

## EFFECT OF SAND RUNNING ON ENDURANCE OF ATHLETES



### Abstract:-

**Background:** The objective of the study was to find out the “Effects of sand running on the endurance of Athletes”.

**Method:** For the purpose of study, twenty young athletes belonging to the age level of 15 to 22 years in Varanasi district served as the subject for the study i.e. 10 Experimental Group and 10 Control Group were taken for the study Pre test – post test randomized group design which consists of control group and experimental group was selected for the present study. Endurance was measured by coopers 12 minute run and walk test. The treatment was administered on experimental group for the period of eight weeks while the control group did not get any kind of training. Before the administration of sand training, the selected test was administered on both the experimental and control groups to collect pre test data. After the completion of eight weeks of sand training, again the same test was conducted to collect the post training data. To determine the effect of sand training on endurance of athletes, T-test was applied. The level of significance was set at .05 level. **Results:** This study shows that the sand running has increase the endurance among the Experimental group along with Physiological capacity of the athletes. It is recommended that sand running is good for the development of endurance.

**Conclusions:** It is noticed that practice of sand training helped to increase performance of endurance

### Keywords:

Sand Training,

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## INTRODUCTION

Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue. Endurance training results in the improvement of functioning of various organs and systems of the human body. This in turn improves the ability to recover quickly from training and competition load. The importance of endurance for recovery assumes much more relevance during completion i.e. in between heats, rounds, matches on successive days. Endurance performances are of different nature indifferent sports. Endurance activities have been found to be of high value for maintenance of good organic health, for increasing the general resistance against infection and for cure and treatment of various diseases and metabolic disorder.

Sand Running is a form of Strength training that can improve speed and endurance on the track and road. Sand Running increases the intensity of training and builds strength because of the resistance they offer when running. Sand has a strengthening effect as well as boosting the athlete's power and is ideal for athletes who depend on high running speeds. To reduce the possibility of injury sand training should be conducted once the athlete has a good solid base of strength and endurance. Sand running offers the following benefits. a. Helps develop power and muscle elasticity. b. Improves stride frequency and length. c. promotes strength endurance. d. develop maximum speed and strength g. Improves lactate tolerance

## METHODOLOGY

### Selection of Subject

For the purpose of study, twenty male athletes of Varanasi district were selected. Their age ranged from 15-22 years of age.

### Selection of Variable

Endurance was selected as a variable.

### Criterion Measure

The endurance was measured by cooper 12 Minute test.

### Experimental Design

Pre test – post test randomized group design which consists of control group (n=10) and experimental group (n=10) was selected for the present study.

### Administration of test

The treatment was administered on experimental group for the period of eight weeks while the control group did not get any kind of training. Before the administration of sand running, the selected test (coopers 12 minute test) was administered on both the experimental and control groups to collect pre test data. After the completion of eight weeks of sand training again the same test was conducted to collect the post training data.

### Administration of training

The 8 weeks training were given to Experimental Group which consists of Sand Running Sessions on alternate days. The Sand Running Sessions includes Short Sand Sprints, Continuous Running in Sand and Sand Hills were given training to experimental group.

### Statistical Analysis

In order to determine the effect of sand training on athletes, T-test was applied; the level of significance was kept at 0.5 to check the significance of calculated t-value with tabulated value.

### Findings

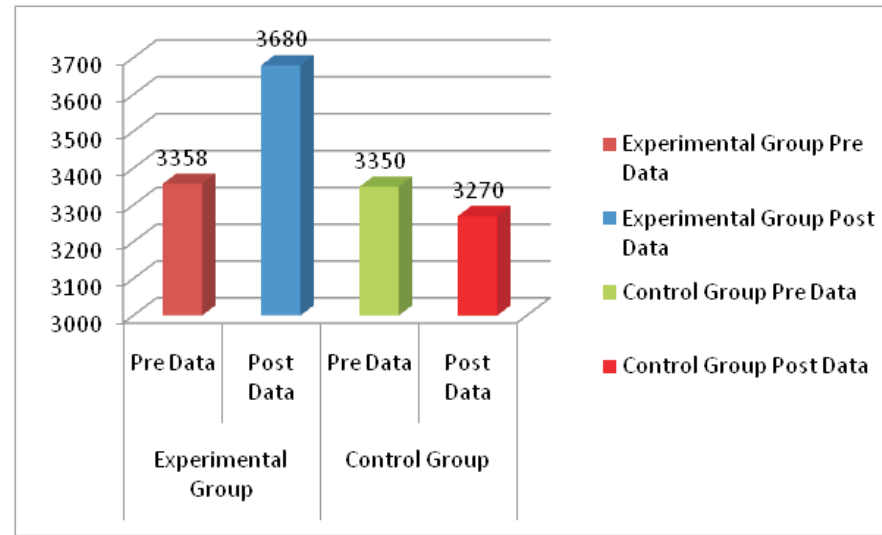
**Table – 1**  
**Significance Difference between the Means of Experimental Group and Control Group**

Group	Mean of Pre Test	Mean of Post Test	Mean Difference	't' Value
Experimental Group	3358	3680	322	11.43*
Control Group	3350	3270	80	8.82*

\*Significant at 0.05 level  
 $t_{0.05(9)}=2.26$

The post-test performance of the experimental group improved significantly than the pre data at 0.05 level. An analysis of table 1 showed that, the experimental group exhibited significant improvement on the performance of endurance .control group also show significantly but it was less comparatively at 0.05 level of confidence.

**Graphical Representation of Mean Comparison of Pre and Post Data of Experimental and Control Group**



**Table – 2**  
**Significance of Difference between the Post-Test Means of Experimental Group and Control Group**

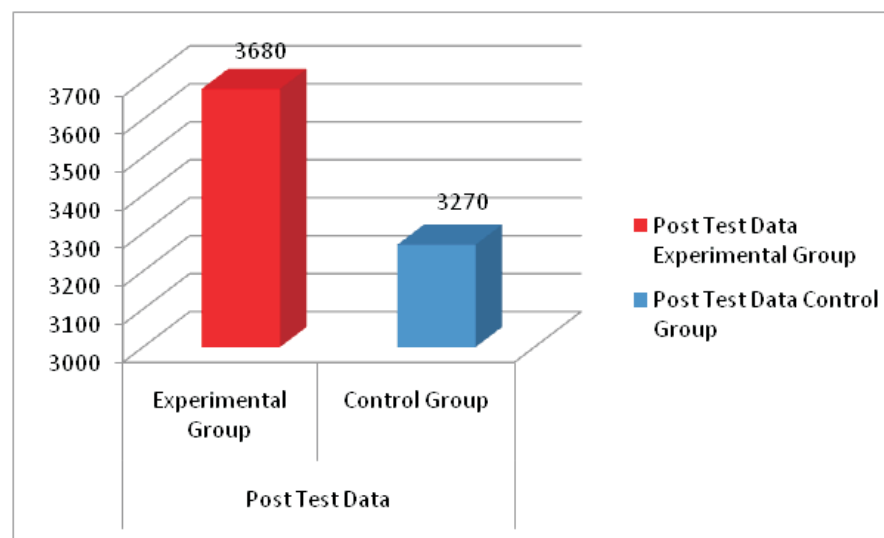
Group	Mean of Post Test	Mean Difference	't' Value
Experimental Group	3680	410	19.07*
Control Group	3270		

\*Significant at 0.05 level  
 $t_{0.05(9)}=2.26$

An analysis of table 2 showed that the post-test performance of the experimental group improved significantly than the control group at 0.05 level.

Therefore , it may be resolved that the eight weeks sand training showed significantly better performance as compared to the control group.

**Graphical Representation of Mean Comparison of Post Data of Experimental and Control Group**



### DISCUSSION

In the first place it is apparent that the final performance of the experimental group was found to have improved significantly which may be attributed to the fact that the application of the sand training, might have improved their performance.

Sand Running results in the calf muscles learning to contract more quickly and thereby generating work at a higher rate, they become more powerful. The calf muscles achieves this by recruiting more muscle fibres, around two or three times as many when compared to running on the flat. Sand Running is recommended for endurance athletes more in off season and less in season.

Finally, the performance of experimental group was comparatively better in the final testing than the control group. This difference in the final test scores may be due to certain reasons which are mention in previous paragraph.

### CONCLUSIONS

Performance of endurance of the subjects of experiment group was found to be statistically significant to pre data of experimental group since the obtained "t" value 11.43 and also post test performance of endurance of experimental group was found significant to post test of control group since the obtain't' value 19.07 was found to be higher than the tabulated value 2.26 at 0.05 level of significance.

It is noticed that sand training helped to increase performance of endurance of athletes.

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