ISSN: 2349 - 4891

International
Journal of Recent Research and Applied Studies
(Multidisciplinary Open Access Refereed e-Journal)

Effect of Kalaripayattu Practice on Selected Physiological Variables among Inter Collegiate Players

Dr.S.Rajamony

Vice-Principal, Mother Theresa College of Physical Education, Illupur, Pudukottai, Tamilnadu, India.

Received 15th December 2017, Accepted 6th January 2018

Abstract

The aim of the present study was to find out the effect of Kalaripayattu training on selected physiological variables among inter-collegiate players. To achieve the purpose of the study thirty inter-collegiate level men players in an age group of 18 to 25years were selected as subjects. All the selected subjects were participated inter collegiate level tournaments in different sports and games. The selected subjects were divided in to two equal groups of fifteen subjects each as experimental group and control group. Both the group underwent their respective sports and games practice. In addition of the above training the experimental group practiced Kalaripayattu for a period of eight weeks in a schedule of weekly three days for the duration of two hours each. The collected data's were statistically analyzed by using ANCOVA to find out the significant difference between the groups if any. It was concluded from the result of the study that the experimental group significantly improved in the selected physiological variables of resting heart rate, respiratory rate and breathe holding time.

Keywords: Physiology, Resting Heart Rate, Respiratory Rate, Breath Holding Time.

Introduction

Kalaripayattu is the martial art of Kerala, the oldest and unique system of its kind in the world still in existence, encompassing body, mind and the spirit. Being the mother of martial arts, it possesses the cultural legacy of this country. Kalari is the 'place of daily training' and Payattu is the 'system of practice'. The word Kalari is derived from the Sanskrit word Khaloorika – means – 'the place of practice'. It is considered to be one of the oldest fighting systems in existence (Zarrilli, Phillip B., 1998). It is now practiced in Kerala, in contiguous parts of Tamil Nadu and among the Malayali community of Malaysia. It was originally practiced in northern and central parts of Kerala and the Tulunadu region of Karnataka. Kalaripayattu includes strikes, kicks, grappling, preset forms, weaponry and healing methods (Green, Thomas A., ed., 2001). Variants are classified according to geographical position in Kerala; these are the Northern style from Malabar region in north Kerala, the Central style from inner Kerala and the southern style from Tamilakam and Travancore.

Kalaripayattu had always been a part of the martial traditions of Kerala right since ancient times. It is believed that the Chinese systems of Kung fu and Karate owe their origins to this martial art of Kerala. Sports training are a long continuous and systematic process of physical and mental hard work to attain high level performance in competition.Kalripayattu is an excellent form of physical exercise and useful for desired strength and flexibility. It includes physical exercises and mock duels – armed and unarmed combat. (Chirakkal & Sreedharan Nair, (2007). Regular practice of kalaripayattu results in controlled, flexible and graceful movements of the body and helps develop strength, flexibility and stamina. RajibGhosh& Sebastian (2016) found cardio respiratory endurance was significantly improved due to kalari practice. KesavaChandran et al. (2004) Found Higher lung volumes and flow rates were achieved through Kalaripayattu training. In sports training the coaches are applying various means and methods to make their athletes run faster, jump higher and move quicker than ever before to achieve higher performance. The present study was intended to assess the effect of Kalaripayattu training on the selected physiological qualities among Inter-Collegiate Men players.

Correspondence
Dr.S.Rajamony
E-mail: suthakar.ku@gmail.com

Methodology

To achieve the purpose of the study thirty inter-collegiate level players in an age group of 18 to 25 years were selected as subjects. All the selected subjects were participated inter collegiate level tournaments in different sports and games and they were divided in to two equal groups of fifteen subjects each as experimental group and control group.

Testing Procedure

The pre and posttest were conducted on selected physiological variables of resting heart rate, respiratory rate and breath holding time through standardized testing procedure.

Kalaripayattu Training Procedure

The two hours Kalaripayattu training includes warm up, wooden weapon, metal weapon and empty hand training. Warm up Salutation.

Statistical Procedure

Analysis of covariance (ANCOVA) was used as a statistical tool to determine the significant difference, if and exciting between pre and post test data on resting heart rate, respiratory rate and breathe holding time. The level of significance was fixed at 0.05 levels.

Analysis of Covariance on Physiological Variables

The analysis of covariance on the data obtained for resting heart rate and breath holding time of pre and post tests were tabulated and presented in the tables 1 to 3.

Table 1
Computation of analysis of covariance on resting heart rate

TEST	Group		sv	Sum of Squares	df	Mean Square	F ratio
	Exp.	Control					
Pre test	78.33	81.86	B	93.633	1	93.633	0.337
			W	7772.067	28	277.573	
Post test	73.86	80.4	B	320.1333	1	320.133	21.274*
			W	421.333	28	15.047	
Adjusted Mean	73.93	80.33	B	304.053	1	304.053	19.967*
			W	411.140	27	15.227	

*Significant at 0.05 level of confidence

It was observed from the Table-1 that there was no significant difference in the pretest (F=0.337<4.20) and however significant difference were observed in the post test (F=27.274>4.20) for df 1 and 28 at 0.05 level of confidence and also adjusted posttest (F=19.967> 4.21) for df 1 and 27 at 0.05 level of confidence. It clearly indicated that the experimental group showed significantly higher improvement on resting heart rate than control group. The discussion clearly indicated that the eight weeks Kalaripayattu training influence the resting heart rate.

Table 2
Computation of analysis of covariance on breath holding time

TEST	Group		sv	Sum of Squares	df	Mean Square	F value
	Exp.	Con.					
Pre test	33.86	34.06	B	0.3	1	0.3	0.039
			W	210.666	28	7.523	
Post test	39.66	34.4	B	208.033	1	208.033	14.976*
			W	388.933	28	13.890	
Adjusted Mean	39.77	34.29	B	225.159	1	225.158	42.716*
			W	142.318	27	5.271	

*Significant at 0.05 level of confidence

It was observed from the Table-2 that there were no significant difference in the pretest (F=0.039<4.20) and also in the post test (F=14.976<4.20) for df 1 and 28 at 0.05 level of confidence, however the training effect was clearly evident on adjusted posttest (F=42.716> 4.21) for df 1 and 27 at 0.05 level of confidence. It clearly indicated that the experimental group showed significantly higher improvement on breath holding time than control group. The discussion clearly indicated that the experimental group was higher improvement on breath holding time due to eight weeks Kalaripayattu training.

Table 3
Computation of analysis of covariance on respiratory rate

TEST	Group		sv	Sum of Squares	df	Mean Square	F ratio
	Exp.	Control					
Pre test	19	18.4	B	2.7	1	2.7	1.027
			W	73.6	28	2.628	
Post test	16.66	18.2	B	17.633	1	17.633	8.551*
			W	57.733	28	2.061	
Adjusted Mean	16.47	18.39	B	26.753	1	26.753	27.064*
			W	26.689	27	0.988	

*Significant at 0.05 level of confidence

It was observed from the Table-3 that there was no significant difference in the pretest (F=1.027<4.20) and however significant difference were observed in the post test (F=8.551>4.20) for df 1 and 28 at 0.05 level of confidence and also adjusted posttest (F=27.064> 4.21) for df 1 and 27 at 0.05 level of confidence. It clearly indicated that the experimental group showed significantly higher improvement on Respiratory rate than control group. The discussion clearly indicated that the eight weeks Kalaripayattutraining influence the Respiratory rate.

Conclusions

On the basis of the results and discussions the following conclusions are drown.

1. Kalaripayattu training was a best training method to improve the physiological efficiency.
2. The selected physiological parameters of resting heart rate, breath holding time and respiratory rate were significant effect through Kalaripayattu training.
3. Kalaripayattu training may be included in one of the physical fitness training program for the players
4. It was concluded that Kalaripayattu training is a useful and perhaps optimal training strategy to do the exercise with interest due self-protection in life

References

1. Balakrishnan P. (2002). Kalripayattu: The Ancient Martial Art of Kerala, Published by C.V. Govindankutty Nair Gurukkal, Trivandrum, 15-20
2. Chirakkal T, Sreedharan Nair (2007). The complete Guide to Kerala's Ancient Martial art, Westland Books pvt., 18-19
3. Green, Thomas A., ed. (2001). Martial Arts of the World: An Encyclopedia. ABC-CLIO. pp. 176–177.
4. the Body Becomes All Eyes: Paradigms, Discourses and Practices of Power in Kalarippayattu, a South Indian Martial Art. Oxford: Oxford University Press.
5. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of Selected Yogic Exercises on Cardiovascular Endurance and Lung Capacity of Secondary School Children, IJESC, 6, 6 PP. 7286-7289.
6. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of selected yogic exercises on selected physiological variable of secondary school children., International Journal of Physical Education, Sports and Health, 4-114.
7. S.Suthakar and Dr.A.Pushparajan, Effects of Silambam and Karate with Yogic Training on Agility and Arm Explosive Power of Collegiate Male Students., International Journal of Innovative Research and Development|| ISSN 2278–0211
8. R.Ashok kumar Dr.S.Suthakar, K.M.Ashokkumar, 2016. An Effective Approach through Strength, Endurance and Skill Training Program Combinations on Muscular Strength and Endurance and Explosive Power of Male Basketball Players., International Journal of Innovative Research and Development., 5,4,218-220.
9. R. Ashok Kumar K. Babu , S. Suthakar, 2016. Effects of Volleyball Specific Resistance Training and Skill Training Packages on the Development of Leg Explosive Power and Speed on the Higher Secondary Level School Boys,2016/3, international journal of innovative research and development, 5, 4,231-235.
10. Dr.S.Suthakar Venkata chalapathi G, 2016. Analysis of physical growth on specific fitness training among tribal and non-tribal school boys, 2016/10/27, International Journal of Physical Education, Sports and Health3,6, 137-142.
11. Satheesh B. and Dr.S. Suthakar. 2016.A Study on the selected motor fitness variables among the bicycle benificiaries and non benificiaries of the secondary school children, 2016/10, Indian Streams Research Journal6,9,1-4.
12. M Sankar, S Suthakar, 2016. Influence Of Isolated And Combined Circuit And Fartlek

Trainings On Selected Endurance Parameters Among College Men Students, 2016/9/15, International Education and Research Journal, 2,9.
13. Satheesh B and Dr.S. Suthakar, 2016. Comparative study of the psychological well-being and self-confidence between the bicycle beneficiaries and non beneficiaries of the secondary school children,2016/8/27, International Journal of Physical Education, Sports and Health, 3,5, 495-497.
14. Dr.S.Suthakar M. Sankar, 2016. Influence of the Isolated and Combined Circuit and Fartlek Trainings on the Selected Strength Parameters among the College Men Students, 2016/8, International Journal of Recent Research and Applied Studies, 3, 8(16), 70-74.
15. Dr. S. Suthakar, Nayak Darshana Habbu, 2016. Effects of the Combination of Plyometric and Specific Training with Skill Training in the Development of Anaerobic Capacity, Leg Explosive Power and Over All Playing Ability of the Volleyball Players, 2016/8, International Journal of Recent Research and Applied Studies, 3, 8(19), 83-87.
16. Dr. S. Suthakar Muniraju M. G, 2016.Effects of the Short Term Resistance and Regular Resistance Training in the Development of Lower Body Strength, Leg Explosive Power and Shooting Ability on the Male Basketball Players, International Journal of Recent Research and Applied Studies, 3, 8,(12), 51-54.
17. Dr.S.Suthakar Muniraju, M. G, 2016.Effects of the Short Term Resistance and Regular Resistance Training in the Development of Muscular Strength Endurance, Upper Body Strength and Passing Ability of the Male Basketball Players, 2016/8, International Journal of Recent Research and Applied Studies, 3,8,(13),55-59.
18. Dr.S.Suthakar Nayak Darshana Habbu, 2016. Effect of Combination of Plyometric and Skill Training in the Development of Speed, Muscular Strength Endurance and Serving Ability among the Volleyball Players,2016/8, International Journal of Recent Research and Applied Studies, 3,8,(7),25-29.
19. Dr. S. Suthakar Adengada A. Kushalappa, 2016.Correlations of Biomechanical Characteristics with Ball Speed in Penalty Corner Push-In Effect of Basketball Specific Training on Skill Performance Variables among the Inter-collegiate Men Basketball Players of Mangalore University, 2016/7/10, International Journal of Recent Research and Applied Studies, 3, 7(12), 60-63.
20. Dr. S. Suthakar Adengada A. Kushalappa, Effect of Basketball Specific Training on Selected Physical Fitness Variables among the Inter Collegiate Men Basketball Players of Mangalore University, 2016/7, International Journal of Recent Research and Applied Studies, 3, 7 (14), 60-63.
21. Dr. S Suthakar and Dr. Sundar Raj Urs DP Shivakumar, 2016. Effect of selected yogic exercises on selected physiological variable of secondary school children, 2016/6/23,International Journal of Physical Education, Sports and Health, 3, 4, 114-116.
22. DP Shivakumar, S Suthakar, Sundar Raj Urs, 2016. Effect of Selected Yogic Exercises on Cardiovascular Endurance and Lung Capacity of Secondary School Children, 2016/6, International Journal of Engineering Science, 7286.
23. Dr.Sundar Raj Urs Kishor V, Dr. S Suthakar, 2016. Analysis of physical fitness and adjustment between physical education and general education teachers, 2016/6, international journal of multidisciplinary educational research, 5, 6(3), 88-91.