



INFLUENCE OF TERRACE TRAINING ON LEG STRENGTH AND STRENGTH ENDURANCE AMONG COLLEGE MEN THROWBALL PLAYERS

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Abstract:

The purpose of the study was designed to examine the effect of terrace training on leg strength and strength endurance of college men throwball players. For the purpose of the study, thirty men college throwball players from in the colleges in and around Warangal, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of the fifteen subjects. Group 1 underwent terrace training for three days per week for twelve weeks. Group 2 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 strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bent knee sit ups respectively 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 terrace training group and control group on leg strength and strength endurance. And also it was found that there was a significant improvement on leg strength and strength endurance due to twelve weeks of terrace training.

Key Words: Terrace Training, Leg Strength, Strength Endurance, College Men Throwball Players

Introduction:

Terrace training, often referred to as hill or stair training, is a specialized form of athletic conditioning that involves running, sprinting, or performing drills on inclined surfaces like terraces, hills, or staircases. This type of training is widely used across many sports to build strength, endurance, speed, and power. By working against gravity, athletes engage more muscle groups, particularly in the lower body, leading to improved cardiovascular fitness, muscle endurance, and explosive strength. Terrace training also enhances coordination, balance, and mental toughness, making it a valuable component in preparing athletes for the physical demands of competition. Due to its intensity and effectiveness, terrace training is often incorporated into pre-season programs or used as a supplementary workout to boost overall athletic performance.

In the modern era of competitive sports, the physical and mental demands on athletes have significantly increased. For college men's throwball players, developing specific strength, endurance, and agility is crucial for optimal performance. Terrace training - a form of workout utilizing the open, elevated spaces of terraces - has emerged as an effective method to address these needs. It provides an accessible environment for players to engage in high-intensity drills, functional strength exercises, and sport-specific conditioning without the constraints of traditional gym settings. Terrace training also promotes cardiovascular fitness, muscular endurance, and explosive power, all essential components for the fast-paced, dynamic game of throwball. Moreover, it offers flexibility in scheduling and fosters a disciplined, self-reliant attitude among players. Therefore, incorporating terrace training into the routine of college throwball players can significantly enhance their athletic capabilities, resilience, and overall game performance.

Methodology:

The purpose of the study was designed to examine the effect of terrace training on leg strength and strength endurance of college men throwball players. For the study, thirty men college throwball players from in the colleges in and around Warangal, Telangana, India were selected as subjects. They were divided into two equal groups. Each group consisted of fifteen subjects. Group 1 underwent terrace 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 strength endurance were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables by using leg lift with dynamometer and bent knee sit ups respectively 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 terrace 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 Terrace Training and Control Groups

Test	Terrace Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	91.93	92.00	Between	0.03	1	0.03	0.03
S.D.	0.85	1.18	Within	28.93	28	1.03	
Post Test							
Mean	95.07	92.07	Between	67.50	1	67.50	17.60*
S.D.	1.10	1.12	Within	107.37	28	3.83	
Adjusted Post Test							
Mean	95.09	92.04	Between	69.73	1	69.73	81.72*
			Within	23.04	27	0.85	

* 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 terrace training group and control group are 95.09 and 92.04 respectively on leg strength. The obtained "F" ratio of 81.72 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 terrace training group and control group on leg strength.

Strength Endurance:

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

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

Test	Terrace Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	41.07	40.33	Between	4.03	1	4.03	1.06
S.D.	1.98	1.31	Within	106.27	28	3.80	
Post Test							
Mean	46.60	40.80	Between	252.30	1	252.30	21.01*
S.D.	1.78	1.97	Within	336.30	28	12.01	
Adjusted Post Test							
Mean	46.34	41.06	Between	201.42	1	201.42	178.30*
			Within	30.50	27	1.13	

* 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 terrace training group and control group are 46.34 and 41.06 respectively on strength endurance. The obtained "F" ratio of 178.30 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 strength endurance.

The results of the study indicated that there was a significant difference between the adjusted post-test means of terrace training group and control group on strength endurance.

Conclusions:

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

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