



IMPACT OF INTERMITTENT TRAINING ON SELECTED PHYSICAL FITNESS PARAMETERS AMONG COLLEGE MEN STUDENTS

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Abstract:

The purpose of the study was designed to examine the effect of intermittent training on leg strength and back strength among college men students. For the purpose of the study, thirty college men students from Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent intermittent training for three days per week for twelve weeks. Group II acted as control who did not undergo any special training programme apart from their regular physical education programme.

The following variables, namely leg strength and back strength were selected as criterion variables. All the subjects of the two groups were tested on selected dependent variables namely leg strength and back strength by using leg lift with dynamometer and back lift with dynamometer 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 appropriate. The results of the study showed that there was a significant difference between intermittent training group and control group on leg strength and back strength. And also, it was found that there was a significant improvement on selected criterion variables such as leg strength and back strength due to intermittent training.

Key Words: Intermittent Training, Leg Strength, Back Strength, College Men Students

Introduction:

Intermittent Training often referred to as Intermittent Exercise or Intermittent Workouts, represents a distinct approach to fitness that involves alternating between periods of activity and rest. This training methodology has gained significant attention for its potential to deliver health benefits in a time-efficient manner. Unlike continuous exercise, Intermittent Training involves short bursts of intense effort interspersed with periods of rest or lower-intensity activity. At the heart of Intermittent Training is the idea that brief, intense efforts can yield comparable or even superior results to longer, steady-state workouts.

This approach is characterized by its flexibility, allowing individuals to customize their routines based on their fitness levels, preferences, and specific goals. One popular form of Intermittent Training is High-Intensity Interval Training (HIIT), where short bursts of vigorous exercise are alternated with periods of rest or lower-intensity activity. Another variant is Tabata training, a specific form of HIIT with 20 seconds of all-out effort followed by 10 seconds of rest, repeated for several cycles.

Beyond its effectiveness in improving cardiovascular health and fitness, Intermittent Training is also known for its potential to enhance metabolism and support weight management. The intermittent nature of the workouts can lead to an afterburn effect, where the body continues to burn calories post-exercise to restore oxygen levels and repair tissues.

Methodology:

The purpose of the study was designed to examine the effect of intermittent training on leg strength and back strength among college men students. For the purpose of the study, thirty college men students from Dr. Sivanthi Aditanar College of Physical Education, Tiruchendur, Tamilnadu, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group I underwent intermittent training for three days per week for twelve weeks.

Group II acted as control who did not undergo any special training programme apart from their regular physical education programme. The following variables, namely leg strength and back strength were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables namely leg strength and back strength by using leg lift with dynamometer and back lift with dynamometer 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 appropriate.

Analysis of the Data:

Leg Strength:

The analysis of covariance on leg strength of the pre and post test scores of intermittent training group and control group have been analyzed and presented in table 1.

Table 1: Analysis of Covariance of the Data on Leg Strength of Pre and Post Tests Scores of Intermittent Training and Control Groups

Test	Intermittent Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	92.93	92.67	Between	0.53	1	0.53	0.53
S.D.	1.06	1.02	Within	28.27	28	1.01	
Post Test							
Mean	94.87	93.00	Between	26.13	1	26.13	13.10*
S.D.	0.87	0.97	Within	55.87	28	2.00	
Adjusted Post Test							
Mean	94.75	93.11	Between	19.83	1	19.83	55.89*
			Within	9.58	27	0.35	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively). The table 1 shows that the adjusted post-test means of intermittent training group and control group are 94.75 and 93.11 respectively. The obtained "F" ratio of 172.73 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on leg strength. The results of the study indicated that there was a significant difference between the adjusted post-test means of intermittent training group and control group on leg strength.

Back Strength:

The analysis of covariance on back strength of the pre and post test scores of intermittent training group and control group have been analyzed and presented in table 2.

Table 2: Analysis of Covariance of the Data on Back Strength of Pre and Post Tests Scores of Intermittent Training and Control Groups

Test	Intermittent Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	93.20	93.00	Between	0.30	1	0.30	0.15
S.D.	1.38	1.29	Within	54.40	28	1.94	
Post Test							
Mean	95.07	93.27	Between	24.30	1	24.30	9.17*
S.D.	1.32	1.29	Within	74.17	28	2.65	
Adjusted Post Test							
Mean	94.98	93.35	Between	19.86	1	19.86	47.42*
			Within	11.31	27	0.42	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 28 and 2 and 27 are 3.34 and 3.35 respectively). The table 2 shows that the adjusted post-test means of intermittent training group and control group are 94.98 and 93.35 respectively. The obtained "F" ratio of 47.42 for adjusted post-test means is more than the table value of 3.35 for df 1 and 27 required for significance at .05 level of confidence on back strength. The results of the study indicated that there was a significant difference between the adjusted post-test means of intermittent training group and control group on back strength.

Conclusion:

- There was a significant difference between intermittent training group and control group on leg strength and back strength.
- And also it was found that there was a significant improvement on selected criterion variables such as leg strength and back strength due to intermittent training.

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