



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2023; 8(2): 149-150

© 2023 Yoga

www.theyogicjournal.com

Received: 02-05-2023

Accepted: 06-06-2023

Dr. Vijay Singh

H.O.D., Department of Physical Education, University of Kota Rajasthan, India

A survey study on the impact of hill running and circuit training for the development of aerobic fitness among women basketball players

Dr. Vijay Singh

Abstract

The aim of the present study is to find the Aerobic Fitness among women Basketball players of Kota University. The women Basketball players are between the age group 19 and 22 years. The sample for the study consists of 30 women basketball players of Kota University, Rajasthan. The sample is divided into the three equivalent groups of ten members each as two Experimental Groups, that is, Circuit Training Group (n = 10), Hill Running Training Group (n = 10), and a Control Group (n= 10). Circuit Training Group and Hill Running Training Group given training alternate day for 6 weeks and Control Group will be given general training. The 12 min. Cooper Test Run were conducted pre- and post-test to determine the aerobic fitness. In 12 min Run Cooper Test, the Hill Running Group has performed better than Circuit Training Group and Control Group and improved in Aerobic Fitness.

Keywords: Aerobic fitness, circuit training, hill running, women basketball players

Introduction

Basketball is a team sport. Two teams of five players each try to score by shooting a ball through a hoop elevated 10 feet above the ground. The game is played on a rectangular floor called the court, and there is a hoop at each end. The court is divided into two main sections by the mid-court line (10 second line). If the offensive team puts the ball into play behind the mid-court line, it has ten seconds to get the ball over the mid-court line. If it doesn't, then the defense gets the ball. Once the offensive team gets the ball over the midcourt line, it can no longer have possession of the ball in the area in back of the line. If it does, the defense is awarded the ball.

Basketball requires running for extended periods of time; therefore, your players must be able to produce energy aerobically. However, although basketball players need to be aerobically fit, they do not need to be distance runners. Be balanced in your approach to fitness. Set standards, yet do not place fitness ahead of the ultimate goal of developing good basketball players and a good basketball team. A fit, skilled team is much more powerful than a fit, unskilled team. Aerobic fitness has three primary benefits:

1. Creates good cardiovascular capacity and strengthens muscles and tendons
2. Allows players to run at a steady pace without incurring oxygen debt, getting really tired and being unable to recover
3. Allows your players to recover quickly from short sprints, making them more effective in the game.

Aerobic fitness is best developed during preseason training. However, if your schedule cannot be extended to include fitness in the preseason, you can integrate fitness exercises and activities into your weekly training sessions. This can be achieved through steady pace runs, ball skill drills or fitness circuits.

Sprinting up a hill works your entire lower body. The incline forces your legs to work harder than they do to simply run. Hill Sprints help improve conditioning, because continuously climbing the hill requires a great deal of energy and endurance.

Circuit training is developed by the Scientist Morgan R.E. and Adamson G.T. at University of

Corresponding Author:

Dr. Vijay Singh

H.O.D., Department of Physical Education, University of Kota Rajasthan, India

Leeds in the year 1957. This is resistance to develop the motor abilities such as strength, speed, and endurance. Circuit training is an exercise “circuit” which consists of prescribed exercises which includes for the upper body, lower back, abdomen, and lower body. It can be done with own body weight and using the resistance exercises such as Barbells and Medicine Balls.

Dr. Pradeep Kumar Lenka (2019) [4] studied that the Effect of Resistance Training and Circuit Training on selected Physical and Physiological Variables Among College Male Boxing Players Thirty male Boxers were selected from Jivan Jyoti Trust Education Society who have represented an inter collegiate tournament. It has proved that resistance training and circuit training are helpful for development of physical and physiological variables among boxers.

Pradeep *et al.* (2016) studied to find out effect of circuit resistance training on the upper limb muscle strength in Basketball attacker players. To study effect of Circuit Resistance Training on strength of triceps, deltoid, shoulder internal rotator muscles and on workout volume in Basketball attacker players exclusion criteria. Consent was taken from respective subjects to conduct the study. Respective protocol was followed for Group A (Controlled Group) and Gr values of subjects were assessed using 10 RM and Push up test. Paired t-test and unpaired t after 5-weeks of training period, the B group showed more improvement in Strength of Triceps ($P < 0.050$) considered significant, deltoid ($P < 0.040$) considered significant, shoulder internal push up performance ($P < 0.050$) considered significant, and deltoid ($P < 0.040$) considered significant, shoulder internal rotators.

Table 1: Comparison of Statistical Results among all Groups of Basketball Players in 12 Min. Run, that is, Cooper Test

Name of the Group	Statistical	Cooper 12 min run		M.I
	Tool	Pre-test	Post-Test	
Hill Running Group	Mean	1891.83	2178.5	11.98
	SD	100.85	107.28	
Circuit Training Group	Mean	1865.00	2018.3	6.48
	SD	88.94	78.44	
Control Group	Mean	1848.33	1793.33	-2.34
	SD	883.86	86.07	

Methodology

The sample for the study consists of 30 women Basketball players of Kota University, Rajasthan. The sample is divided into the three equivalent groups of ten members each as two Experimental Groups, that is, Circuit Training Group ($n = 10$), Hill Running Training Group ($n = 10$), and a Control Group ($n = 10$). Circuit Training Group and Hill Running Training Group given training alternate day for 6 weeks and Control Group will be given general training. The 12 min. Cooper Test Run was conducted pre- and post-test to determine the aerobic fitness.

Results and Discussion

It shows the pre-test mean 12 min. Run Cooper Test of Hill Running Group is 1891.83, Circuit Training 1865.00, and Control Group is 1848.33 and post-test mean 12 min. run test of Hill Running Training Group is 2178.50, Circuit Training 2018.30 and Control Group is 1793.33. In 12 min. Run Cooper Test, there is a significant difference between the Hill Running Training Group than Circuit Training Group and Control Group.

Recommendations

Basketball is an aerobic activity with addition an aerobic demands in activity. The aerobic fitness plays an important role to play the sport efficiently for longer period. The aerobic, or lower intensity training, will help build the Basketball player for a long match. When training to improve the aerobic system, using intervals to improve the anaerobic threshold is helpful. The following suggestions are made for the benefit of players, coach's academicians, and sports scientists. The researcher makes a suggestion on the part of the coach to use the above said development of circuit and hill running training programs for Basketball players.

References

1. Dabas, Sunil. Theory of Scientific Sports Training, Sports Publication, New Delhi.
2. Modak, Pintu. Scientific Principles of Sports Training, Lakshay Publication, New Delhi.
3. Reddy MS, Reddy PR, Pandey A. Effect of plyometric training, circuit training and combined training on selected muscular strength and muscular power among the secondary students. Int J Health Phys Educ Comput Sci Sports. 2012;7:71-3.
4. Lenka PK. Studied the effect of resistance training and circuit training on selected physical and physiological variables among college male boxing players. Int J Health Phys Educ Comput Sci Sports. 2019;35:155-7.
5. Yadav, Dev Raj. Scientific Principles of Sports Training, Angel Publication, Keshav Puram, New Delhi.
6. Borkar P, Keswani B, Vairagale M. The effect of circuit resistance training on upper limb muscle strength in basketball attacker players. Int J Rec Trends Sci Technol. 2016;20:25-31.
7. Singh, Brijesh Kumar. Scientific Principles of Sports Training, Angel Publication, Keshav Puram, New Delhi.