THE RHYTHMIC STIMULATION DIAGNOSTICS CAPABILITIES FOR TEN YEAR OLD GIRLS

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Abstract:
The work presents diagnostic and stimulating rhythmic skills 10 year old girls. The impact of intervention programs on rhythmic aerobic capacity, we examined the level of theoretical and empirical basis for the three tests of rhythmic coordination skills. We pointed out the possibility of the development of rhythmic skills by 10 year old girls locomotor activity intervention program aerobics. We also point to the possibility of re-education process as aerobics correction of ADHD children younger school age, which is designed to grant VEGA 1/0769/13. The quantitative analysis we have seen positive changes in level sets of experimental subjects.

PROBLEM

The aim is to diverse approaches to maximize penetration into the essence of coordination - rhythmic abilities and consequently their development in different age groups. Based on many researches are sensitive period for the development of coordination skills and resources for their development. One possible means of developing rhythmic skills is aerobics. In this paper, we focus on the 10 year old girls, so we can talk about childlike aerobics.

Children aerobics is a young recreational sport, with which there is little experience, is currently underdeveloped, there is good teaching material, so most instructors are reliant on their own experience and improvisation. The term childlike aerobics Lenková et.al [4] states that it is a variety of exercises to music, based primarily on adult aerobics, but also from different physical games, gymnastics either the primary or rhythm, dance and physical education at all. Unlike abroad but in our emphasis on mass sport. The old custom of giving at present a good basis for the development of child recreational sports. Childlike aerobics focuses primarily on non-violent children improve motor skills - agility, flexibility, rhythm, to improve their endurance, strength and mental movements. It may also be one of the means to correct behavior disorders of children, Chovanová [3]. By age Perutková [6] recommend that children be divided into categories. Our volunteer had are in the category of 9-13 years, in which we talk about aerobics as such, which improves coordination of movement, spatial orientation and rhythm of movement. Based on the results of the research motor testing that is performed on the entire population, we can conclude that senzitívne term development of rhythmic skills of girls age 9-11 years, what is the age of the research participant. Rhythm in the general population is relatively well developed. For special motion action is necessary to develop rhythmic skills special means. Normal school physical education improves only a rough differentiation of muscle rhythm, subtle sensations can be achieved only by special means. A sense of rhythm is trained on Holtz [2] . For optimum development of rhythmic skills decisive criterion for the selection of exercises and their variations should be novelty,

the irregular, level, change the rhythm and the rhythm arising difficulty. Aerobics meets the following criteria.

Our research problem we formulated in the following questions:

1. What is the level of rhythmic ability 10 year old girls in selected tests of rhythmic skills?
2. It will have a childlike aerobic - exercise to music a positive impact on stimulating rhythmic skills?

METHODOLOGY

The aim of our study was to determine whether aerobic suitable and manageable for children younger school age, or will positively encourage rhythmic skills.

The task was to develop and verify the hours practice aerobics and determine the level of mastering the basic elements in the age group of 10 year old girls and diagnose the level of rhythmic skills before and after the experimental program.

Pedagogical experiment was conducted in the experimental group of girls E, which consisted of 21 female students of Class 5A school Mirka Nešpora. Their average age was $10,2 \pm 0,5$ rokov. Physical education were 2 times a week and 1 week went to aerobics class ring. Received 32 intervention programs aerobics. The control group (K1) consisted of 23 female students 5B class at the same school. Their average age was $10,4 \pm 0,5$ rokov. Physical education were 2 times a week. The girls did not pay any active sport leisure. Both sets of girls participated in two testing phases in the same day, at the beginning and end of the school year.

We knew that aerobics is for 10 year old girls something completely new. Therefore, we have an entire application program, aerobics divided by month as follows:

1 - 2 month (September-October)

Purpose of exercise: teach children the basic elements and rhythmic gymnastics, exercise to music. We initially trained the children songs and gradually we went to music suitable for aerobics, which moves in the pace of 122-126 bpm

3. – 4. month (november-december)

Purpose of exercise: The Children learn basic posture, basic steps aerobics, total body coordination, awaken in them the joy of movement to monitor the development of motor skills.

5 - 8 month (January-March)

Purpose of exercise: The good posture, coordination of movement, capturing the rhythm, practicing basic AE elements, the basic AE terminology, simple choreography.

9 - 10 month (April-May)

Purpose of exercise: The simple choreography, practice orientation in space, the overall management of aerobics

Rhythmic skills we investigated three rhythmic tests recommended Belej – Junger [1] Lenková [5] for the 10 year old girl.:

T1 - Nonrhythmic drumming

T2 - Drumming hands and feet

T3 - Defected the circles around objective

The observation, which took place during the research of the instructor and the position of the observer level we watched interest of girls in aerobic exercise while we subjectively assessed level of mastery of basic aerobic steps.

For the evaluation of data obtained from testing, we used basic methods of mathematical statistics. The characteristics of the location, we used the arithmetic mean. In comparison results of testing input and output files, we used paired t-test and between files unpaired t − test. Results were assessed at the 5% (*) and 1% (**) level, respectively.

Statistical methods were processed in the program PASW Statistics 18 The results were processed by the analysis and synthesis of knowledge and their experience.

RESULTS AND DISCUSSION

In this section presents the input and output data of our study, an experimental set of indicators girls (E1) and control group (K1).

The measured average input value in the test „**nonrhythmic drumming**" (Table 1) in the set E was 10.95 cycles and cycles set to 10.81, as the mutual comparison was not statistically significant. We can say that both files are on the same input level. Output testing, we found statistically significant changes in the experimental set E1, which achieved an improvement of 1.9 cycle, which we confirmed the Wilcoxon test and the significance of differences between sets E1 - K1 at 1% significance level. Standard deviation in both files we pointed out that the proband was quite significant differences in the number of cycles (6-15). The set E1 downstream of testing, the minimum value improved by 3 cycles, it was the same volunteer had a maximum value remained unchanged. When comparing the number of cycles between the sets of EK at the end of research, we found a statistically significant difference at the 1% significance level in favor of set E, which reached an average of 1.80 cycles more.

Table 1. Nonrhythmic drumming (c) = the result of the test, the number of cycles performed correctly

period	n	$\overline{x}$	(+)	p	s	max.	min.
E -Z	21	10,95	**+ 1,9**	**	2,04	15	6
E -K	21	12,85			1,69	15	9
K -Z	23	10,81	+ 0,2		1,53	15	8
K -K	23	11,05			1,24	14	9

Legend :

E-Z = initial measurement of the experimental group $\overline{x}$ = Arithmetic mean
E-K = experimental measurement output   s = Standard deviation
K-Z = input measurement control group   max. = maximum measured values
K-K = output measurement control group   min. = minimum measured values
(+) = improvement   n = multiplicity   ** - statistically significant values p < 0,01

Readings input measurements in the test „Drumming arms and legs" (Table 2) indicate that the average value of the experimental set (E) was 10 cycles and comparative set of girls (K) was 11.24 cycles. The difference between the values in the input files when testing was statistically significant in favor of 1.24 K cycle. The test results of final measurements have confirmed the importance of the intervention program, aerobics, because there was an improvement in the average value in the set E of 2.15 cycle, thereby Girls experimental set achieved a better result than K, even if they are in repeated measurements improved by 0.61 cycle. In an analysis has different values, we can conclude that the set E has a larger number of girls who have reached at an output test cycle value of 10, as in the control group K, which is confirmed by the minimum and maximum values obtained in individual files.

Table 2. Drumming arms and legs (c) = the result of the test, the number of cycles performed correctly

period	n	$\overline{x}$	(+)	p	s	max.	min.
E -Z	21	10	+2,15	**	2,05	10	5
E -K	21	12,15			1,87	14	8
K -Z	23	11,24	+0,61	*	1,99	16	7
K -K	23	11,85			2,01	16	10

The level rhythmic abilities change your own **rhythm evaluate test defected circles around the target.** Process and content of the test is to test subjects compared with previous tests lightest, because it is a natural locomotion – running. The measured average value of E was set to 1.58. A statistically significant difference was 0.74 s in this test at 1% significance level in favor of this test file to the entry in the measurements. Based on the output measurements may be said that in the set E has improved time of 0.59 s, which is statistically significant at the 1% level (Table 3). Based on the improvement of the average value of the set E given K level, thus the difference between the files was not statistically significant.

Table 3. Defected circles around the target (r) = the result of the test, the difference between the duration of 1 and 2

period	n	$\overline{x}$	(+)	p	s	max.	min.
E 1-Z	21	1,58	+0,59	**	0,59	2,80	0,90
E 1-K	21	0,99			0,55	2,00	0,40
K 1-Z	23	0,84	-0,11		0,43	1,80	0,10
K 1-K	23	0,95			0,39	1,60	0,40

In conclusion, the experimental set slightly lagging at input measurements for the control group. Although there were differences, so only minimal and not substantive significance. Based on the analysis of output measurements, we found that there was an improvement in the level of rhythmic skills set 10 years in participants who received the experimental intervention program of development of rhythmic skills. A statistically significant difference after treatment intervention program aerobics we found in the experimental set E, ie, 10 year old girls in all three tests at the 1% level of significance. In the control group in tests 1, 2 there was a slight improvement, but in test 3 to deterioration. Based on these facts after the experiment, we can conclude that *our assumption of positive stimulation rhythmic abilities aerobics we confirmed.*

Based on expert observation we come to it (Table 4) that the girls had problems with rhythm and pace. During the first and 2 7 month teach girls (the d.) the required level, 3 - 4.mesiac 13 d., 5 - 8 month 18 d. and 9 - 10 month 25 d. This problem was solved by the loud girls practiced counting, clapping, and music on their own silent counting and finally only with music.

What level of mastery of basic aerobic steps, we must conclude that their girls have mastered quite quickly. We started with training until 3 - 4 month, where 15 girls had the basic steps AE no major problems. In 5 - 8 month, they added another 3 and the beginning of 9 month they have all mastered very well.

In November we started with the creation of simple choreographies that were already learned steps. In rehearsals, we proved the block method, ie first learned one block, which we repeated several times. For the next hour, we repeated the old block and we learned and new

ones have joined. Later we learned the lesson two blocks and more. Coping with a step variation girls good advice, but sometimes we had to turn off the music and practicing a slower pace counting. Mastering exercises sequence variations in each month was similar to basic steps.

Major problems encountered in orientation in space, we started rehearsing in January. Girls had problems with the skills to move to the right and left side, which led to poor coordination of movement. For some hours we lost more time repeating, and therefore we chose short variations, which mostly consisted of 1-2 blocks applied to the right and left sides. Many times it happened that the girls learned assembly on the right side, then slowly to the left, and when we started to combine both sides, we had to learn everything step by step from the beginning.

Table 4. Level of mastering exercises

Viewed indicators	1. – 2.month	3. – 4. month	5. – 8. month	9. –10. month
	n	n	n	n
Rhythm and tempo	7	13	18	21
Basic steps AE	0	15	18	21
Joining to choreography	0	15	17	21
Orientation in space	0	0	13	19
The overall level of coping	0	0	0	19

CONCLUSIONS AND RECOMMENDATIONS

Our task was to develop and validate aerobics classes in practice, contribute to the development - stimulating rhythmic skills 10 year old girls. The aim was to develop sub-rhythmic skills, such as developing reproduce the specified rate, the ability to keep rhythm in stable condition and the ability of owner changes in rhythm.

Based on the analysis of output measurements we can conclude that there was an improvement in the level of rhythmic skills set 10 years in subjects who received the experimental intervention program of development of rhythmic skills. A statistically significant difference after treatment intervention program aerobics we found in the experimental set E1, ie 10 year old girls in all tests at the 1% level of significance. In the control group we observed differences were not statistically significant. We conclude that the deliberate action of us assembled aerobics intervention programs to develop rhythmic skills have improved the level of latent variable in a hypothesis is confirmed.

Experts recommend children everyday movement to reduce the risk of disease (obesity, high blood pressure, high cholesterol). Is the most widespread movement, which we attribute nature of children, ie move to the rhythm, music. We found that if aerobics adjusted to the proper form, exercise, leads sound specialist trainer that children can adapt and positively motivate them, aerobics is suitable for all categories of children. In our subjective evaluation gymnasts have mastered these lessons very well without any problems. Based on observation, we found a very positive response of children. Very positive impact on children after page psychic, but also physically.

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