



## Efficacy of Speed and Endurance Training on Selected Motor Fitness Components of University Women Handball Players

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### Abstract

*The purpose of the study was to find out the effect of speed and endurance training on selected motor fitness components of university women handball players. To achieve this purpose, thirty women handball players studying in various faculties of Annamalai University, Tamilnadu were randomly selected as subjects. They were divided into two equal groups and each group consisted of 15 subjects. Group-I underwent speed and endurance training (n = 15) for three days per week for eight weeks and group-II acted as control (n = 15) who did not participate any special training apart from the regular curricular activities. The selected dependent variables speed and strength endurance were assessed by administering 50 meters run and sit-ups, respectively. The data were collected at prior and immediately after the training programme were statistically examined for significant differences, if any, by applying analysis of covariance (ANCOVA). In all the cases, .05 level of confidence was used to test the significance, which was considered as an appropriate.*

**Keywords:** Speed and endurance training, Motor Fitness Components, Speed and Strength Endurance.

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### Introduction

The greatness of a nation is dependent to a large extent on the fitness of its citizens. "Total fitness" includes physical, mental, emotional, social and spiritual aspects. One of the most beautiful and valuable things that God has created on earth is human life. It is the responsibility of human to protect and maintain human life in order to achieve higher goals and live a meaningful life. This can be made possible by paying due attention to health and fitness. So scientist's researchers and health experts have devoted much of their precious time to the field of health and fitness.. Physical educators are mainly responsible for promoting the physical aspect of total fitness in harmony with all the other aspects of fitness.

### Methodology

The purpose of the study was to find out the effect of speed and endurance training on selected motor fitness components of university women handball players. To achieve this purpose, thirty women handball players studying in various faculties of Annamalai University, Tamilnadu were randomly selected as subjects. The age groups of the subjects were ranged between 18 to 25 years. They were divided into two equal groups and each group consisted of 15 subjects. Group-I underwent speed and endurance training for

three days per week for eight weeks and group-II acted as control who did not participate any special training apart from the regular curricular activities. The present study was undertaken to assess the effect of speed and endurance training on selected motor fitness components of university women handball players. The investigator analyzed various literatures and also consulted with physical education professionals, to use the most suitable tests for the purpose of study. 50 metres run and sit ups were used to assess the speed and strength endurance. The experimental group underwent speed and endurance training for three days per week for eight weeks. Fartlek runs-mix of sprint & jogs :

- I. Sprint straight away, jog turns on track Sprint turns, jog straight away on track, and Sprint from tree to tree, mailbox to mailbox, telephone pole to pole, with jogs in between.
  - II. Start 8-10 minutes; add 2 minutes every 2 weeks.
- Fartlek run-mix of sprints & jogs :
- I. Get certain of sprint of varying distances during each mile run.
  - II. 2-3 mile run 3, 4, 6, or 10 sprints of varying distances during each mile run. (3 sprint/ mile).

Linear Speed running – 100 yards, 10 x 30 metres at race pace from blocks with full recovery 3-4 x 80 metres at race pace with full recovery, 18- 27 minutes walking, 27- 36 minutes jogging, 13- 23 minutes running, 9- 13 minutes sprinting. The random group design was used as experimental design. The selected subjects were tested on selected criterion variables at prior to and immediately after the training programme

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was used to test the significance, which was considered as an appropriate.

## Results

**Table I** Analysis of Covariance for the Adjusted Posttest Data on Selected Speed, strength endurance of Control and Training Groups

Variables	Control group	Training group	Source of Variance	Sum of squares	df	Mean Squares	F Ratio
Speed	6.28	7.51	B: W:	9.65 2.27	1 27	9.65 0.08	120.62
Strength endurance	38.86	40.46	B: W:	531.25 68.62	1 27	537.25 2.52	210.81

The tabulated F ratio for 0.05 level df 1 & 27= 4.21

The adjusted post-test mean values of speed for speed and endurance training group and control group were 7.51 and 6.28 respectively. The obtained 'F' ratio value of 120.62 for adjusted post-test scores of speed and endurance training group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence. The results of this study showed that there was a significant difference between speed and endurance training group and control group on speed. The adjusted post-test mean values of strength endurance for speed and endurance training group and control group were 40.46 and 38.86 respectively. The obtained 'F' ratio value of 210.81 for adjusted post-test scores of speed and endurance training group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence. The results of this study showed that there was a significant difference between speed and endurance training group and control group on strength endurance.

## Discussion

According to Gerschler the number of repetitions of exercise should be increased with the person's adaptation to the training and that increase on the distance of the race, the speed attained and time taken to recuperate. Leskevith and *et al* indicated that the effect of the sequence of exercises that observed changes was noted in speed, strength and endurance. Roshamm concluded that continuous is most effective in decreasing heart rates at rest. These findings are also in agreement with the finding of many recent findings. The new model of the handball player is one who is a highly conditioned athlete, possessing refined athletic skills, which ultimately elevate the level at which he or she plays the game. Conditioning is the key to consistency in season long, high level performance. Speed and endurance are the athletic skills often considered most valuable for women handball

players.

## Conclusions

The results of the study showed that there was a significant improvement on selected criterion variables such as speed and strength endurance, due to speed and endurance training. In the present study, the specifically designed speed and endurance training for university women handball players is highly relevant to the selected criterion variables. So that the specific speed and endurance training may influence the criterion variables.

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