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Improving the Efficiency of Pre-Competition Preparation of Deaf and Hearing-Impaired Athletes Who Run Mid-Distance

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Abstract: Physical education and sports play a great role in the development of the younger generation as physically healthy and mentally mature. In our republic, attention to the development of adaptive physical education and sports has risen to the level of state policy. The laws adopted in this regard open up a wide path for the development of adaptive physical education and sports. Our athletes are raising the flag of our country in Asian and world arenas. From year to year, a lot of scientific research is being conducted in the field of adaptive physical education and sports, training sessions and techniques and teaching methods in adaptive sports are being improved. Among other adaptive sports, the middle-distance running type of sign language athletics (athletics for the deaf and hard of hearing) has also developed significantly.

Movement should be viewed as certain methods of human activity. For example, the training activity of the middle-distance running group consists of mastering the system of movements provided for in the program of educational institutions.

Keywords: Surdo track and field, adaptive physical education, physical qualities, running technique, running speed.

Introduction: In connection with the current surge in self-awareness of the Uzbek people, the restoration of national and cultural values, the implementation of traditions and rituals by many segments of the population, it is necessary to approach adaptive physical education, in particular, deaf athletics, based on the

needs of the time and the spirit of national traditions, based on the provision of knowledge and education.

Purpose of the work: To achieve high sports results by effectively planning pre-competition training for deaf and hard of hearing middle-distance runners.

To compare the physical fitness of the control and experimental group participants before and after the study.

Tests	Control group				Experiment group			
	Before the study	After the study	The difference	%	Before the study	After the study	The difference	%
100	18,6	16,2	2,4	12,9	18,5	15,6	2,9	15,7
200	37,1	32,3	4,8	12,9	37,1	30,95	6,1	16,5
600	1,04	95,1	8,9	8,6	103,8	93,4	10,4	10
2000	5.64,3	5.49,0	15,3	2,7	5.64,2	5.34,7	29,5	5,2
j/t/u/s	169	189	20	11,8	168	195	27	16,1

Nowadays, the daily growth of sports results in the world arenas shows the need to pay attention to the methodology of further improving the annual training cycles. The sports results of athletes are directly related to the level of their physical fitness. Because it is difficult for an athlete to achieve high results in sports without developing the qualities of speed, strength, endurance, flexibility, agility. It is also necessary to take into account that each type of sports training depends on other types, is required by them and, in turn, affects them. For example, the athlete's technique is directly related to the level of development of physical qualities, namely strength, speed, flexibility, etc.

The level of technical training of deaf and hard of hearing runners is determined by the efficiency and economy of their movements. Based on the analysis of running technique, two steps or strides are taken as a unit of movement. Each stride consists of two support periods (using the left and right legs) and two take-off phases.

During running, as a result of the interaction of internal and external forces (the external forces include the resistance of the environment, the force of gravity and the reaction of the support), the runner's body constantly experiences vibrations in the vertical and horizontal directions. In addition, one of the tasks of a deaf and hard-of-hearing runner is to ensure the straightness of movements, while avoiding excessive body vibrations in the lateral and horizontal directions.

A good running technique can be characterized as running in which all movements look efficient, are smooth and calm, and the forward thrust is carried out in a straight line, without any sharp, intense tension. This is achieved by sitting on a leg that is significantly bent at the knee. In this case, the sole of the foot is pressed against the front of the base of the toes, and in the next position, the entire sole of the foot and toes are lowered together. The feet are placed as straight as possible, without turning outwards, which can significantly reduce lateral vibrations. For effective forward movement, it is important to fully straighten the leg in all joints during the push, which is achieved by swinging the leg forward and up in a free position. In this case, the thigh is raised to the maximum height for this type of running. The longer the running distance, the lower the value of the thigh lift should be. It is ensured that the calf area is in a relaxed state.

METHODOLOGY

During running, the arms are bent at approximately a right angle at the elbow joint, and this position can be changed during the run. The main task of the arms during medium and long-distance running for deaf and hard of hearing people is to maintain a stable body position.

The length and frequency of the steps are noted as important components of the running technique. The ratio between them is required to be optimal, that is, to ensure a natural and rhythmic running. The results of the experiment show that the average length of the steps during the 800-meter run in the leading deaf and hard of hearing athletes is 2.00–2.10 cm, and in the 1500-meter run it is 1.90–2.00 cm.

During the run, some deaf and hard of hearing runners have a low start when the start is made along separate running tracks, while in all other cases, high starts are

recorded in middle-distance running. After the start, speed is usually gained in the first 30-40 meters, and the movements of deaf and hard of hearing runners resemble those of sprinters. During the run in the turning areas, the body of deaf and hard of hearing athletes is slightly tilted forward, the front part of the right foot is directed more inward, and the elbow of the right hand is moved away from the body.

During middle- and long-distance running, breathing is carried out through the nose and mouth. The breathing rhythm is coordinated with the running rhythm. In conditions of increased oxygen demand of the body, it is necessary to accelerate the breathing rhythm. (Features, tactical options used by them) are important to consider. During the run, it is necessary to take into account various external factors (weather conditions, the condition of the running track, the relief of the cross-country track, the indicative reaction of the spectators, etc.).

In order to master this knowledge and use it in the process of training and competitions, a deaf and hard of hearing runner is required to draw up the most correct tactical action plan for certain distances, draw up a running schedule and determine a number of basic tactical options for use during the run. During the competition, the athlete is required to monitor the movements of his main rivals along the distance, be able to accurately target their movements in a timely and correct manner, correctly determine the time to increase speed when approaching the finish line, and be able to strive to cross the finish line earlier by using any tactical options. This requires deaf and hard of hearing runners to be able to adapt to any changes in the weather, adapt to the condition of the running tracks, and so on.

Tactical knowledge and skills of deaf and hard of hearing athletes are acquired from various sources, but the most important are special training, assessments and controls, as well as calendar competitions.

The tactical tasks that a deaf and hard of hearing runner sets for himself during training and competitions can be very diverse. For example, running several laps or sections of a certain distance at a predetermined speed; starting the run quickly and taking the desired place in the group of opponents; overtaking opponents in various situations, changing the rhythm of the run; running the second 400 meters faster and first, and so on.

How the time distribution is carried out for the deaf and hard of hearing in the 800-meter race is, of course, relatively simple. In turn, in this case, runners run the second 400 meters 3-4 seconds worse than the first.

Currently, it is noted that in competitions of any scale, many deaf and hard of hearing runners participate, approximately equal in strength, and in this case, only the athlete who has relatively better tactical preparation and can take aim in a thoughtful position during the distance race wins.

It is noted that many deaf and hard of hearing runners, even famous runners, have come a long way in mastering tactical skills through trial and error. Among deaf and hard of hearing runners, there are representatives who can serve as role models in each era. Among them, one can include Hall Andrew, Christensen Tage, Ridinger Maurice, Pedersen Willy, Bond Lev and others.

Unfortunately, in many cases, their accumulated tactical experience has not been sufficiently analyzed and summarized, and in turn, effective application of these experiences to a wide range of athletes is not possible.

What is tactical training? It is the process of mastering special knowledge, acquiring skills and abilities, and applying them in a purposeful manner in solving set goals - achieving the expected results or taking certain places.

What is a deaf and hard of hearing runner required to do when preparing for competitions? First, in the preparation process, it is necessary to take into account the main features and laws of running at the selected distance. Second, it is necessary to take into account one's own strength and capabilities, level of training, special running qualities, and psychological readiness. Third, it is necessary to take into account the specific characteristics and practical capabilities of one's opponents, their level of preparation, and psychological state. In individual cases, that is, depending on the complicating situation and the runner's level of preparation, other running options can be used. Thus, in setting the world record for the deaf and hard of hearing 800-meter race (1:49.7), Bond Lev covered the first 400 meters in 55.1 seconds and the second 400 meters in 54.6 seconds.

Deaf and hard of hearing athletes include 800 m and 1500 m in middle-distance running, and 3000 m to 10000 m in long-distance running. They are held in the stadium or at cross-country distances. The running process can be conditionally divided into: start and acceleration from the start, running along the distance and reaching the finish line. The basics of running technique are the most conservative, they have not changed significantly for many centuries. Studies conducted to study the individual technique of leading athletes have provided the basis for only minor changes. The main factors that influence the running technique, the work of certain muscles in creating running speed,

and the biomechanical parameters of the main characteristics of running technique have been identified.

The basis of modern running technique is: a) high speed of movement; b) maintaining this speed throughout the entire running distance with minimal energy expenditure; c) striving to achieve freedom and naturalness in each movement. It is necessary to talk about the optimal step length for each type of running; in medium-distance running it is less than in short-distance running and more than in long and ultra-long-distance running.

Discussion and results. The intensity of exertion and economy of movements are one of the most important indicators of running technique. They are associated, on the one hand, with the speed-strength training of the runner, and, on the other hand, with the economy of energy reserves. With increasing distance, the factor of economy of movements prevails over the factor of work intensity, since the length and pace of steps decrease. Here, the athlete's ability to work for a long time with optimal intensity comes to the fore. Deaf and hard of hearing athletes start running for medium and long distances from the start. According to the competition rules, in this case, a high start is used, consisting of two commands. Start and start acceleration. At the command "Start!", the runner takes the initial position near the start line. The kicking foot stands in front of the line, and the stepping foot is placed 2-2.5 palms behind. The body is bent forward by about 40-45°, the legs are bent at the hip and knee joints, the UOM is located close to the leg in front. The position of the runner's body should be comfortable and stable. The arms are bent at the elbow joints and take the opposite position relative to the legs. The runner's gaze is directed approximately 3-4 m ahead, towards the track.

After the starter's signal "March", the athlete begins to run actively. The athlete starts to run in a bent position from the start, then gradually straightens his body and assumes a running position, with a body bend of 5-7°. The starting acceleration depends on the length of the distance. In the 800 m race (where deaf and hard of hearing athletes run the first 100 m along their own lanes), the runner's task is to quickly run this distance in order to take the first place from the edge of the running track. Here we can distinguish: 1) the starting acceleration itself, which lasts about 15-20 m; 2) active running, which continues until the deaf and hard of hearing athlete reaches the general lane, where the running speed approaches the pace. Typically, the first 100 m of the 800 m race is slightly faster than the running speed of other distances, even the speed at the finish line. At other distances, the starting acceleration is smaller, around 10-15 m, and the main thing here is to take a place on the edge of the track due to rapid acceleration, not to run along the second track without increasing your distance, and then switch to running at a pace appropriate to the training of the deaf and hard of hearing athlete.

Running along the distance. The technique of running on straight sections of the distance is slightly different from the technique of running on turns. A good running technique on the distance can be manifested by the following features:

- a slight forward tilt of the torso (4-5°);

- a relaxed shoulder girdle;

- the shoulder blades are slightly brought together;

- the back is slightly naturally arched;

- the head is held straight, the muscles of the face and neck are not tense. This position helps to run optimally, eliminating excessive muscle tension. When running, the arms are bent at an angle of 90° at the elbow joint, the palms are slightly clenched. The movements of the arms resemble a swinging movement, but it is necessary not to raise the shoulders. Directions of movement of the arms: 1) forward-inward, the palm of the forward-moving arm reaches approximately the middle of the body (to the chest); 2) backward-outward, the arms are not extended far to the sides. In general, all movements of the arms should be closer to the direction of running, since excessive movements of the arms to the sides lead to the body swaying to the sides, which negatively affects the running speed and causes excessive energy consumption. The angle of movement of the shoulder bone depends on the running speed, that is, the higher the speed, the more agile and wider the movements. It should be remembered that it is a mistake to raise the arms high both in front and behind. The amplitude of the shoulder oscillations can be determined by the movement of the elbow joint: as soon as it starts to move more upward - this is the limit of the amplitude.

The technique of foot movement in running should be considered from the point of placing the foot on the support. In medium and long-distance running of deaf and hard-of-hearing athletes, the foot is placed from the toe to the outer edge of the palm, and the entire foot is placed on the palm until the moment of vertical position. The palms of the feet are placed parallel to each other, one palm's width apart, the big toe is facing forward, the palms of the feet cannot be turned outward. The deaf and hard-of-hearing athlete should place the foot on the ground softly, not with a blow, but like a cat. When placing the foot on the ground, the knee joint is slightly bent. The length of the foot landing depends on the running speed: the higher the running

speed, the further the foot is placed from the UOM projection. Until the moment of vertical, in the depreciation phase, the leg bends more at the knee and hip joints. A slight decrease in UOM is observed. This movement can be compared with a spring, that is, the spring is slightly compressed, and then the opposite effect is obtained - the effect of elastic deformation. The feelings of deaf and hard-of-hearing athletes - they should imagine themselves as a spring that resists compression and, resisting, pushes the body from the support. After the vertical is completed, active straightening of the leg occurs first at the hip joints, then at the knee joints, and only then the foot is bent at the talus joint.

The moment of impact is considered the most important element in running technique, since the speed of running depends on the intensity of the forces and the angle of impact, the sharper the angle of impact, the closer the impact intensity is to the direction of movement and the higher the speed. The impact angle of impact for deaf and hard of hearing athletes during medium-distance running is approximately 50-55°, and at longer distances it increases slightly. The impact should be directed forward and correspond to the body tilt. In the running of deaf and hard of hearing athletes, the body tilt varies by about 2-3°, increasing at the moment of impact and decreasing during the take-off phase. The position of the head also affects the posture of the body: if the head is tilted too far forward, this leads to excessive bending of the body, tightening of the chest and abdominal muscles; tilting the head back causes the shoulders to deviate backward, reducing the efficiency of the kick and tightening the back muscles. The forward and upward swing of the free leg contributes to an active kick, which ends at the last moment of the kick. After the leg leaves the ground, it bends at the knee joint, the thigh moves forward relative to the vertical, the shin is almost parallel to the support. The angle of flexion of the knee joint of the stepping leg in the back step phase depends on individual characteristics and running speed: the higher the running speed, the more the leg bends at the knee joint. In this phase, the muscles involved in the landing are relaxed. After the vertical moment, the thigh of the stepping leg moves forward and upward. When the stepping leg is fully straightened, the shin of the stepping leg is parallel to its thigh. After the moment of active joint of the thighs (the take-off phase), the leading leg begins to descend, its shin is brought forward, and the foot is planted on the ground from the front of the foot. The trailing leg is actively brought forward, helping the UOM to quickly approach the place of landing, thereby reducing the braking force. It should be remembered that bending the leg at the knee joint during the transfer helps to reduce the length of the swing (the leg is a complex swing) and shorten the period of the transfer of the leg.

The movements of the runner during turns (sharp turns): - slightly lean to the left (towards the center of the turn);

- the amplitude of the left arm movement is slightly smaller than that of the right arm;

- the right shoulder is slightly brought forward;

- the step length of the left leg is slightly smaller than that of the right leg;

- the right leg is moved slightly inward; - the right foot is placed with the palm of the right foot turned inward.

At medium distances, the increase in running speed due to an increase in the step length is limited, since a very large step requires a large expenditure of energy.

The step length of runners is approximately 160-220 cm, depending on the distance and individual abilities. Running speed, as a rule, increases due to their pace, while maintaining the length of the steps.

CONCLUSION

Finishing. Deaf and hard of hearing runners for medium and long distances usually perform a finish line dash or sprint at the end. Its length, depending on the distance and the potential capabilities of the runner, is on average 150-200 m. During the finish line dash, the running technique changes slightly: the body leans forward, more active arm movements are observed. In the last meters of the distance, the movement technique may be impaired, as fatigue sets in. The effect of fatigue primarily affects the running speed: the pace of movements decreases, the support time increases, the efficiency of the kick and the intensity of the kick decrease.

The running technique and, first of all, the structure of the running step are preserved at all distances, only the ratios of the length and speed of the steps, kinematic and dynamic characteristics (depending on the length of the distance, running speed, anthropometric characteristics and physical capabilities of each deaf and hard of hearing athlete) change.

One of the most important parts of the training of deaf and hard of hearing athletes is physical training aimed at developing and educating the athlete's basic motor qualities. Usually, athletes with comprehensive physical development in deaf and hard of hearing athletics can demonstrate high performance. The principle of organizing the training process throughout the year is one of the decisive conditions for increasing the effectiveness of training and achieving high sports

results. Year-round training means that a deaf and hard of hearing athlete trains regularly, based on various planning options, for 12 months, and then allocates several months or weeks for recovery. Currently, there are three main options for organizing training throughout the year in deaf and hard of hearing athletics. In the first option, the year is divided into three periods: preparation, competition and transition periods. The results shown by the test subjects of the experimental group were an average of 18.5 seconds in the 100m race. 37.05 seconds in the 200m race, 103.8 seconds in the 600m race. 5.64.02 seconds in the 2000m run, and 168m in the standing long jump. The results of the study indicate that the developed MOT cycle is organized correctly. We recommend this MOT cycle for special surdo school athletics, sports sections, BO'SMs, and training of middle-distance runners for the deaf and hard of hearing.

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