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The Effectiveness of Warming-Up Activities for Athletes

Abdullah Emami[1] and Basima Farzam[2]
[1]Senior Assistant Professor (Pohanmal), Member of Physics Department of Education Faculty, Faryab University, AFGHANISTAN.
[1]Assistant Professor (Pohanyar), Member of General Professional and Technical Subjects Department of Engineering Faculty, Faryab University, AFGHANISTAN.

[1]Corresponding Author: abdullahemamy@gmail.com

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ABSTRACT

The positive effects of high heat on athletes can be seen dramatically. Athletes who are located in hot environments experience several changes on their bodies that can help improve the performance and physical recovery of the athletes. One of the positive effects of high heat on athletes is to increase blood circulation. In warm environments, the vessels of the body open and the blood flows in the best possible way in the body. This means an increase in the supply of oxygen and nutrients to the muscles, which can improve athletic performance. Also, heat can increase sweating in the body. By sweating profusely, athletes can remove toxins and waste from their bodies and improve the body's cleansing process. This can lead to increased exercise tolerance and reduced fatigue. Also, the positive effects of high heat on athletes include increased flexibility. In hot environments, body muscles become warmer and more moist, which increases flexibility and reduces the risk of muscle injuries.

In this research, we can examine the effect of high heat on physiological components such as body temperature, heart rate, perspiration rate and oxygen consumption.

Keywords- flexibility, heat, exercise, moisture, vascular and safety principles.

I. INTRODUCTION

As a beneficial and well-rounded physical activity, exercise is crucial for enhancing people's mental and physical well-being. For athletes, high temperatures can have a variety of benefits. Heat has the power to improve muscle strength and performance. The blood arteries widen and the blood flows to the muscles more effectively and quickly when the body temperature rises. Muscle strength and exercise capacity are increased as a result. The risk of injury to the body's soft tissues and muscles is reduced by warming them up. When muscles are warm, they become more pliable and less likely to stretch or tear. Muscles can become more flexible when heated. Low heat speeds up blood flow to the muscles and raises heart rate. This enhances cardiovascular health and makes it easier for athletes to perform better throughout training and competition. By warming up before activity, muscles become warm and more flexible, and the chance of harm to joint linkages is reduced. By warming up the muscles and the body, weariness lessens during and after activity. Also, by warming up after exercise, the muscles recover and the body recovers faster.

II. THE POSITIVE EFFECTS OF WARMING ON ATHLETES

What effects does the heat of the air have on athletes? What effects does sports training in the heat have on our body? Exercising in high temperatures can increase the physical strength of athletes and increase the heat tolerance in these people. Endurance sports in the heat can bring results. It is better to drink enough fluids while exercising in the heat so that you don't get into trouble. Use the high summer temperatures to your advantage. Exercising in the heat may have the same benefits as exercising at high altitude, according to new research. When exercising above sea level, your body

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must increase its red blood cell count to match the lower oxygen content in the atmosphere.

III. PRINCIPLES OF EXERCISE IN HOT WEATHER

Doing exercising in the heat enjoyable for yourself by observing the following principles. Exercising in hot weather has its own challenges, and you better take good care of yourself in order to enjoy the benefits of exercise and at the same time avoid the harm of hot weather. In this section, we offer you some tips for exercising in hot weather. Apply these principles and solutions to have a useful and effective sport in the summer. Don't forget to drink water and sports drinks. It is not easy to do sports in hot weather, one of the effective solutions that makes sports in this weather easier and more useful for you. Drink plenty of fluids. Water is the best drink option for exercise; But allowed sports drinks are also suitable and useful. To exercise outdoors and prevent heatstroke, you must first make sure that you get enough fluids. The human body consists of about 60 to 70% water and it is vital to maintain this amount of fluids in the body. But usually during exercise and activity, especially on hot days, about 2 to 3 percent of this amount of fluid is lost. To prevent dehydration, drink about two or three cups of water every 20 minutes. Of course, it is not only important to drink water during exercise, the most important thing is to eat enough fruits and vegetables during the day; Because drinking water during exercise is not recommended. Eating fruits and vegetables throughout the day provides the body with enough electrolytes and even reduces the need to drink a lot of water. Another great way to help hydrate your body is to eat a piece of fruit, such as an apple, orange, or even a carrot or celery.

IV. BENEFITS OF EXERCISE IN HOT WEATHER

Is there a special advantage to exercise in hot weather? Yes, there are benefits to exercising in hot weather. Training in hot weather helps acclimate the body to a wider range of temperatures and prepares the athlete to withstand the extreme heat of outdoor endurance activities such as marathons, cycling events and obstacle course races. Now we will tell you some benefits of exercising in the heat.

V. IMPORTANT TIPS FOR EXERCISING IN HOT WEATHER

To exercise in hot weather, you must take the following recommendations seriously:

- Never forget to drink plenty of fluids. As it gets much hotter outdoors this season, your body is more likely to lose more water, and sometimes without even realizing it. Also, preferably use water and drinks without caffeine.
- Never starve yourself. Eating healthy food is vital. Your appetite may decrease due to the increase in air temperature. In this situation, try to use lighter and smaller meals, but avoid long-term hunger.
- Be sure to wear light, bright and loose clothes while exercising. In these cases, linen clothes are the best choice. If physical activity in the open space makes you sweat a lot, it is better to choose clothes that are designed to repel body sweat.
- Never forget sunscreen before leaving the house.
- Avoid exercising for a long time in the morning and preferably choose the afternoon for this.
- When exercising, replace the lost salt in the body by choosing the right drinks.
- To exercise, choose paths or places that are shaded and avoid direct contact with sunlight as much as possible.
- Before starting the exercises, be sure to check the weather forecast report and if you hear any warnings about the increase in the ozone level or air pollution, preferably exercise at home and in a covered space because these pollutants cause serious damage to the lungs.
- Avoid exercising outdoors from 10 am to 3 pm. At this time, the weather is much hotter than other hours of the day and the risk of heat stroke is much higher. The best time to exercise is in the morning between 6 and 7 and in the evening between 7 and 9.

VI. THE EFFECT OF HOT WEATHER ON PHYSICAL ACTIVITIES

The hotter the environment is, the blood flow to the skin will be more and the blood volume of the muscles will be less. This decrease in muscle blood flow means less absorption of oxygen and fuel and less excretion of waste materials in the muscles, so a person with a low heart capacity - A vascular becomes active in hot weather, first it feels sluggish and heavy in its organs. Then the signs of extreme fatigue, severe dizziness, vomiting, misperception of the surrounding environment and finally shock appear. In trained people, the cardiovascular capacity is high, so the person can supply the blood needed by the muscles and subcutaneous areas. In these

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people, the threshold of sweating is lower and the ability to sweat is high. In this case, the body cools down faster, venous return increases, cardiac output remains unchanged or increases. As a result, these people have fewer symptoms in a hot environment. They will have better sports performance. The results of the studies show that women have less tolerance for exercising in hot weather and getting used to the weather than men.

VII. THE DIFFERENCE BETWEEN MEN AND WOMEN IN HEAT TOLERANCE

Compiled materials show that women are more vulnerable to heat, but in these researches, men with high physical fitness and women with low physical fitness were compared to each other. Since the efficiency of the cardiovascular system is considered the most important physiological factor in people's tolerance for exercising in hot weather, another research was conducted in which men and women were compared with each other who had the same cardiovascular efficiency. We can look through a few accessible terms in various dialects that we are currently familiar with. In the event that we were unable to find the specific and proper term in the source language, it is feasible to look for certain terms, which are near the objective term. At times, we can look for the storeroom phoneme of the terms also (Qani, 2024, p. 132). In this research, heat tolerance was shown to be the same among men and women. The ability to dissipate heat is vital in athletics, especially endurance sports. With the idea that women have less tolerance in this field, in the past, prohibitions were considered in doing endurance sports, but today it is clear that many indicators of the effect of high heat, such as an increase in the central body temperature and the heart rate, can be Aerobics depends on the person, not the intensity of exercise. The results of the studies show that women have less tolerance for exercising in the heat and getting used to the weather than men. The rate of sweating of women is more than that of men, and in response to hot weather, the heart rate of women increases more than that of men, which is effective in their endurance. As a result, the main factor of women's endurance in heat depends on their level of cardiovascular efficiency.

Some Avoid exercising in hot environments if any of the following apply to you:

1. You are old.
2. You have a chronic disease and you take a special medicine.
3. You are extremely obese.
4. You have little cardiac reserve (that is, your heart is not able to quickly regulate changes in your body in extreme heat, such as an increase in heart rate). Patients with heart failure and children under 4 years old usually have little cardiac reserve. They can easily become dehydrated, even by sitting in an overheated room or walking outside in hot weather.

VIII. CONCLUSION

For athletes, high temperatures can have a variety of benefits. Heat has the power to improve muscle strength and performance. Athletes' bodies undergo a number of changes when they are in hot conditions, which might enhance their physical recuperation and performance. Increased blood circulation is one benefit of intense heat for sportsmen. Without taking the appropriate safety measures, exercising in hot conditions can be hazardous. Elevated body temperature raises blood flow and oxygen delivery to muscles. Strength and athletic performance are enhanced by this increase in blood flow. Vasoconstriction and an elevated heart rate are caused by high heat. This increases the supply of oxygen and nutrients to the muscles and improves cardiovascular efficiency. High heat increases the flexibility and mobility of the joints. This helps athletes to perform movements with greater range and more precision. By increasing body temperature, the body's metabolic system works better and metabolic processes such as energy production and food metabolism are improved. In general, high heat has many positive effects on athletes and can help improve sports performance, reduce muscle injuries, and increase strength and physical endurance. However, the important thing to keep in mind is that high heat can also be dangerous, and if safety and temperature control principles are not followed, it may lead to serious problems such as heat damage. Therefore, make sure to follow the safety principles and closely monitor the temperature and environmental conditions during sports activities.

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