ISSN: 2349 - 4891

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

Impact of Kalari Gymnastics Trainings on Agility and Speed of College Men

M.Prabu

Assistant Professor, Maruthi College of Physical Education, Coimbatore, Tamilnadu, India.

Received 1st June 2016, Accepted 15th July 2016

Abstract

To achieve the purpose of the present study (N=45) college men players were randomly selected from Sri Ramakrishna Mission Vidyalaya maruthi college of physical education and Vivekananda University faculty of general and adapted physical education and yoga, Coimbatore, Tamil Nadu. Their age ranged from 18 to 25 years. They were assigned to three groups namely experimental group-I with (n=15) who were given kalari training for 12 weeks 5 days a week and other group-II with (n=15) who were given gymnastics training and group –III acted as control group. The experimental group was tested on agility and speed. The selected criterion variable was agility measured with 6x10 shuttle run and speed was measured with 50 m dash. The prior and after test data were collected and treated with ancova. If obtained 'F' ratio was significant scheffe's post test was used to find out paired mean difference. The level of confidence was fixed at 0.05. The study results showed that the kalari training group significantly increased agility and speed due to kalaripayatu training programme. The control group did not improve the selected criterion variables.

Keywords: Kalaripayatu Training, Gymnastic Training, Agility, Flexibility.

Introduction

Kalaripayattu is a mother of all martial arts. The traditional training of kalari payattu is a martial art mostly practised in kerala, south India. The word kalari means `Kalam` (literally, threshing floor or batter field) which in a specifically constructed practice area, Payattu means `Payirchi`(exercise in arms or practice). It is one of the Indian traditional art training have more potential of physical fitness qualities as well as psycho motor qualities. Kalarippayattu is a Dravidian martial art from Kerala, India. Possibly one of the oldest fighting systems in existence it is practiced in Kerala and contiguous parts of Tamil Nadu and Karnataka as well as northeastern Sri Lanka and among the Malayalee community of Malaysia. The word is spelled variously as kalari payat, kalarippayatta, kalaripayatt and many others depending on the dialect and romanisation system used. It includes strikes, kicks, grappling, preset forms, weapon and healing methods. Regional variants are classified according to geographical position in Kerala; these are the northern style, the southern style and the central style. Northern kalari payat is based on the principle of hard technique, while the southern style primarily follows the soft techniques, even though both systems make use of internal and external concepts. Some of the choreographed sparring in kalari payat can be applied to dance and kathakali dancers who knew martial arts were believed to be markedly better than the other performers. Some traditional Indian dance schools still incorporate kalari payat as part of their exercise regimen. Kalarippayattu is the oldest form of oriental martial art encapsulating Kerala's unique cultural mytho-historical heritage. Kalari is considered as the arena where traditional psycho-physiological disciplines practices of which cultivate mental, physical and spiritual benefits.

Correspondence
M.Prabu
E-mail:mprabusrkv@gmail.com, Ph. +9199769 42044

Methodology

To achieve the purpose of the present study (N=45) college men players were randomly selected from Sri Ramakrishna Mission Vidyalaya maruthi college of physical education and Vivekananda University faculty of general and adapted physical education and yoga, Coimbatore, Tamil Nadu. Their age ranged from 18 to 25 years. They were assigned to three groups namely experimental group-I with (n=15) who were given kalari training for 12 weeks 5 days a week and other group-II with (n=15) who were given gymnastics training and group –III acted as control group. The experimental group was tested on agility and speed. The selected criterion variable was agility measured with 6x10 shuttle run and speed was measured 50 m dash. The prior and after test data were collected and treated with ancova. If obtained 'F' ratio was significant scheffe's post test was used to find out paired mean difference. The level of confidence was fixed at 0.05.

Results

Table I. Analysis of covariance among kalari training group, gymnastics training group and control group on speed

	Kalari training group	Gymnastics Training Group	Control Group	Source of Variance	Sum of Square	Df	Mean Square	F -value
Pre Test Mean	7.78	7.62	7.70	Between	0.25	2.00	0.12	1.66
				Within	4.26	57.00	0.07	
Post Test Mean	7.46	7.19	7.69	Between	2.43	2.00	1.21	16.78*
				Within	4.12	57.00	0.07	
Adjusted Post Mean	7.40	7.26	7.68	Between	1.84	2.00	0.92	51.74*
				Within	1.00	56.00	0.02	

*Significant at 0.05 level of confidence

Table -I shows the obtained 'F' values on pre test, post test, adjusted post-test means of Kalari training group, Gymnastics training group and Control group. The pre test means on speed of Kalari training group, Gymnastics training group and Control group were 7.78, 7.62 and 7.70 respectively. The 'F' value observed for the pre-test on speed was 1.66. It fails to reach the table value of 3.16 for degree of freedom 2, 57 at 0.05 level of confidence. Based on the results it was conformed that the mean differences among the groups of Kalari training group, Gymnastics training group and Control group on speed before the start of the respective treatments were found to be insignificant. The post test means on speed of Kalari training group, Gymnastics training group and Control group were 7.46, 7.19 and 7.69 respectively. The 'F' value observed for the post-test on speed was 16.78. It was greater than the table value of 3.16 for degree of freedom 2, 57 at 0.05 level of confidence. Since the observed F-value on adjusted post test means among the groups namely Kalari training group, Gymnastics training group and Control group on speed was highly significant as the value was higher than the required table value of 3.16. Thus the results obtained proved that the trainings on speed produced significant improvements among the experimental groups. The adjusted post test means on speed of Kalari training group, Gymnastics training group and Control group were 7.40, 7.26 and 7.68 respectively. The 'F' value observed for the adjusted post-test on speed was 51.74. It was greater than the table value of 3.16 for degree of freedom 2, 56 at 0.05 level of confidence. Since the observed F-values on post test means among the groups namely Kalari training group, Gymnastics training group and Control group on speed was highly significant as the value was higher than the required table value of 3.16. Thus the results obtained proved that the trainings on speed produced significant improvements among the experimental groups. Since significant differences were recorded, the scores were further subjected to statistical treatment using scheffe's post hoc test and the results which were presented in the table II.

Table II. Schefee's post hoc values of adjusted post test mean difference on speed

KTG	GTG	CG	M.D	C.I
7.40	7.26	-----	0.13*	0.11
7.40	-----	7.68	0.29*	
-----	7.26	7.68	0.42*	

*Significant at 0.05 level of confidence

Table II shows the significant difference of paired adjusted post test means of Kalari training group, Gymnastics training group and Control group on speed. The obtained mean difference between the Kalari training group and Gymnastics training group, Kalari training group and Control group, Gymnastics training group and Control group were 0.13, 0.29 and 0.42 respectively. The required confidence interval value was 0.11.

Figure I. Mean values of kalari gymnastics and control groups of speed on college men

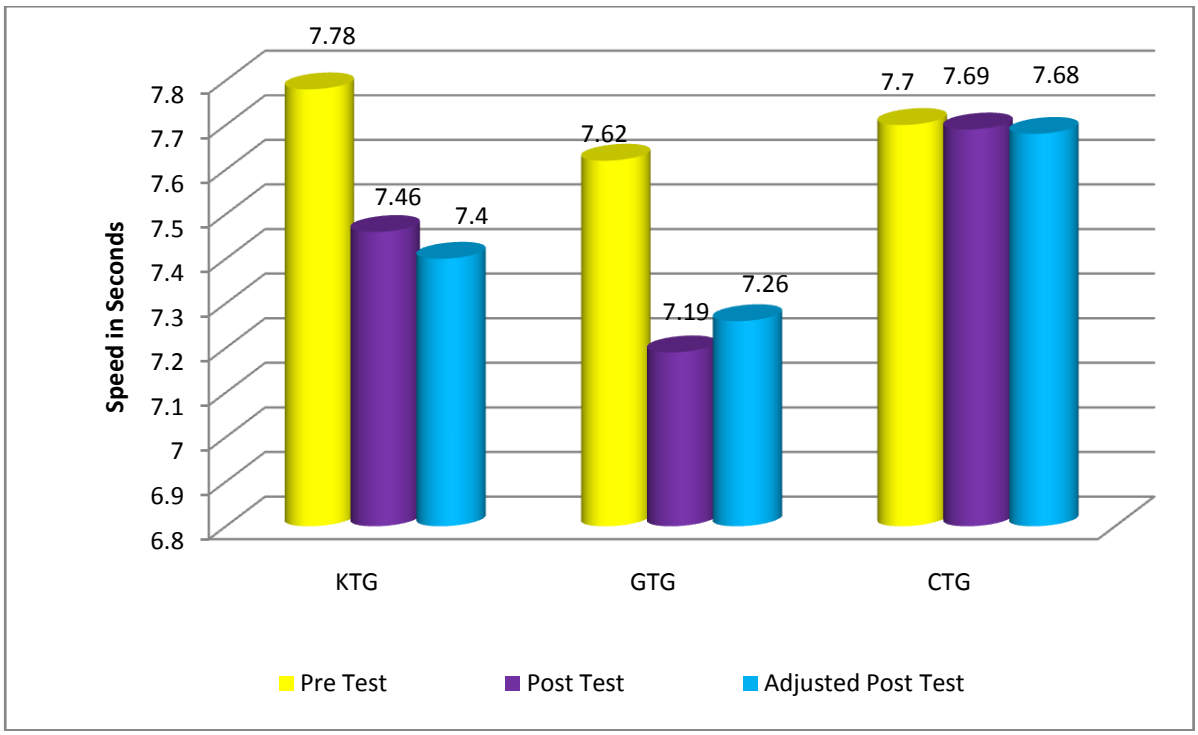


Table III. Analysis of covariance among kalari training group, gymnastics training group and control group on agility

	Kalari training group	Gymnastics Training Group	Control Group	Source of Variance	Sum of Square	Df	Mean Square	F- value
Pre Test Mean	17.61	17.56	17.62	Between	0.03	2.00	0.02	0.14
				Within	6.47	57.00	0.11	
Post Test Mean	17.25	17.02	17.59	Between	3.29	2.00	1.64	15.78*
				Within	5.94	57.00	0.10	
Adjusted Post Mean	17.24	17.04	17.57	Between	2.83	2.00	1.41	49.61*
				Within	1.60	56.00	0.03	

*Significant at 0.05 level of confidence

Table -III reveals the obtained 'F' values on pre test, post test, adjusted post-test means of Kalari training group, Gymnastics training group and Control group. The pre test means on agility of Kalari training group, Gymnastics training group and Control group were 17.61, 17.56 and 17.62 respectively. The 'F' value observed for the pre-test on agility was 0.14. It fails to reach the table value of 3.16 for degree of freedom 2, 57 at 0.05 level of confidence. Based on the results it was conformed that the mean differences among the groups of Kalari training group, Gymnastics training group and Control group on agility before the start of the respective treatments were found to be insignificant. The post test means on agility of Kalari training group, Gymnastics training group and Control group were 17.25, 17.02 and 17.59 respectively. The 'F' value observed for the post-test on agility was 15.78. It was greater than the table value of 3.16 for degree of freedom 2, 57 at 0.05 level of confidence. Since the observed F-values on post test means among the groups namely Kalari training group, Gymnastics training group and Control group on agility was highly significant as the value was higher than the required table value of 3.16. Thus the results obtained proved that the trainings on agility produced significantly different improvements among the experimental groups. The adjusted post test means on speed of Kalari training group, Gymnastics training group and Control group were 17.24, 17.04 and 17.57

respectively. The 'F' value observed for the adjusted post-test on agility was 49.61. It was greater than the table value of 3.16 for degree of freedom 2, 57 at 0.05 level of confidence. Since the observed F-values on post test means among the groups namely Kalari training group, Gymnastics training group and Control group on speed was highly significant as the value was higher than the required table value of 3.16. Thus the results obtained proved that the trainings on agility produced significantly different improvements among the experimental groups. Since significant differences were recorded, the scores were further subjected to statistical treatment using scheffe's post hoc test and the results are presented in the table IV.

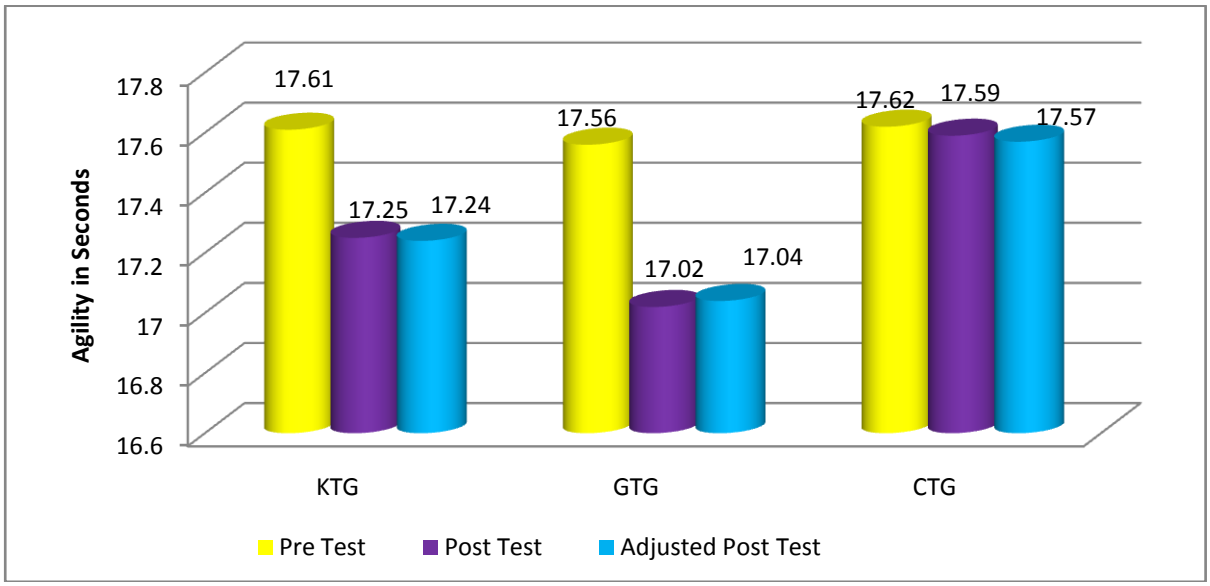
Table IV. Scheffee's post hoc values of adjusted post test mean difference on agility

KTG	GTG	CG	M.D	C.I
17.24	17.04	-----	0.20*	0.14
17.24	-----	17.57	0.33*	
-----	17.04	17.57	0.53*	

*Significant at 0.05 level of confidence

Table-IV shows the significant difference of paired adjusted post test means of Kalari training group, Gymnastics training group and Control group on agility. The obtained mean difference between the Kalari training group and Gymnastics training group, Kalari training group and Control group, Gymnastics training group and Control group were 0.20, 0.33 and 0.53 respectively. The required confidence interval value was 0.14. Since the obtained mean differences between the Kalari training group and Gymnastics training group, Kalari training group and Control group and between Gymnastics training group and Control group were greater than the obtained confidence interval value on agility, it was concluded that there was better method improve agility for gymnastic training.

Figure II. Mean values of kalari gymnastics and control groups of agility on college men



Discussion on Findings

The results statistically proved that kalaripayatu training group are better method improving the bio motor variables are agility and speed of college men. The result is in agreement with other studies. The martial arts training would be significant changes of fitness variables (Kannan Pugazhendi 2008 & Mori et al., 2002, Zarrilli 2001). The martial arts training would be significant changes in motor fitness components (Burke 2007 & Mullart 2009)

Conclusions

1. Kalaripayatu training group and gymnastics training groups had shown significant improvement of selected speed and agility on college men.
2. The control group did not show the significant improvement of selected criterion variables

References

1. Kannan Pugazhendi (2008), "Kalaripayattu a martial arts of South India", *Journal of Physical Education and Sciences*, Ramakrishna Publications, p-25.
2. Mori S, Ohtani Y and Imanaka K. (2002) "Reaction times and anticipatory skills of karate athles", Journal of Movement Science, Japan, volume-2 pp-213-30.
3. Zarrilli (2001), "Three bodies of Practice in a traditional south Indian marial arts", Department of Theatre and Drama, University of Wisconsin-Madison 53706, pp-1289-09
4. Burke DT, Al Adawi S, Lee YT and Audette J (2007), "Martial arts as sports and theraphy", Jounal of sports medicine and physical fitness, 47 (1), pp- 96-102
5. Mullaratt (2009), "Kalaripayattu is perhaps the most ancient martial art in the world, Eknow Inc, P-833.