

EFFECT OF CIRCUIT TRAINING ON SELECTED PHYSIOLOGICAL VARIABLES AMONG HOCKEY PLAYERS

Dr. V. Saminathan

Assistant Professor, Sri Ramakrishna Mission Vidyalaya, Maruthi
College of Physical Education, Coimbatore, Tamilnadu

Cite This Article: Dr. V. Saminathan, "Effect of Circuit Training on Selected Physiological Variables among Hockey Players", Indo American Journal of Multidisciplinary Research and Review, Volume 6, Issue 2, Page Number 170-172, 2022.

Copy Right: © IAJMRR Publication, 2022 (All Rights Reserved). This is an Open Access Article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract:

The purpose of the study was to find out the effect of circuit training on heart rate among hockey players. To achieve the purpose of the present study, thirty hockey players from Sri Ramakrishna Mission Vidyalaya, Maruthi College of Physical Education, Coimbatore, Tamilnadu were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups of fifteen each. Group I acted as Experimental Group I (Circuit training) and Group II acted as Control Group. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study. It was observed that the six weeks of circuit training have significantly decreased in the blood pressure.

Key Words: Circuit Training, Blood Pressure, Hockey

Introduction:

Circuit training stations are generally sequenced in a way to alternate between muscle groups, which allows for adequate recovery. The rest interval between stations should be between 30-90 seconds and 1-3 minutes between circuits. A typical gym has several strength training machines and workstations, which enables the creation of several circuits. This benefit of variability challenges the skills of the participant and keeps them interested from session to session. Circuit training plays an integral role in the off-season workouts of many professional athletes. It serves as a way to maintain general fitness while avoiding the high physical demands of in-season sport. Circuit training also serves as a segue to higher level strengthening programs in these athletes. The corner stones of these circuits are exercises that stress multitude and core musculature. A participant should always consult with a physician before beginning a fitness program. Circuit training is an efficient and challenging form of conditioning. It works well for developing strength, endurance (both aerobic and anaerobic), flexibility and coordination. Its versatility has made it popular with the general public right through to elite athletes. For sports men and women, it can be used during the closed season and early pre-season to help develop a solid base of fitness and prepare the body for more stressful subsequent training (Najeeb, 2013).

Methodology:

The purpose of the study was to find out the effect of circuit training on heart rate among hockey players. To achieve the purpose of the present study, thirty hockey players from Sri Ramakrishna Mission Vidyalaya, Maruthi College of Physical Education, Coimbatore, Tamilnadu were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups of fifteen each. Group I acted as Experimental Group I (Circuit training) and Group II acted as Control Group. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study.

Results:

Table 1: Dependent 't'- Ratio for Hockey Players on Systolic Blood Pressure

S.No	Group	Mean		SD		Obtained Value	Table Value
		Pre	Post	Pre	Post		
1	Control Group	123.24	123.06	1.04	1.03	1.50	2.14
2	Experimental Group	124.11	120.21	1.05	1.07	5.30*	

Degree of freedom = $(N - 1) = 14$. *Significant at 0.05 level of confidence. Table value at 0.05 level = 2.14

Table 1 shows that the mean value of pre and post test means were 123.24 and 123.06 of control group. The obtained t-ratio 1.50 was not significant this was lesser than the table value of 2.14. Table II shows that the mean value of pre and post test mean were 124.11 and 120.21 of experimental group. The obtained t-ratio 5.30 was significant this was higher than the table value of 2.14.

Figure 1: Diagram Shows the Result of Pre and Post Mean of the Systolic Blood Pressure among Hockey Players

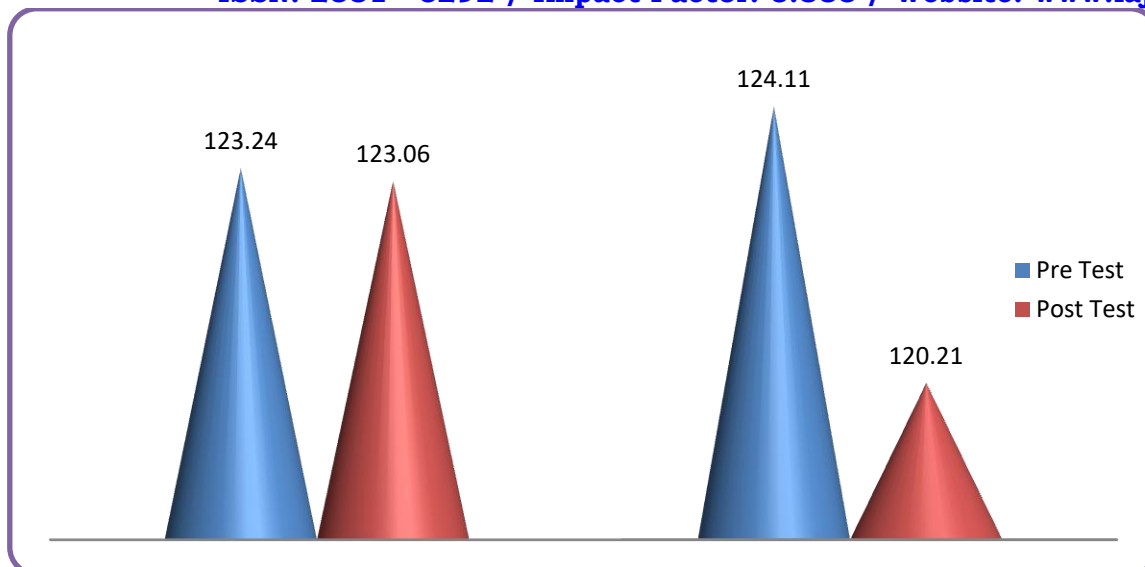


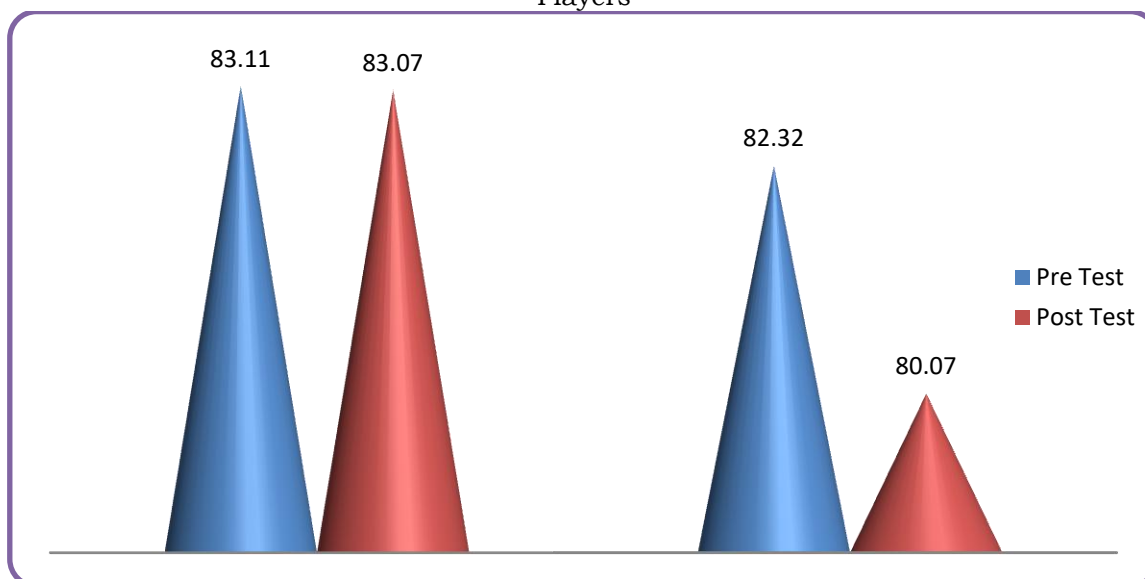
Table 2: Dependent 't'- Ratio for Hockey Players on Diastolic Blood Pressure

S.No	Group	Mean		SD		Obtained Value	Table Value
		Pre	Post	Pre	Post		
1	Control Group	83.11	83.07	1.09	1.03	1.21	2.14
2	Experimental Group	82.32	80.07	1.11	1.23	4.84*	

Degree of freedom = (N - 1) = 14. *Significant at 0.05 level of confidence. Table value at 0.05 level = 2.14

Table II shows that the mean value of pre and post test means were 83.11 and 83.07 of control group. The obtained t-ratio 1.21 was not significant this was lesser than the table value of 2.14. Table III shows that the mean value of pre and post test mean were 82.32 and 80.07 of experimental group. The obtained t-ratio 4.84 was significant this was higher than the table value of 2.14.

Figure 2: Diagram Shows the Result of Pre and Post Mean of the Diastolic Blood Pressure among Hockey Players



Conclusion:

It was observed that the six weeks of circuit training have significantly decreased in the blood pressure.

References:

1. C. A. Vijayarani, Dr. V. Vallimurugan & M. Suresh Kumar (2012). Influence of Yogic Practices on Selected Physiological and Psychological Variables of Adolescent Boys. Recent Research in Science and Technology. 3, 1.
2. Eswaramoorthy, A. & Suresh Kumar, M. (2020). Effect of yogic practices and aerobic training on flexibility among physical education students. Purakala, 31, 8, 417-420.
3. Matthew, B. M., Gregory, E. P. P., Farrell, C., McCarthy, H., Shane, B. D. S., Jennifer, C. N., Oftall, S. B., Fabien, A. B., Guang, S., and Duane, C. B. (2014). "The Effect of a Short-Term High-Intensity Circuit Training Program on Work Capacity, Body Composition, and Blood Profiles in Sedentary Obese Men", Bio Medicines Research International Volume Article ID 191797, 10 pages.
4. Melo, B. M., & Cappato de Araujo, R. (2014). "Effect of exercise order on the resistance training performance during a circuit training session", Rev Bras Cineantropom Desempenho Hum, 16(3): 325-333 327.

5. Najeeb, A.M. (2013). "Effects of circuit training on different surfaces on selected physical and physiological variables of school boys". International Journal of Physical Education, Fitness and Sports; Vol.2.No.4, ISSN 2277-5447.
6. Najibul, H. (2018). Specific Fitness Profile of Male Hockey Players from Kerala. IOSR Journal of Sports and Physical Education. 5,6,34-42.
7. Paoli A., Paccelli F., Bargossi A.M., Marcolin G., Guzzinati S., Neri M., Bianco A., Palma A.(2010). "Effects of three distinct protocols of fitness training on body composition, strength and blood lactate", Journal of Sports Medicine and Physical Fitness; 550, 43-51.
8. Paul Kumar, P. P. S. (2013). The Effect of Circuit Training on Cardiovascular Endurance of High School Boys. Global Journal of Human Social Science, Arts, Humanities & Psychology, 13, 7.
9. Peinado, P. J. B., Sanchez, M.A., Molina, V. D., Belen, A., Lozano, P., & Montero, F. J. C. (2010). "Aerobic energy expenditure and intensity prediction during a specific circuit weight training", Journal of Human Sport & Exercise; Volume V No. II 2010 134-145.
10. Suresh, Kumar M. (2017). Influence of Yoga Practices on Blood Pressure among Rural College Girls. Star International Research Journal, 5, 1(3).
11. Suresh, Kumar M. (2020). Investigation of the Changes on Selected Physical Fitness Parameters in Response to SAQ Training among College Women Students. Alochana Chakra Journal, 9,4, 5121-5124.