

**EXPERIMENTING USING GYMNASTICS MEANS IN
PHYSICAL TRAINING PROGRAMS
AT 8-10 YEARS OLD ALPINE SKIERS**

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Abstract: The paper aims to demonstrate the beneficial influence of gymnastic exercises in the physical training in alpine skiing, at children category, through a quality experimental test for the force in the muscles of the trunk. Abdominal muscle strength and back muscles is important to maintain a coordinated position of aerodynamic sliding on skis and is a condition in order to maintain balance in sliding.

Introduction: Physical development programs, general and specific, have been reported at the annual plan of training, the training periodization being of mono-, single peak form and with one competitive period type. The total number of competitions was 4 at children category, slalom and giant slalom routes (age 8-10 years adjusted).

Other indicators of training were: medical examinations, once a year; physical testing, technical, psychological, three times a year; trainings: two on land and one on snow.

In the structural perspective, annual plan contains three macro-cycles(two stages of preparation and one for competition).

The first macro-cycle, in which the preparatory phase consists in a basic preparatory stage and the specific preparatory stage, has specific objectives for education, adaptation and development of basic and specific qualities. This macro-cycle extends from April to December, includes medical testing, initial testing on the indices of physical training at the beginning of the macro-cycle and the final test at the end of specific preparatory period. This period includes two training s on land and one on snow.

Material-method: Basic preparatory stage unfolds in July, August, September and includes 40 training s, 70 minutes each. In at least two of the three s, per week, it is indicated to use flexibility and joint mobility exercises. We present two types of examples of weeks

training in basic preparatory period:

Table 1. Type I Week

Session	Content\Duration	Implemented programs
Lesson 1	Basic gymnastic/15	General, free and with objects physical training exercises;
	Acrobatic gymnastic/35 min.	Static and dinamic simple elements, equilibrium exercises,
	Basic gymnastic/20	Movement games
Lesson 2	Basic gymnastic/10 min	Selective influencing exercises for the movement apparatus
	Acrobatic gymnastic/30 min	Dinamic acrobatic gymnastic elements, rolling, turning,jumping on the trampoline, elastic mesh;
	Force development/15 min	Lower members training programs;
	Rolling/15 min	Different types of exercises on skates
Lesson 3	Acrobatic gymnastic/20 min	Acrobatic gymnastic complex on music, of low intensity (basic steps)
	Acrobatic gymnastic/30 min	Jumping on the trampoline, elastic mesh;
	Basic gymnastic 20 min.	Applied games.

Table 1. Type II week

Lesson 1	Basic gymnastic 20 min.	General, free physical training exercises, with static and dinamic simple elements of acrobatic gymnastics and equilibrium exercises
	Acrobatic gymnastic/30 min.	General, free physical training exercises, with static and dinamic simple elements of acrobatic gymnastics and equilibrium exercises
	Rolling/20 min	Slalom on roller blades.
Lesson 2	Acrobatic gymnastic/20 min	Acrobatic gymnastic complex on music, of medium intensity (basic steps, combination of steps)
	Acrobatic gymnastic/30 min	Jumping on the trampoline, elastic mesh;
	Rolling /20 min.	Rolling inside the gym, exercises on roller blades
Lesson 3	Atletism /10 min	Running exercises with variated intensity and rithm.
	Basic gymnastic/15 min	Selective influencing exercises for the movement apparatus, on pairs, with sticks
	Acrobatic gymnastic/30 min	Dinamic elements of acrobatic gymnastic, rolling, turning, jumping on the trampoline, elastic mesh;
	Rolling/ 15 min.	Different tipes of games on roller blades.

The preparatory stage is specific to the technical training, in order to acquire specific skills and training correspond roller on the grass and snow. It uses machine learning to turn, our own invention, in order to acquire the art of the turn of "carve." Physical training is maintained and continuous training process, initial tests are done on the level of expression of the art of sliding in slalom.

Competition stage, December, January, February and is the most important stage of preparation of the annual plan, when the children participate in competitions, the peak form of training. This period is characterized by maintaining the high level of the physical development and technical and tactical training development and as well intense psychological development, targeting and modeling for specific competition ski courses.

Transitional phase (recovery) includes the months (March, April, May) and is characterized by lowering physical and psychological parameters, while being a stage of recovery, assessment and remediation of any deficiencies revealed in season.

1.1.1. General physical training programs

BASIC GYMNASTICS

1. Exercise for selective musculoskeletal influence program
2. Pairs exercise program
3. Exercise with sticks program
4. Exercise with gymball program
5. The relay race and applicative pathways program
6. Program with motion games

PROGRAMS acrobatic gymnastics

1. Static acrobatic elements program
2. Dynamic acrobatic elements program

PROGRAMS Aerobics

1. Gymnastic aerobic program

FORCE DEVELOPMENT PROGRAMME

1. Free exercise for legs force development program / feet
2. Exercises for abdominal strength development program
3. Exercises for back force development program
4. Exercises for arms force development program
5. Exercises for the back muscles and arm muscles force development program / with small dumbbells
6. General force development programs
7. Jumping for detent development program

1.1.2. Specific physical training programs

PSYCHO- and SPECIFIC Motricity development programs

1. Flexibility and mobility development programs

2. Exercises for coordinative development Program balance, skill and lateralității

3. Exercises for balance and coordination development with roller program

1.1.2. Results and discussions: Sample no.1. Raising trunk from recubement in 30 sec

Table 1. Dynamics of statistical indicators of the experimental group in " Raising trunk from recubement in 30 sec "

A.R.	T. I.	T. F.
x	16.33	21.46
S	1.175	2.503
Cv	0.07	0.11
t ₁	8,9	
t ₂	9,7	

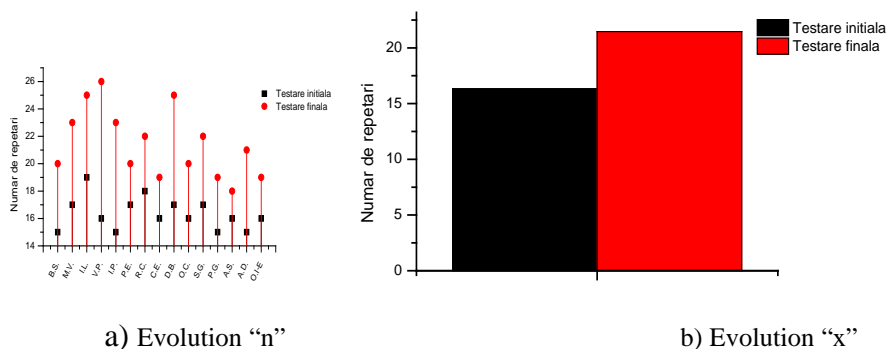


Figure 1. Graphical representation of test "Raising trunk from recubement in 30 sec "

Initial testing arithmetic average is 16.33, and the final testing is 21.46 and there is a progress rate of 5.13 from initial testing to final testing. The coefficient of variation of 0.06 and 0.11 in initial testing to final testing. The fact that both values are less than 10%, demonstrates that the group is homogeneous.

Student test computed value of the experimental group between the initial and final testing is 8.9 and there are significant differences between the averages of two tests, $p < 0.01$.

Student test computed value of the control group between the initial and final testing is 8.9 and there are significant differences between the averages of two tests, $p < 0$.

Sample no2. Maintained in hanging on horizontal bar

Table 2. The dynamic statistic indicators, for „Maintain in hanging on horizontal bar”

A.O.	T. I.	T. F.
x	39.04	41.04
S	2.189	1.198
Cv	0.05	0.02
t₁	3,18	
t₂	2,86	

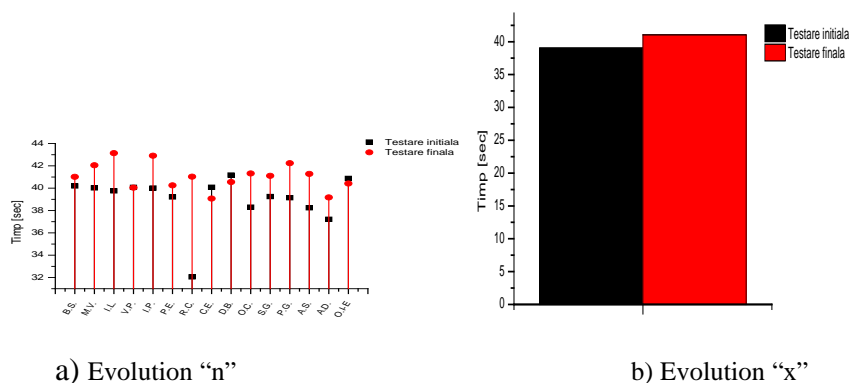


Figure 2. Maintain in hanging on horizontal bar

a) The evolution of "n" b) evolution "x"

To sample the "Maintain in hanging on horizontal bar" initial testing arithmetic average is 39.04, and at 41.04 and the final testing is the rate of progress is observed 2 seconds from initial testing to final testing. The coefficient of variation is 0.05 to 0.02 at initial testing and final testing. The fact that both values are less than 10%, demonstrates that the group is homogeneous.

Calculated value of the Student test for paired samples, the⇒ experimental group between the initial and final testing is 3.18 and there are significant differences between the averages of two tests, $p < 0.01$.

Calculated value of the Student test for paired samples in the⇒ control group between the initial and final testing is 2.86 and there 0.05.< are significant differences between the averages of two tests, p

Conclusions:

By using gymnastics means in physical training programs could develop more abdominal muscle force to skiers, children category, which could contribute positively to maintaining a better balance in sliding.

Through gymnastics means in physical training programs, they have proved successful and beneficial development of the of the back muscles and the arms muscles of children, the final tests showing the increase in force development indices of these muscle regions.

In conclusion, the general physical preparation on land at alpine skiers beginners, must be multilateral, lead to the development of general motor skills and specific psycho-motor skills of children at 8-10 years.

Using of basic gymnastics exercises and acrobatic gymnastics exercises in physical training programs, on land preparation at 8-10 years skiers, contributes to the development of motor skills indices of general skills and specific psycho-motor skills at age of 8 -10 years. Through this experiment we demonstrated the development indicators growth, the increase muscle strength, specially for back and arms muscle regions.

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EXPERIMENTAREA APLICĂRII PROGRAMELOR DE PREGĂTIRE FIZICĂ CU MIJLOACE DE GIMNASTICĂ LA SCHIORII ALPINI DE 8-10 ANI

Cuvinte cheie: programe, mijloace, gimnastică, pregătire fizică, schiori

Rezumat: Lucrarea își propune să demonstreze influența benefică a exercițiilor de gimnastică în cadrul antrenamentului de pregătire fizică la schi alpin, la categoria copii, printr-un demers experimental de testare a calității motrice forța, la nivelul musculaturii trunchiului. Forța musculaturii abdominale și a musculaturii spatelui este o coordonată importantă pentru menținerea poziției aerodinamice în alunecarea pe schiuri și reprezintă o condiție de bază în vederea păstrării echilibrului în alunecare.