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## Influence of silambam practices and yogic practices on speed and flexibility among U-17 female sprinters

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### Abstract

The purpose of the study was to find out the Influence of silambam practices and yogic practices on speed and flexibility among u-17 female sprinters. In order to achieve the purpose of the study forty five female district level sprinters (100M, 200M, 400M, 4×100M, 4×400M, 100M Hurdles and 400M Hurdles), were randomly selected from Ramanathapuram city higher secondary schools and they were equally divided in to three groups of fifteen each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine athletic practices and in addition the experimental group-I underwent silambam practices and experimental group-II underwent yogic practices for one hour in the morning sessions. The control group was not given any special training. The period of training was eight weeks in a schedule of weekly three days for alternate days. The data were collected on the selected dependent variables before and after the training period. The collected the data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05 level of confidence was fixed. Based on the results the study it was concluded that the silambam practices and yogic practices were significantly improved the speed and flexibility among district level sprinters.

**Keywords:** Silambam Practices, Yogic Practices, Speed and Flexibility

### Introduction

*"We could all use a little coaching. When you're playing the game, it's hard to think of everything."*

- Jim Rohn

Now a days, more and more individuals particularly boys and girls are affected by sports activities and increasing the number that are representing in the sports area. As preventive and curative health measures, it has become more successful throughout the world and, millions of teenagers should have chance of enjoying sports. Sport is the way which we use our physical capacities to play. Sports is an important in other ways, when one's body works better his mind works better, his brain and his body are interrelated. Sports allows you to blow off tension, to forget your problems for a while and to go out and have a good time no matter what other pressures one may be under in his life (Uppal A.K *et al.*, 1998) [10].

India is a Land of Knowledge, where many Gods and Saints have given divine knowledge to lead a good human life. The art of Silambam also has age-old history in ancient texts of South India. Silambam denotes an elastic cane bamboo, uniform in cross section from end to end, having a length a little less than that of the height of the performer wielding it (David Manuel Raj, 1967) [3]. Silambam is a common word now used in Tamil Nadu, for the Martial art of stick- fencing. In other parts of South India it is called by different names, such as Kolu Varasay or Dhonay Varasay in Karnataka, Kolu Aatta or Karadi Aatta in Andhra pradesh, Neduvari in Kerala. Generally in silambam includes single stance (otrai suvado) separate stances, (pereevusuvado) double swing, weapons sequences, locks, throws long stick and short sticks series techniques are there (Arunachalam,1995) [1]. British government had banned the practice of warfare and martial art in any form in India and they knew the dangers of Indian martial art. British troops were well trained to use with explosive and guns, but they were lacking the physical compact skills. This fear leads them to impose restrictions on Indian martial arts. The Kampu Soothram most Ancient text of Siddha Agasthiyar tells his learning

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experience of Kampu (Staff or Silambam). Later Siddha Agasthiyar composed art of using Kampu (Staff or Silambam) for self-defense in poetic form. Today the original texts directly written on palm leaf by Siddha Agasthiyar are not available. Saints who lived with him have grasped the meaning of the Siddha Agasthiyar poetry and passed it to their students and to the next generation till today. Siddha Agasthiyar composed many Poems on Kundalini, Varma, Kutthu Varasai, Siddha Vidhyam, Kampu Soothram and many other spiritual scripts and in this context Siddha Agasthiyar can be termed as the father of modern Martial Arts, which is practiced all over the world today. Even today we are looking in for the origination of the modern martial art; a scientific martial art that can protect human lives at dangerous situation. Today the great martial art of Tamilnadu is just reduced to a demonstration art in public gatherings and folk art festivals despite the effort of many well-wishers. Silambam has the potential to be included as a mainstream activity in the physical education curriculum as it is simple, inexpensive and also has the capability of improving all the major biomotor abilities. There are many benefits to training in the martial arts. What often attracts students to the martial arts is the attempt to enhance not only the physical body but the mind and spirit as well. According to a study by Twemlow and coworkers (1996)<sup>[8]</sup>, the top four reasons that people cite for studying the martial arts are self-defense, exercise, building self-confidence, and developing self-discipline. There is very few literature available on the effects of silambam training on these selected variables among Indian population in general and girls in particular.

The word yoga derived from the sanskrit root 'yuj' meaning to bind; join; and yoke; to direct and concentrates one's attention on; to use; and apply. It is also means union or communication. It is the true union of our will with the will of god. Yoga is a practical aid, not a religion. Yoga is an ancient art based on a harmonizing system of development for the body, mind and spirit. The continued practice of yoga will lead you to a sense of peace and wellbeing and also a feeling of being at one with the environment the practice of yoga makes the body strong and flexible. It also improves the functioning of the respiratory, circulatory, digestive and hormonal systems (Kurland, Zack, 2007)<sup>[5]</sup>. The present study was taken up to investigate the Influence of silambam practices and yogic practices on speed and flexibility among u-17 female sprinters.

### Methodology

The purpose of study was to investigate the influence of silambam practices and yogic practices on speed and flexibility among u-17 female sprinters. In order to achieve the purpose of the study 45 female district level sprinters were selected randomly and they were equally divided in to three groups of 15 each as experimental group-I, experimental group-II and control group. The experimental groups and control group undergone normal routine athletic practices and in addition the experimental group-I underwent silambam practices and experimental group-II underwent yogic practices for one hour in the morning before starting the routine athletic practices. The control group was not given any special training. The period of training was 8 weeks in a schedule of weekly 3 days for alternate days. The data was collected on the variables of speed and flexibility before and after the training period. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA) and Scheffe's post hoc test. To test the significance .05 level of confidence was fixed.

### Criterion Measures

Table 1

Variables	Test	Measurers in Unit
Speed	50mts Run	Seconds
Flexibility	Sit and Reach	Centimeters

### Resultes and Discussion

The analysis of covariance and Scheffe's post hoc test on the data obtained on speed, flexibility of experimental and control groups have been analyzed and tabulated in Table-2, Table-3, Table-4 and Table-5.

### Reviews and Literature

Mohanavalli P *et al.*, (2013)<sup>[6]</sup> the effect of Silambam practice on body composition and cardio vascular endurance among college girls. Silambam fencing is a martial art native to the soil of Tamil Nadu. It has been originated from 3000 B.C and practiced by the pre-historic Dravidian Tamils who were dwelling from the Mohan-ja-daro & Harappa regions and is still practiced today. To achieve the purpose of this study, 40 sedentary college girls were selected as subjects. The age of the subjects were ranged from 18 to 20 years. The subjects were further classified at random into two equal groups of 20 subjects each. Group - I underwent Silambam training for three days per week for sixteen weeks and group - II acted as control. The selected criterion variables namely body weight, BMI, lean body mass, percent body fat and cardio vascular endurance were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant improvement in cardio vascular endurance and significant reduction in body weight, BMI, lean body mass, and percent body fat with no significant change in agility among the experimental group when compared with the control group. Finally the investigator was concluded On the basis of the results obtained it was concluded that silambam training resulted in a significant increase in cardio vascular endurance and a significant reduction in body weight, BMI, lean body mass, and percent body fat among college girls

Sosamma John *et al.*, (2011)<sup>[7]</sup> were examined that the Yoga practices Weight training and Iron Yoga on Strength, Speed, Flexibility and Vital capacity among college Softball players. To achieve the purpose forty male students were selected randomly and divided into four group's namely experimental groups 1, 2 & 3 and control group. Each group consists of ten subjects. The period of study was 24 weeks. ANCOVA was used for statistics. It was concluded that the yoga practices, weight training and iron yoga had significantly improved the strength, speed and flexibility and vital capacity among college Softball players.

Table 2 shows that the pretest means on speed of control, silambam practice and yogic practice groups are 7.95, 7.82 and 7.79 respectively. The obtained 'F' ratio value of 0.81 for pretest mean is less than the required table value of 3.22 for significance at 0.05 level. Hence, it is not significant

The post-test mean on speed of control, silambam practice and yogic practice groups are 7.91, 7.51 and 7.49 respectively. The obtained 'F' ratio value of 5.89 for post-test data is greater than the required table value of 3.22 for significance at 0.05 level.

The adjusted post-test mean on speed of control, silambam practice and yogic practice groups are 7.87, 7.53 and 7.51 respectively. The obtained 'F' ratio value of 7.50 for adjusted post-test data is greater than the required table value of 3.23

for significance at 0.05 level. It reveals that there is significant difference among the groups on speed as a result of silambam practice and yogic practice groups. The post-hoc test was applied to find out the significant paired mean difference.

**Table 2:** Analysis of covariance for pre and Post Tests data on speed of experimental and control groups

	Control Group	Silambam practice	Yogic practice	Source of Variance	Sum of Squares	Df	Mean Squares	'F' Ratio
Pretest	7.95	7.82	7.79	Between	0.60	2	0.15	0.81
				Within	15.92	42	0.37	
Post test	7.91	7.51	7.49	Between	3.42	2	1.71	5.89*
				Within	12.35	42	0.29	
Adjusted Post test	7.87	7.53	7.51	Between	0.89	2	0.45	7.50*
				Within	2.36	41	0.06	

\*Significance at 0.05 level, Df 2 and 42= 3.22, 2 and 41=3.23

**Table 3:** Ordered Scheffe's Post Hoc Test for Mean Difference between Groups on Speed

Mean values			Mean Difference	L S
Control	Silambam practice	Yogic Practice		
7.87	7.53	-	0.34	0.05
7.87	-	7.51	0.36	0.05
-	7.53	7.51	0.02	NS

L S = Level of Significance

C I = Confidence Interval at 0.05 level: 0.26

Table 3 shows that the ordered weighted mean difference of Scheffe's post-hoc test values on speed of the control group, silambam practice and yogic practice groups. The mean difference of speed is significant at 0.05 level of confidence. The difference in means between control group and silambam practices didn't differ significantly and control group and yogic practice group on speed. Rest of the paired means didn't differ significantly.

**Table 4:** Analysis of covariance for pre and Post Tests data on flexibility of experimental and control groups

	Control Group	Silambam practice	Yogic practice	Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
Pretest	29.37	29.52	29.57	Between	2.91	2	0.97	0.14
				Within	427.88	42	10.16	
Post test	30.60	32.07	32.77	Between	78.97	2	39.49	3.77*
				Within	439.27	42	10.45	
Adjusted Post test	30.77	32.11	32.76	Between	69.60	2	34.80	6.48*
				Within	220.45	41	5.37	

\*Significance at 0.05 level, df 2 and 42= 3.22, 2 and 41=3.23

Table 4 shows that the pretest means on flexibility of control, silambam practice and yogic practice groups are 29.37, 29.52 and 29.57 respectively. The obtained 'F' ratio value of 0.14 for pretest mean is less than the required table value of 3.22 for significance at 0.05 level. Hence, it is not significant

The post-test mean on flexibility of control, silambam practice and yogic practice groups are 30.60, 32.07 and 32.77 respectively. The obtained 'F' ratio value of 3.77 for post-test data is greater than the required table value of 3.22 for significance at 0.05 level.

The adjusted post-test mean on flexibility control, silambam practice and yogic practice groups are 30.77, 32.11 and 32.76 respectively. The obtained 'F' ratio value of 6.48 for adjusted post-test data is greater than the required table value of 3.23 for significance at 0.05 level. It reveals that there is significant difference among the groups on flexibility as a result of silambam practice and yogic practice. The post-hoc test was applied to find out the significant paired mean difference.

**Table 5:** Ordered Scheffe's Post Hoc Test for Mean Difference between Groups on flexibility

Mean values			Mean Difference	L S
Control	Silambam Practice	Yogic practice		
30.77	32.76	-	1.99	0.05
30.77	-	32.11	0.95	0.05
-	32.76	32.11	0.65	NS

L S = Level of Significance,

C I = Confidence Interval at 0.05 level: 0.89.

Table 5 shows that the ordered weighted mean difference of Scheffe's post-hoc test values on flexibility of the control group, silambam practice and yogic practice groups. The mean difference of flexibility is significant at 0.05 level of confidence. The difference in means between control group and silambam practice, control group and yogic practice group on flexibility. Rest of the paired means didn't differ significantly.

**Discussion on Findings**

In the resent times silambam practice and yogic practice is offered as a better method for developing speed and flexibility. The results and discussions of the present studies proved that the silambam training procedure was beneficent for improving the significant increase in cardio vascular endurance and a significant reduction in body weight, BMI, lean body mass, and percent body fat among college girls and this study was supported by Mohanavalli P *et al*, (2013) [6] and they found that twenty four weeks there was significant improved in cardio vascular endurance, and a significant reduction in body weight, BMI, lean body mass, and percent body fat among 40 sedentary college girls due to the influence of silambam training and another study was Sosamma John *et al.*, (2011) [7] and they found that twenty four weeks there was significant improved in Strength, Speed, Flexibility and Vital capacity among college Softball players due to the influence of yogic practices.

### Conclusions

From the results of the study and discussion the following conclusions were drawn.

1. There is a significant difference on speed and flexibility between all the groups.
2. There is a significance improvement on speed and flexibility due to silambam practice and yogic practice groups.

### Recommendations

1. Similar study may be conducted for various age groups.
2. The same study may be extended to further time period.
3. The present study is mainly focused on females only. The same study may be done on males

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