

EFFECT OF SILAMBAM TRAINING PROGRAM ON SELECTED PHYSICAL AND PHYSIOLOGICAL VARIABLES AMONG PONDICHERRY UNIVERSITY STUDENTS

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Abstract:

The purpose of this study was to investigate reaction time and cardio respiratory endurance in practitioners of silambam arts. The main objective was to examine reaction time in these participants by measuring simple reaction time (Yardstick reaction time scale) and cardio respiratory endurance (12 min. run/walk test). Fifteen sedentary participants from Pondicherry University students were selected for this study. Eight weeks of silambam training program were conducted to the subject, weekly five days from monday to friday on every evening 6.00 pm to 7.00 pm. The training group were measured the pretest and posttest on reaction time and cardio respiratory endurance. Results indicated that there was significant improvement in reaction time ($p > 0.05$) after eight weeks of silambam training. And also found that silambam training group had shown an insignificant change on cardiorespiratory endurance when compare with pre-test and post-test. Furthermore, the silambam participants have faster reaction time to hand stimuli. These results are consistent with the physical aspects of the silambam arts.

KEY WORDS:

Cardiorespiratory Endurance, Reaction Time and Silambam,

INTRODUCTION

Ancient South India was ruled by Several Kings, if we go back in time, we might get the exact meaning for the word Silambam. The word "Silambam" must have come from the exact word of "Kaal silambam". The Silambam has its own history in Tamil Nadu, there is an Epic called 'Silapadhigaram' in which a country was cursed by Kannagi and the kingdom was destroyed by her curse through Fire, Earth Quake, and Flood, this is history. Today we don't see women wearing the same type of ornament; it has changed in to "Goolasu" Chains and Rings. A person holds a pair of 'Kai Silambam' in his hand and dance to the Music of Pambai, Udakai and Urami Melam. This dance is usually performed in front of god Shakthi. The King Veerapandia Kattabomman (1760-1799) relied mainly on their prowess in Silambam in their warfare with the British Army. The history of Silambam in South India is above 5,000 years or above according to ancient texts. The research says that it was originated before the Aryans race migrated to India. Kalla Kambu practice has teaching us how to know our mind power and physical balance. By practicing this method we can feel the spiritual power, also concentration, confident, rhythm knowledge, inner feelings development.

There are so many historical evidences regarding silambam. Our ancestors used very large swords

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and spears because of their physical and mental fitness. Silambam also develops our sense of timing, presence of mind, and helps us in essential breathing and for keen observation. It also develops intuition and self-defense. Silambam was the basis for Japan's Samurai and such other arts.

STATEMENT OF THE PROBLEM

The purpose of this study was to find out the effect of silambam training program on selected physical and physiological variables among Pondicherry University students.

Hypothesis

It was hypothesized that there would be significant changes of silambam students on their reaction time and cardiorespiratory endurance.

METHODOLOGY

Selection of Subjects

This study was designed to effect on reaction time and cardiorespiratory endurance of silambam students. To achieve this purpose, fifteen Pondicherry University students were selected for this study. Their age ranged from 21 to 25 years. All were studying Master of Physical Education, Pondicherry University.

Data were obtained from the subjects on selected physical and physiological variables like reaction time and cardiorespiratory endurance. The collected data were subjected to statistical treatment using to dependent 't' ratio to find out the significance of the means obtained.

Selection of Variables

The scholar reviewed the available scientific literature pertaining to silambam form book and journals and also discussed with the experts, feasibility, availability of instruments and equipment's. The following variables are given in the table below and their related list.

Dependent Variables

1. Reaction Time
2. Cardiorespiratory Endurance

Experimental Design

A research design is used to achieve the effect of silambam training program on dependent variables design was used. The subjects were randomly selected from the total population. All students were accepted the demand and received consent from the participants.

Administration of Test

The dependent variables were tested with the following test items.

1. Reaction Time - Yardstick Reaction Time Scale (in milliseconds).
2. Cardiorespiratory Endurance - Cooper's 12 Minute Run/ Walk test (in ml/kg/min).

Training Program

Eight weeks of silambam training program were conducted to the subject. The training start from the basis movements to advance skills. 15 Pondicherry University students were selected and they were practiced silambam techniques weekly five days from monday to friday on every evening 6.00 pm to 7.00 pm. The training schedule was distributed in 10 minutes stick warming up, 45 minutes silambam training and last 5 minutes warming down. The Silambam Exercises were practiced by the training group are listed down.

EFFECT OF SILAMBAM TRAINING PROGRAM ON SELECTED PHYSICAL

1. Guru Vanakkam
2. Long Stick
3. Double Short Stick
4. Chopper Knife
5. Sword & Shield
6. Spear fighting / Spear Swing
7. Maduvu (Deer Horns)
8. Short and long stick
9. The steel-whip
10. Saber Sword Blade

Collection of Data

The training group were measured the pretest and posttest on reaction time and cardio respiratory endurance. The pretest was measured two days before training start and posttest was measured after eight weeks of training scheduled. The raw scores were taken for all the subjects and recorded. The reaction time noted with seconds in time and cardiorespiratory endurance was recorded with distance covered for 12 minutes run/walk in meters, and this was applied in the scientific formula to find the cardiorespiratory endurance.

Statistical Analysis

The purpose of the study was to find out the effect of progressive silambam training on 15 male silambam students in Pondicherry University. To find out the effectiveness of dependent variable by through independent variable, dependent 't' test as a statistical tool was used to bring out the results.

ANALYSIS OF DATA

The statistical analysis applied on collected data and interpreted the results is presented in the below table.

Table -I
Computation of Mean, Standard Deviation, Standard Error and 't' ratio of Reaction Time and Cardio Respiratory Endurance in Silambam Training Group

Variable	Test	Mean	N	Std. Deviation	Std. Error	't' ratio
Reaction Time (in Milliseconds)	Pre Test	12.47	15	2.23	0.58	7.135*
	Post test	11.13	15	1.96	0.51	
Cardio Respiratory Endurance (in ml/kg/min)	Pre test	2.22	15	270.45	69.83	-.695
	Post test	2.24	15	235.03	60.69	

*Significant at 0.05 level of confidence. Degree of freedom 13 is 2.05

The above table indicates that obtained pre and posttest means of reaction time of silambam group is 12.47 and 11.13 respectively. The 't' value required to be significant at 0.05 level of confidence at 13 degree of freedom is 2.05 and the 't' ratio calculated was 7.135, which was more significant than the tabulated value at 0.05 level of confidence. So, the hypothesis was accepted in this variable.

The above table also indicates that obtained pre and post-test means of cardiorespiratory endurance of silambam group is 2.22 and 2.24 respectively. The calculated 't' value is -.695, it was found that no significant results between pre and post-test means. So, the hypothesis was rejected in this variable.

Figure-1
Bar Diagram Showing the Mean Difference on Reaction Time
in Silambam Group (in Milliseconds)

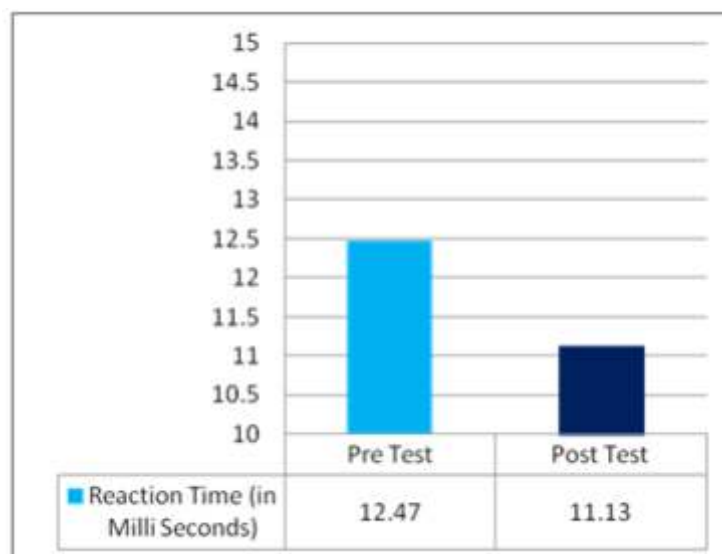
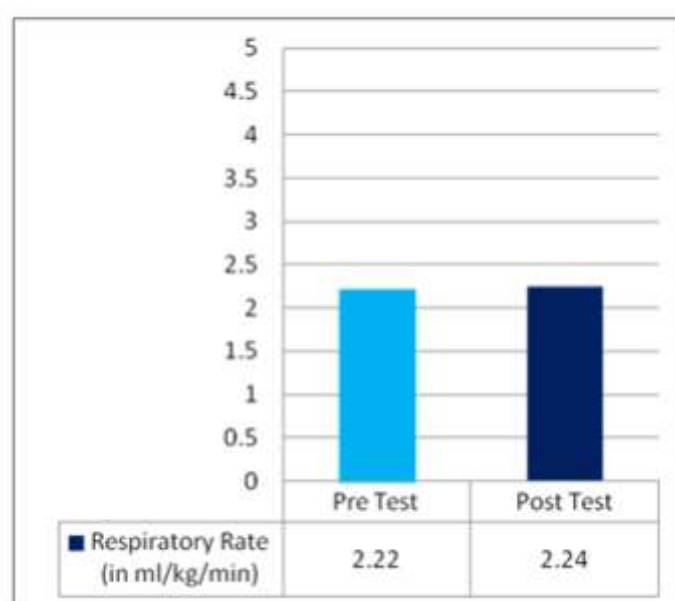


Figure-2
Bar Diagram Showing the Mean Difference on Cardio Respiratory
Endurance in Silambam Group
(in ml/kg/min)



CONCLUSIONS

Within the limitation of the study and on the basis of the obtained results, the following conclusions had been drawn:

1. From the results it was states that, there was significant improvement in reaction time after eight weeks of silambam training.
2. The silambam training group had shown an insignificant change on cardiorespiratory endurance when

compare with pre and post test.

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