

Jelena Ševkušić

PHYSICAL ACTIVITY FORMS AND METHODS AMONG "CHIGOTICA" PROGRAM ADOLESCENTS

Unbalanced energy intake and energy consumption generally results in increased body weight. Lack of activities during childhood and unbalanced diet is the most common cause for children overweight which often results in serious health problems. To prevent these health problems, The Fund Health Serbia's medical committee evaluates children 12 to 18 years old to determine body mass levels. If body mass level has increased over 97 percentiles, children are entered into a three week program which includes both carefully designed diet program with primary goal to reduced calorie intake and increased physical activities.

"Chigotica" program is designed as a school of healthy life in order to change bad life habits. The main problem of obese children from the perspective of sports educators is their reduced physical involvement in everyday life. Children often replace all physical activities with "virtual activities"; playing on the playground is being replaced with computer screen. "Chigotica" program aims to get kids physically active and to experience the magic of sports, to get to love the sport and to continue an active life. For this purpose specifically, with moderate intensity, gradually and precisely dosed, following activities are being organized:

Walk - Considering that they are obese children, the best form of action for them is to walk with moderate intensity, which we implement in this program. Targets for a quick walk are set to a length of 3 to 7km in 40 to 60 minutes. The physical loading is increased from the first to the last days through a combination of increasing the length of the walk, increasing the speed and changing the terrain.

The first walk is informative and is used to provide essential advice on breathing (the first step to inhale through the nose, followed by two exhalations through the mouth whilst taking the next two steps) to obtain more oxygen. Other advices relate to the proper way of walking uphill and downhill and the selection of appropriate clothing and footwear. The first walk takes 35 minutes on a trail of 3km over flat terrain.

Gym mat exercises for development- Besides the development of aerobic power, physical activity has a positive effect on the whole organism especially on

the locomotor system; strengthening the muscle, increased movement in the joints and strengthening the bones (which become firmer and maintain levels of calcium), therefore reducing the possibility of injuries and bone fractures. Exercises for shaping and strengthening the muscles are activities that are included in all of this.

This activity is organized in the gym on tatami mats and made up of 30 specially selected and balanced exercises. The exercises cover the entire musculature in 45 minutes 3 to 8 repetitions for each exercise and a change of pace dictated by the performance coach.

The exercise routine consists of warm-up exercises, stretching, strengthening and coordination. The physical load is of moderate intensity and this dictates the pace at which the exercises are performed.

The exercises in the pool - Exercises in water have the goal that the water resistance engages the muscles over the whole body: breathing exercises, chest muscles, shoulders and arms, the stomach and the back, the pelvis and the leg muscles. They consist of a combination of various movements: cyclical (walking and swimming), various variations, exercises for strengthening, the arms and shoulders, the torso, pelvis and leg exercises and stretching exercises for the arms, torso and legs.

When exercising for stretching and increasing mobility it is important to perform exercises in the water, because water allows easier movement in the joints and thus effectively results in increasing the flexibility in all joints.

These exercises will be done daily for 45 minutes in the morning. Each day, the physical load is increased: An increase in the speed of swimming, an increase in distance, a change in the style of swimming, a higher number of repetitions of exercises, an increase in the speed of performing the exercises, an increase in an amplitude of performance the exercises, the introduction of additional exercises and a combination of two or more of the above methods to increase the load.

In addition to strengthening muscle groups there are stretching exercises which aim to enhance mobility in the joints. Every 7, 14 and 19 days there will be organized competition in swimming (speed and technique), relay games, jumping...

Swimming is a cyclical activity that allows movement through the water and in the horizontal position where the spine is relieved of pressure and as such, this activity is favourable for obese children as nowadays they exhibit changes associated with a lack of movement in the spine. The distance swum, as well as swimming speed, should depend primarily on the prior knowledge of swimming, as well as the style of swimming. We can influence and improve swimming techniques with special emphasis on proper breathing and especially the mandatory exhalation under water. The front crawl swimming technique should be learnt during of the program.

Swimming training is intended for all children who come to the program as non-swimmers. Training includes proper breathing, footwork, arm work with assistance boards for swimming, floating, swimming alone and jumping into the water.

Field games, sports games and outdoor activities - This type of physical activity is particularly suitable for children because it is in the nature of children to play. Outdoor activities are designed to train children in sports such as basketball, volleyball and soccer. The goal is not only training in a particular sport, but also socialization, group membership, developing a competitive spirit and the like.

Classes are aimed at training in some sports games. The introductory part of the class is set aside to warm up the muscles and prepare for physical effort as well as to prevent injuries through various forms of running, walking and stretching exercises, all lasting 10 to 15 minutes, followed by 30 minutes after sports training following the schedule given in Table 1.

Table 1 Training in sports during the program

First week	5 days training of basketball	7th day - games
Second week	6 days of volleyball training	14th day - games
Third week	optional sport or playing already learned protected	19th day - testing

Optional sport may be soccer, badminton, basketball or volleyball.

In addition to regular daily exercise, in the program of physical activity are field games (socializing in nature) which can replace some forms of exercise and at the same time offer some refreshment on a psychological level, or break the routine of cyclical activity and prolong the physical activities of the children with them spending more time outdoors.

In addition to the development of aerobic fitness and the development of muscle mass, the role of physical activity is that the osteoarticular system receives adequate support for increased activity. By increasing muscle mass more calories are burned during the workout. A larger muscle mass allows for more calorie spending even when the body is at rest, which will increase the basal metabolic rate. Physical activity allows the release of fat from fat cells where they are stored and helps to reduce and later, maintain body mass. This process is called lipolysis and is of great importance if it even increased the number of calories spent. With varied activities monotony is avoided and interest increased.

After seven days the first results becomes visible since children start accepting and welcoming activities, start to effectively use scientific techniques and eagerly participate in team sports. Final results are evaluated after 21 days by measuring body weight and determining improvements in physical abilities. In this study, there were 83 participants of both sexes, with average age of 14.39 years. The results are presented in Table 2. Body composition was measured using *impedance bioelektri In body 230*, and circumference tape measure. The average value of anthropometric measures are also presented in Table 2, body weight, Shuttle run test (aerofit), Sit-ups

in 30 seconds, flexibility (Sit and reach test), balance, long jump, Bent Arm Hang and tap (Reaction Tap Test) on the initial and final, and the difference after 21 date of application programs, "Chigotica".

Table 2. Results of body mass and physical abilities on the initial and final

	N	Mean	Mean	t	Sig.
body weight 1	83	91,09			
body weight 2	83	84,26	6,83	5,15	,000
aerof1	83	162,97			
aerof2	83	248,55	-85,57	-12,85	,000
Sit-ups 1	83	16,89			
Sit-ups 2	83	20,12	-3,22	-8,11	,000
flexibility 1	83	36,61			
flexibility 2	83	38,27	-1,66	-2,47	,016
balance 1	83	8,96			
balance 2	83	10,14	-1,17	-1,64	,104
long jump 1	83	129,48			
long jump 2	83	135,24	-5,75	-2,50	,014
Bent Arm Hang 1	83	5,82			
Bent Arm Hang 2	83	8,06	-2,24	-5,15	,000
tap1	83	3,65			
tap2	83	3,3399	,31	14,47	,000

As can be seen from the table, an average weight loss was 6.83 kg. The results obtained for physical abilities also show the improvements in relation to the initial measurements. To Shuttle run test the improved result for 85,57 sec, Sit-ups in 30 seconds the improved result 3,2 times, flexibility for 1,6cm, balance 1,17sec, long jump for 5,7cm, Bent Arm Hang for 2,24sec and tap for 0,31 sec faster.

The program is not designed to be effective only for the duration of the program "Chigotica" but it is also designed to modify children's long term habits. Therefore it is important that practical and theoretical knowledge acquired during "Cigotica" program are utilized after children return to their surroundings. After completing

the "Chigotica" program children tend to more evenly and with greater confidence participate in school's physical activities with children of their age, due to better physical activities habits, better stamina, balance and coordination. Through a series of lectures, from the areas of medicine, physical activities, psychology and balanced diet children acquire knowledge on a balanced life style and how to apply it in everyday environment. For the long term success many other factors have significant role, such as family impact, surrounding's impact and child's determination to apply and maintain acquired knowledge and habits. Only multidisciplinary approach to the children overweight and permanent changes in children habits may result in successful solution to the children's overweight problem.

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