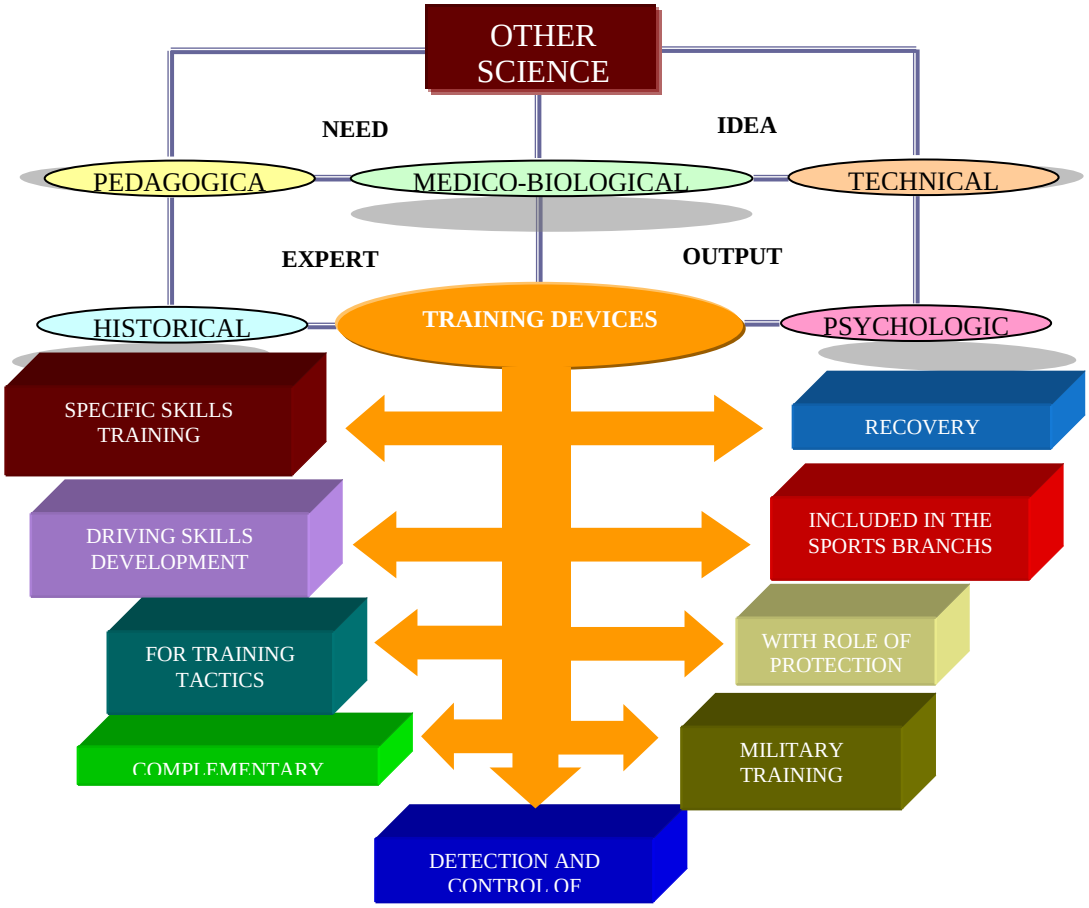

Fig. 1. Classification of the training apparatus in physical education and sport

A number of authors, considers necessary and effective the use of the training devices in the training elements and the technical techniques of the sports games. Precisely for this reason, the concern of some specialists in sports, has resulted in the design and construction of facilities, materials and ancillary equipment aiming the analytical training of parts from the structure of the elements and technical procedures, specifying the implementation details, correcting the mistakes in learning, where appropriate, contributing effectively to the technical training.

The author A. Popescu, proposes the following facilities needed to develop throwing accuracy, precision, such as panel, basket without panels, etc. A number of facilities, materials and ancillary equipment which streamline the elements and technical procedures of the game of basketball are submitted by the Hriscă A., C. Negulescu, D. Colibaba-Evuleț, as follows: rubber band (maintain the fundamental position), the tire swing (device for improving the passes), reduced vision goggles (to improve dribbling) glasses for developing accuracy in free throws, throwing device to correct path to the basket, small ring (throwing accuracy, trajectory correction).

A number of devices used throughout the world, in sports games such as football, handball, basketball, tennis and rugby identified in the world's patent data base, confirms the importance of supporting equipment used in the preparation of athletes. Thus devices such as "Adjustable apparatus for preparing different types of rugby player", author G. Chevreux, consisting of a central pivot provided with weights to develop strength and kinesthetic perception in forming the pile in rugby, „Apparatus for launching tennis balls" Eugen Ungureanu, is actually a machine designed to launch tennis balls in order to prepare the tennis players in the processes of hitting the ball, „Apparatus forshooting the ball or soccer robot" Haitao O.**,** a device equipped with an electric motor and a mechanism for striking the ball, controlled by a trigger, which has the role of sending the ball with different trajectories and speeds toward the goal to train porters, „foldable machine for throwing in basketball", Chen Te-Lung , consisting of an inclined panel fixed under the basketball panel and supported

on telescopic legs with the role of holding and driving the balls into the athlete when he executes the throwing to the basket etc., they improve the technical and physical preparation of athletes, having a significant impact on subsequent developments in those sports games, by influencing the technical, tactical and physical components.

It is known that specific elements and techniques for the volleyball game are much more difficult to assume compared to other sports games, because the specific skills are based on a mechanism that students do not have in the baggage of natural, regular, daily skills. Therefore it is necessary for sports like volleyball, to use modern means of education - supporting devices which are designed not only to „accelerate" the training, as a result of the Sorbonne Declaration, but also the attraction of subjects in their training.

Analyzing the literature, supplemented by information found in the world patent data base, I have noticed the existence of many inventions, characterizing devices supporting the game of volleyball as described by N. Murafa and Şt. Stroie: „Hand fitted ball", "The ball hung", „Panel to prepare elements of defense" or how is also known as „Reflexive panel," „Ball line", „Ball on the pulley", „Opaque place," "Lead Ball", " Framework for precision passes „ basket cell" „„Throw the ball" „the ball suspended" „blocking mechanism" [4, p. 201-222], those presented by V. Larionescu Moroşan, C. Ciorbă: „Framework for the attack,", „Block Test", "Double lifter", "Cannon – service", "Sleeve volleyball" and others. The concern of researchers from all over the world on supporting devices as necessary and effective means of preparing the volleyball players is reflected in a number of inventions presented in over 200 pages of the electronic „European Patent Office", such as: "Apparatus for training the upper fairway of the game of volleyball", inventor G. Szabo, "Machine learning and improvement for two hands above the fairway with the game of volleyball", consisting a rod provided with mounting straps forearms subject movement leading to a more accurate performance, „Volleyball Training Device", C. Ciorbă, V. Moroşan Larionescu, C. Ciufudean, consists of a collar device that is composed of contact sensors and signal the ball when it reaches the contact site and whether it was correct, and the list goes on.

From the above we can say that the method is applied to auxiliary devices and recovered mainly in the preparation of performance in most sports games as a tool for screening, diagnosis, correction and evaluation of performance levels. However, sources indicate little helpful devices designed for use in preparing pupils and students, they generally aimed at preparing athletes. We believe as appropriate the treatment with increased attention of designing and placing the equipment aids in the preparation of students, background of an effective and necessary methodical approach, which would find later conceptual and practical applicability in sport performance. In this context we mention that traditional methods should not be avoided. Using traditional methods combined with auxiliary devices are a safer way to foster an interactive learning and building environment, focused on the performer. Rapid transmission of information, stimulating the competition created by the intervention of specialized equipment, determine also the teachers to adapt to the new requirements imposed by each subject by finding modern solutions, efficient, anchored in the realities of this millennium.

Conclusions

The evolution of the possibilities of quantifying the errors of execution, timely and accurate, due to the improvement of computer technology and complementary sciences, will lead to new solutions for training, contributing towards fostering the knowledge in our field. Thus the importance and effectiveness of supporting devices can produce powerful changes in the design of technical training, assuming the following:

- appropriate use of the "methodical accelerators" in the process of training, with a predominant purpose of diagnosis, assistance and correction;
- establishing operational objectives with the inclusion in the planning of the supporting apparatus;
- looking for permanent one-way continuous training of teachers in the area of jurisdiction and beyond, in the complementary disciplines;
- the design and operation as simple and as safely as possible of the equipment, in setting new standards of implementation in the specific technical processes guidelines;
- the ability to identify new means adapted to the new methods, which would have maximum efficiency and a higher emulative level.

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L'importance demande de l'application de méthode d'appareil auxiliaires dans l'éducation physiques et sportives

Mots-clés: *méthode, l'appareil auxiliaires, l'éducation physique, les moyens, inventions.*

Résumé: *On peut dire que la société dans toute sa complexité, a évolué de façon exponentielle ces dernières années et nous nous référons aux marques techniques et cognitives nos débuts dans le nouveau millénaire, et de changer le comportement des gens à travers l'exercice. Les technologies modernes et, surtout, la dynamique future souvent déconcertant, va certainement faire leur marque sur l'enquête du sport de haute performance spécifiques, il est à notre avis attestant.*

Importanţa aplicării metodei aparatelor ajutătoare în domeniul educaţiei fizice şi sportului

Cuvinte cheie: *metodă, aparate ajutătoare, educaţie fizică, mijloace, invenţii.*

Rezumat: *Se poate spune că societatea, în toată complexitatea ei, a evoluat exponenţial în ultimul timp şi ne referim aici la progresele tehnice şi cognitive care marchează debutul nostru în noul mileniu, precum şi la modificarea comportamentului oamenilor vizavi de exerciţiile fizice. Tehnologia modernă şi, mai ales, cea viitoare cu dinamica ei de multe ori deconcertantă, îşi va pune în mod cert amprenta pe instrumentarea specifică a sportului de înaltă performanţă, aceasta fiind în opinia noastră o certitudine.*