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Effect of Sand Running on Speed and Cardiorespiratory Endurance of University Men Students

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Abstract

The purpose of the study was to find out the effect of sand running on speed and cardio respiratory endurance. To achieve this purpose of the study, thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalai Nagar, Tamil Nadu, India were selected as subjects at random. The age of the subjects were ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as sand running group and control group. The group I underwent sand running programme for three days per week for twelve weeks. Group II acted as control group did not participate any special training programmes apart from their regular physical education activities as per their curriculum. The following variables such as speed and cardio respiratory endurance were selected as criterion variables. All the subjects of three groups were tested on selected criterion variables at prior to and immediately after the training programme by using 50 mts run and cooper's 12 minutes run/walk test respectively. The analysis of covariance was used to analyse the significant difference, if any between the groups. The level of significance to test the "F" ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference between sand running group and control group on selected speed and endurance parameters namely speed and cardio respiratory endurance.

Keywords: Sand Running, Men, Speed, Cardiorespiratory Endurance.

Introduction

In the last few decades, sports gained tremendous popularity all over the globe. The popularity of sports is still increasing at a faster pace. Sports have become an important social and cultural activity of the modern world, which is being given the right place it deserves by the nations and societies of the world. Sports contribute towards the all-round development of personality, and enhances the horizons of awareness among competing sportsmen. Performance sports aim at higher sports performance and for that the physical and psychological capacities of sportsmen are developed to extreme limits.

Methodology

The purpose of the study was to find out the effects of sand running on speed and cardio respiratory endurance. To achieve this purpose of the study, thirty men students studying in the Department of Physical Education and Sports Sciences, Annamalai University, Annamalainagar, Chidambaram were selected as subjects at random. The age of the subjects ranged from 18 to 24 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as sand running group and control group. The group I underwent sand running programme for three days per week for twelve weeks. Group II acted as control who did not participate any special training programmes apart from their regular physical education activities as per their curriculum. The following variables namely speed and cardio respiratory endurance were selected as criterion variables. All the subjects of three groups were tested on selected dependent variables at prior to and immediately after the training programme. The analysis of covariance was used to analyze the significant difference, if any among the groups. The .05 level of confidence was fixed as the level of significance to test the "F" ratio obtained by the analysis of covariance, which was considered as an appropriate. Sand running group underwent sand running programme for twelve weeks for three days per week. Training was given in the morning session. The training session includes warming up and limbering down. Every day the workout lasted for 45 to 60 minutes approximately. The subjects underwent training programmes as per the schedules under the strict supervision of the investigator. During experimental period control group did not participate in any of the special training.

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Analysis of Data

The influence of sand running on each criterion variables were analysed separately and presented below. The analysis of covariance on speed of pre and post tests

for sand running group and control group was analysed and presented in Table I.

Table I. Analysis of covariance of the data on speed of pre and post test scores of sand running group and control group

Test	Sand Running group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	8.20	8.30	Between	0.0013	1	0.0013	0.165
S.D.	0.06	0.05	Within	0.22	28	0.0079	
Post Test							
Mean	8.12	8.30	Between	0.33	1	0.33	2.75
S.D.	0.08	0.05	Within	3.25	28	0.12	
Adjusted	**Post Test**						
Mean	8.16	8.30	Between	0.184	1	0.184	0.479
			Within	10.351	27	0.384	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.215 respectively).

The table I shows that The adjusted post-test means of sand running group and control group are 8.16 and 8.30 respectively. The obtained "F" ratio of 0.479 for adjusted post-test means is less than the required table value of 4.215 for df 2 and 27 for significance at .05 level of confidence on speed. The results of the study indicated that there was no significant difference between the adjusted post-test means of sand running group and control group on speed. The analysis of covariance on cardio respiratory endurance of pre and post tests for sand running group and control group was analysed and presented in Table II.

Table II. analysis of covariance of the data on cardio respiratory endurance of pre and post test scores of sand running group and control group

Test	Sand Running group	Control Group	Source of Variance	Sum of Squares	Df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	1240.10	1231.40	Between	5603.37	1	5603.37	2.495
S.D.	2.97	2.99	Within	62893.30	28	2246.19	
Post Test							
Mean	1410.50	1235.50	Between	86403.37	1	86403.37	55.16*****
S.D.	2.10	2.98	Within	42293.30	28	1566.42	
Adjusted	**Post Test**						
Mean	1395.10	1235.10	Between	42292.60	1	42292.60	9.18*****
			Within	124403.00	27	4607.55	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence for 1 and 28 and 1 and 27 are 4.20 and 4.215 respectively).

The table II shows that the adjusted post-test means of sand running group and control group are 1395.10 and 1235.10 respectively. The obtained "F" ratio of 9.18 for adjusted post-test means is more than the required table value of 4.215 for df 2 and 27 for significance at .05 level of confidence on cardio respiratory endurance. The results of the study indicated that there was a significant difference between the adjusted post-test means of sand running group and control group on cardio respiratory endurance.

Conclusions

Based on the findings of the study, the following conclusions were drawn.

1. There was a significant difference between sand running group and control group on speed.
2. There was a significant difference between sand running group and control group on cardio respiratory endurance.
3. There was a significant improvement on cardio respiratory endurance due to sand running.
4. There was no significant improvement on speed due to sand running.

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