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THE EFFECT OF FARTLEK TRAINING AND SAND TRAINING ON THE SELECTED PHYSICAL FITNESS VARIABLES OF INTERCOLLEGIATE PLAYERS OF LARGE AREA GAMES

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Abstract:

The purpose of the study was to find out the effect of fartlek training and sand training on the selected physical fitness variables ofintercollegiate players of large area games.To achieve the purpose of this study, ninety intercollegiate players of large area games (Football, Cricket, Hockey) were selected from, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore District, Tamilnadu. The subject's age ranged from 18 to 21 years and they were divided into three equal groups namely fartlek training group, sand training group and control group.Thefartlek training group, sand training group underwent training programme for the period of twelve weeks, and control group has not under gone any type of training. The data were collected before and after the training programme. The selected data was statistically analyzed by using analysis of co-variance (ANCOVA). The result of the study reveals that was an insignificant difference between fartlek training group and sand training group on the selected physical fitness variables (Cardiovascular Endurance).

Key Words: Fartlek Training, Sand Training, Football, Cricket, Hockey, Physical Fitness Variables and Cardiovascular Endurance.

Introduction:

Every human being has a fundamental right of access to physical education and sport, which are essential for the full development of his or her personality. The freedom to develop physical, intellectual and moral powers through physical education and sport must be guaranteed both within the educational system and in other aspects of social life.

Fartlek Training:

Fartlek is a Swedish word which means "Speed play". This training method, introduced in the United States in the 1940's is relatively an unscientific adoption of interval and continuous training that is well suited for exercising out-of-doors over natural terrain. With this system, alternate running is done at both fast and slow speeds.

Sand Training:

Sand running is a great training tool for improving speed and agility. It provides resistance that challenges one's muscles, helps make one faster and more explosive. The constant shifting under one's feet engages small stabilizer muscles that improve balance and reduce the risk of injury. Moreover, sand training provides an opportunity to work out in the great outdoors.

Small and Large Area Games:

Small-area games are game-like competitive drills that utilize a playing surface that has been reduced in size like Volleyball, Kabaddi, Badminton, Ball badminton etc. Large area game is similar to competitive drills that utilize a playing surface that has been large in size like Football, Hockey and Cricket. The researcher has taken large area games for his research such as Hockey, Football and Cricket.

Statement of the Problem:

The purpose of the study was to find out the effect of fartlek training and sand training on the selected physical fitness variables of intercollegiate players of large area games.

Significance of the Study:

- The findings of the study will be helpful to make the society to concentrate on fartlek training and sand training.
- The study would provide the scientific base and guidance to the physical education teachers, coaches, and players to understand the effects of fartlek training and sand training.
- The results of the study would add the quantum of knowledge in the area of fartlek training and sand training.
- The study will help prepare a comprehensive training programme by including fartlek training and sand training.

- The study will be helpful to the students to know their ability of physical fitness.

Delimitations:

The study was delimited to the following factors:

- The study was delimited to ninety intercollegiate large area game players (Cricket, Football and Hockey) selected from the Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore, Tamil Nadu, India.
- The study was delimited to male intercollegiate players only.
- The age group of the subjects ranged from 18 to 21 years.
- The experimental treatment was delimited to 12 weeks.
- The study was delimited to the following selected independent and dependent variables.

Limitations:

The heredity and environmental factors which influence the selected variables have been recognized as limitations.

- The mood of the subjects which prevailed at the time of the training period also was not being under control.
- The subjects' living condition, life style, diet, personal habits, family heredity, and motivational factor were not taken into consideration.
- The subjects' social, economic, and cultural background and their position of play and past training were not taken into consideration.
- The subjects' daily routine work could not be controlled and their possible influence on this result of the study was noted as limitation.
- Apart from the training programme the involvement of the subjects in daily routines was not taken into consideration.

Hypotheses:

On the basis of literature gone through, research finding and the scholar's understanding of the problem, the following hypotheses were formulated.

- It was hypothesized that fartlek training might have a significant difference on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.
- It was hypothesized that sand training might have a significant difference on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.
- It was hypothesized that there might have a significant difference among the fartlek training, sand training, and control group on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.

Methodology:

Selection of Subjects:

The purpose of the study is to find out the effect of fartlek training and sand training on the selected physical fitness variables ofintercollegiate players of large area games.To achieve the purpose of this study, ninetyintercollegiate players of large area games (Football, Cricket, Hockey) were selected from, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore District, Tamilnadu. The subject's age ranged from 18 to 21 years and they were divided into three equal groups namely fartlek training group, sand training group and control group. Thus, each group consisted of twenty subjects.

Table 1: Selection of the Variables and Test Items

Variables	Name of the test	Unit of Measures
Cardiovascular endurance	Cooper 12 minutes run/walk Test	In meters

Training Programme:

The selected subjects were divided into three equal groups' namely fartlek training group, sand training group and control group. The fartlek training group and the sand training group underwent the specific training programme in the following manner:

- Fartlek training group - Three days per week (Monday, Wednesday and Friday)
- Sand training group - Three days per week (Tuesday, Thursday and Saturday).
- Daily 60 minutes from 4.30pm to 5.30pm
- Total duration of the training programme was twelve weeks.
- The control group was not involved in the whole specific training.

Cardiovascular Endurance:

The attained data on cardiovascular enduranceof experimental groups and control group have been evaluated and the results are presented in the following table.

Table 2: Significance of Mean Gains / Losses between Pre Test and Post Test Mean Value of Fartlek Training Group Sand Training Group and Control Group on Cardiovascular Endurance

Group	Pretest Mean (±SD)	Posttest Mean (±SD)	MD	SE	't' ratio
Fartlek Training Group	2134.00	2333.33	199.33	23.27	8.56*
Sand Training Group	2129.00	2313.50	184.50	35.38	5.21*
Control Group	2139.33	2174.33	35.00	21.93	1.59

* Significant at 0.05 level with degrees of freedom 29, Table value 2.04

Table 2 shows that the pretest and posttest mean values of fartlektraining group on cardiovascular endurance is 2134.00 and 2333.33 respectively. The obtained 't' value of fartlektraining group on cardiovascular endurance is 8.56. It is greater than the required table value of 2.04 with df 29. Hence, it is proved that there is a significant difference between pretest and posttest of fartlektraining group on cardiovascular endurance.

The pretest and posttest mean values ofsand training group on cardiovascular endurance is 2129.00and2313.50respectively. The obtained 't' value of sand training group on cardiovascular endurance is 5.21. It is greater than the required table value of 2.04 with df 29. Hence, it is proved that there is a significant difference between the pretest and posttest of sand training group on cardiovascular endurance.

The pretest and posttest mean values of control group on cardiovascular endurance is 2139.33and 2174.33respectively. The obtained 't' value of the control group on cardiovascular endurance is 1.59. It is lesser than the required table value of 2.04 with df 29. Hence, it is proved that there is no significant difference between pretest and posttest of control group on cardiovascular endurance.

The mean value of pretest and posttest on cardiovascular endurance of fartlek training group and sand training group and control group are graphically represented in Figure- 3.

Figure 1: Bar Diagram Showing the Pre Test and Post Test Mean Value of Fartlek Training Group Sand Training Group and Control Group on Cardiovascular Endurance

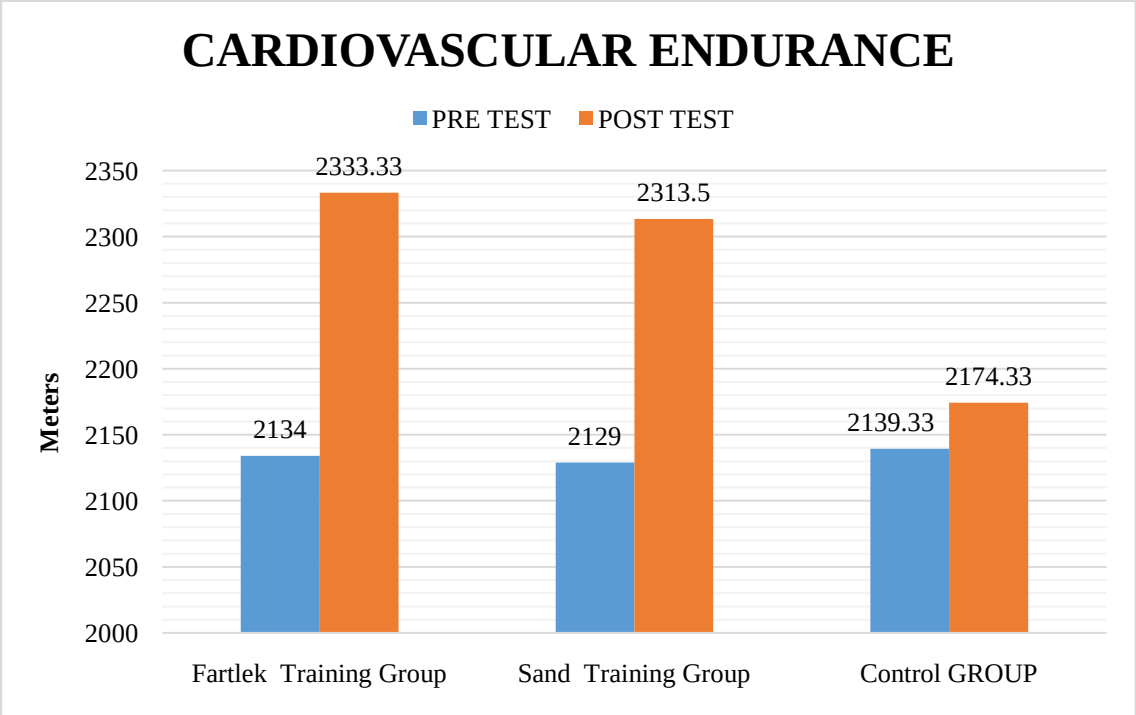


Table 3: Analysis of Covariance of Fartlek Training Group Sand Training Group and Control Group on Cardiovascular Endurance

	FTG	STG	CG	Source of Variance	Sum of Squares	Df	Means Squares	F Ratio
Pre Test Mean	2134.00	2129.00	2139.33	BG	1602.222	2	801.111	0.01
				WG	5644476.667	87	64879.042	
Post Test Mean	2333.33	2313.50	2174.33	BG	450417.222	2	225208.611	4.93*
				WG	3972960.833	87	225208.611	
Adjusted Post Test Mean	2333.40	2316.95	2170.80	BG	480650.685	2	240325.342	14.88*
				WG	1388937.190	86	16150.432	

* - Significant, (Table Value - 0.05 Level for df 2 & 87 =3.10 & 86 =3.10)
BG- Among Group Means, WG- Within Group Means, df- Degrees of Freedom

Table 3, shows that the pretest mean values of fartlek training group, sand training group and control

group on cardiovascular endurance are 2137.00, 2129.00 and 2139.33 respectively. The obtained 'F' ratio value for pretest mean of fartlek training group, sand training group and control group on cardiovascular endurance is 0.01, which is less than the required table value of 3.10 for significance with df 2 and 87 at 0.05 level of confidence. It has been proved that all the three groups are randomly equal.

The posttest mean values of fartlek training group, sand training group and control group on cardiovascular endurance are 2333.33, 2313.50 and 2174.33 respectively. The obtained 'F' ratio value for posttest mean of fartlek training group, sand training group and control group on cardiovascular endurance is 4.93, which is greater than the required table value of 3.10 for significance with df 2 and 87 at 0.05 level of confidence.

The adjusted posttest mean values of the fartlek training group, sand training group and control group on cardiovascular endurance are 2333.4, 2316.95 and 2170.80 respectively. The obtained 'F' ratio value for adjusted posttest mean of fartlek training group, sand training group and control group on cardiovascular endurance is 14.88, which is higher than the required table value of 3.10 for significance with df 2 and 89 at 0.05 level of confidence.

The above statistical analysis has proved that there is a significant difference among three groups on cardiovascular endurance due to the respective training programme. Further to determine which of the paired means has a significant difference, the Scheffe's post hoc test has been applied. The result of the follow-up test has been presented in the table 4.

Table 4: Scheffe's Post Hoc Test for the Difference between Adjusted Post-Test Mean of Cardiovascular Endurance

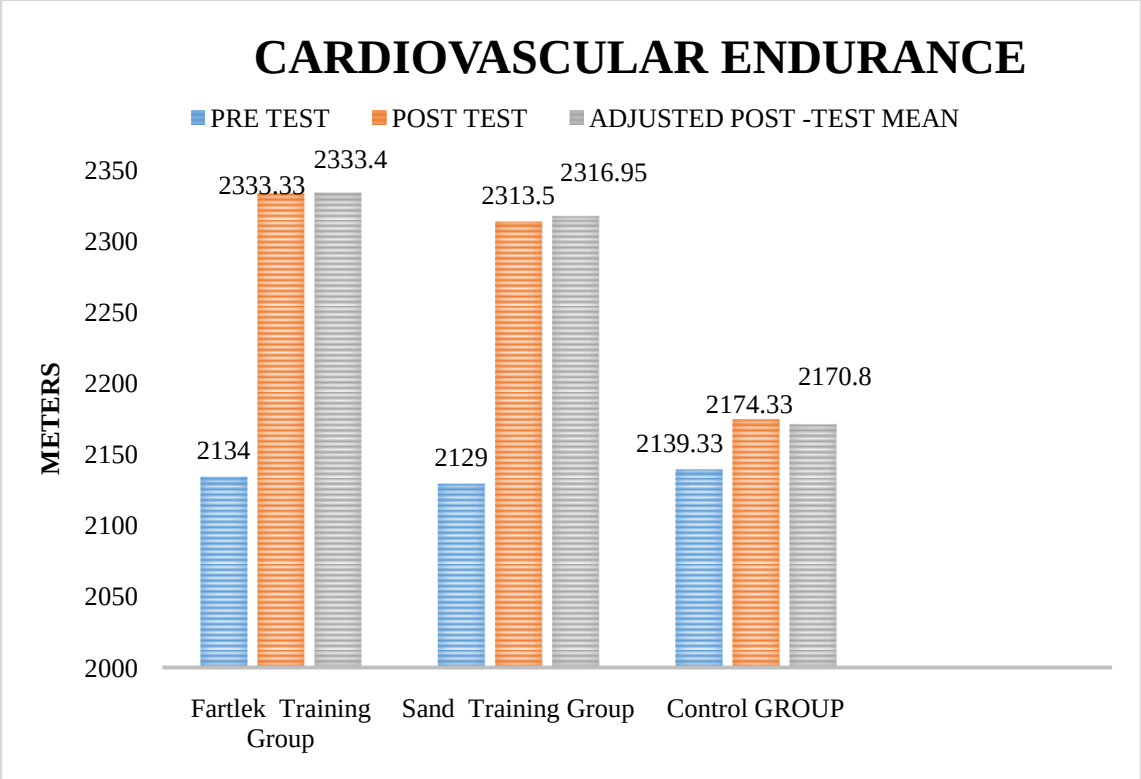
FTG	STG	CG	MD	CI
2333.40	2316.95	---	16.45	80.94
2333.40	---	2170.80	162.60*	
---	2316.95	2170.80	146.15*	

*Significant at 0.05 level of confidence

Table 4 shows that the adjusted posttest mean difference on cardiovascular endurance among fartlek training and control groups, sand training and control groups are 162.60 and 146.15 respectively, which is greater than the confidence interval value of 80.94 at 0.05 level of confidence. The mean difference on cardiovascular endurance among fartlek training and sand training groups is16.45, which is lesser than the confidence interval value of 80.94 at 0.05 level of confidence.

The mean values of pretest, posttest and adjusted posttest on cardiovascular endurance of fartlek training, sand training and control group has been graphically represented in the figure-4.

Figure 2: Bar Diagram Showing the Pre Test Post Test and Adjusted Post Test Mean Value of Fartlek Training Group Sand Training Group and Control Group



Discussion on Findings:

The purpose of the study was to find out the effect of fartlek training and sand training on the selected physical fitness variables of intercollegiate players of large area games.

The outcomes of the research study indicated that, there was a significant difference between pretest and posttest of fartlek training group and sand training group on the selected physical fitness variable (cardiovascular endurance). There was an insignificant difference between pretest and posttest of control group on the selected physical fitness variable (cardiovascular endurance).

Regarding analysis of covariance, it was observed that there was a significant difference among fartlek training group, sand training group and control group on the selected physical fitness variable (cardiovascular endurance).

It was found that the fartlek training group and sand training group were better than control group on the selected physical fitness variable namely cardiovascular endurance due to the respective training programme. Also there was an insignificant difference between the fartlek training group and sand training group on cardiovascular endurance. But fartlek training group showed better trends in its favor in improving cardiovascular endurance than the sand training group.

Conclusions:

Based on the statistical analysis and the limitation of the study and results the following conclusions have been drawn.

- It was concluded that the fartlek training group had significant difference on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.
- It was concluded that the sand training group had significant difference on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.
- It was concluded that the control group had an insignificant difference on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games.
- It was concluded that the fartlek training group and sand training group were better than the control group on the selected physical fitness variables (cardiovascular endurance) of intercollegiate players of large area games players.
- It was concluded that there was an insignificant difference between fartlek training group and sand training group on the selected physical fitness variables (cardiovascular endurance). But the fartlek training group showed better trends in its favor in improving the selected physical fitness variable (cardiovascular endurance) then the sand training group of intercollegiate players of large area games.

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