Influence of Battle Rope Training and its Effect on Selected Physical Variables among Volleyball Players

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KEYWORDS
Battle Rope Training, Speed, Strength, Volleyball.

ABSTRACT:
The study's goal was to determine how battle rope training affected a few physical characteristics of volleyball players. It was predicted that the impact of battle rope training would result in notable variations on a few physical variables. Thirty male volleyball players, ages 18 to 25, from Bengaluru, Karnataka, were chosen at random for the current study. A pre-test–post-test random group design comprising a control group and an experimental group was employed for this study. The participants were divided into two equal groups of fifteen each at random and given the names Group A and Group B. While Group "B" has not received any training, Group "A" received battle rope training. The data was collected before and after twelve weeks of training. The data was analyzed by applying dependent 't test. The level of significance was set at 0.05. The battle rope training had positive impact on speed and strength among college level volleyball players.

1. Introduction

Compared to running or jumping, battling rope training is a more demanding form of exercise that is less taxing on the joints, especially in the lower body. The upper body is utilised during the training and exercise, providing the trunk, or core, of the body with a solid, suitable position and base. The battling rope system is different from other training methods because of the non-momentum effect. The power of the rope is controlled by movement from the trunk and hip joint. The choice of battle rope and wave will affect the amount of muscle activity. Muscles like the pectoralis major, deltoids, biceps, lattisimus dorsi, trapezius, external oblique, lumber erector spinae, and gluteus medias are activated during exercise (Chaitrali & Madhur, 2019). Battle rope training boosts upper body anaerobic power, dynamic shooting accuracy, and a number of fitness metrics when compared to shuttle running. Although battle rope exercises are among the newest exercise equipment and are commonly used by strength and conditioning coaches and athletic trainers to increase aerobic and anaerobic capacity, there hasn't been any published research in the Indian population to support their efficacy. Students interested in wellness and general well-being as well as competitors have found that battle rope training has enhanced their level of engagement. Battle rope training involves a variety of exercises, including climbing, pulling, and suspension training. In the past, these have been incorporated into important assessments of environments, including physical education classes, the planning of physical exercises, and the preparation of rivals and tactics. In any case, the most well-known use is for undulations, which prime waves to deliver strength, endurance, and powerful metabolic and cardiovascular responses. Battle rope training has many health benefits, depending on the desired level of exercise, development, and procedures that should be attainable (Kavikumar & Arumugam, 2020).

2. Methodology

The study's goal was to determine how battle rope training affected a few physical characteristics of volleyball players. It was predicted that the impact of battle rope training would result in notable variations on a few physical variables. Thirty male volleyball players, ages 18 to 25, from Bengaluru, Karnataka, were chosen at random for the current study. A pre-test–post-test random group design comprising a control group and an experimental group was employed for this study. The

participants were divided into two equal groups of fifteen each at random and given the names Group A and Group B. While Group "B" has not received any training, Group "A" received battle rope training. The data was collected before and after twelve weeks of training. The data was analyzed by applying dependent 't test. The level of significance was set at 0.05.

Table 1. Variables and Test

S.No	Variables	Tests
1	Speed	50 Metres Run
2	Strength	Dynamometer

3. Results

Tables 2 and 3 present the results of the analysis of the dependent "t" test between the experimental group and the control group on specific physical variables among volleyball players for the pre-post test, respectively.

Table 2. Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Battle rope Training Group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Speed	7.23	6.91	0.32	0.35	0.61	10.01*
2	Strength	57.56	60.35	2.79	1.17	0.13	11.11*

* Significant at 0.05 level

The obtained "t" ratios for the mean difference in the chosen variables of strength (11.11) and speed (10.01) before and after the test are displayed in Table 2. The obtained ratios were determined to be statistically significant at the 0.05 level of confidence when compared to the degrees of freedom (1, 14) table value of 2.14. The developed hypothesis is accepted since it was found that the mean gains and losses from the pre-test to the post-test were significantly improved in the variables of strength ($p<0.05$) and speed ($p<0.05$).

Figure 1. Comparisons of Pre – Test Means and Post – Test Means for Experimental Group in Relation to Physical Variables

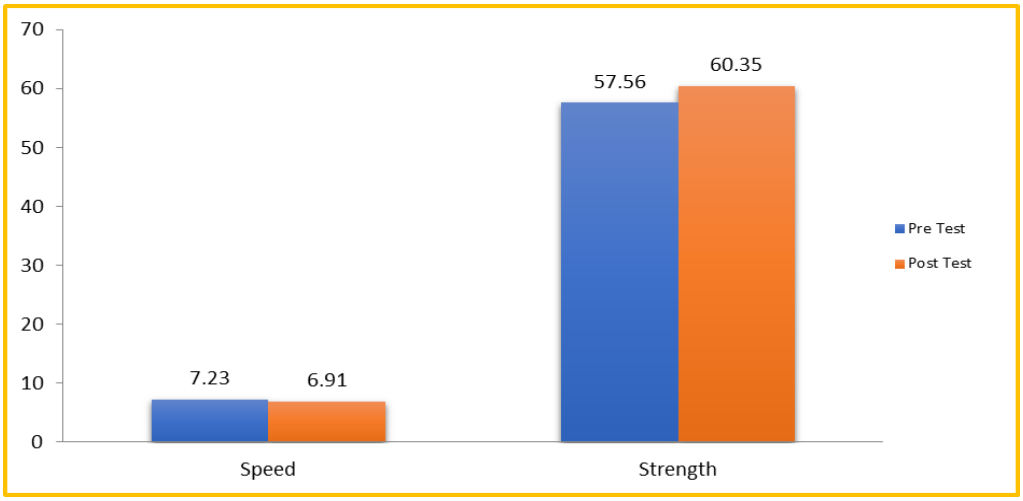


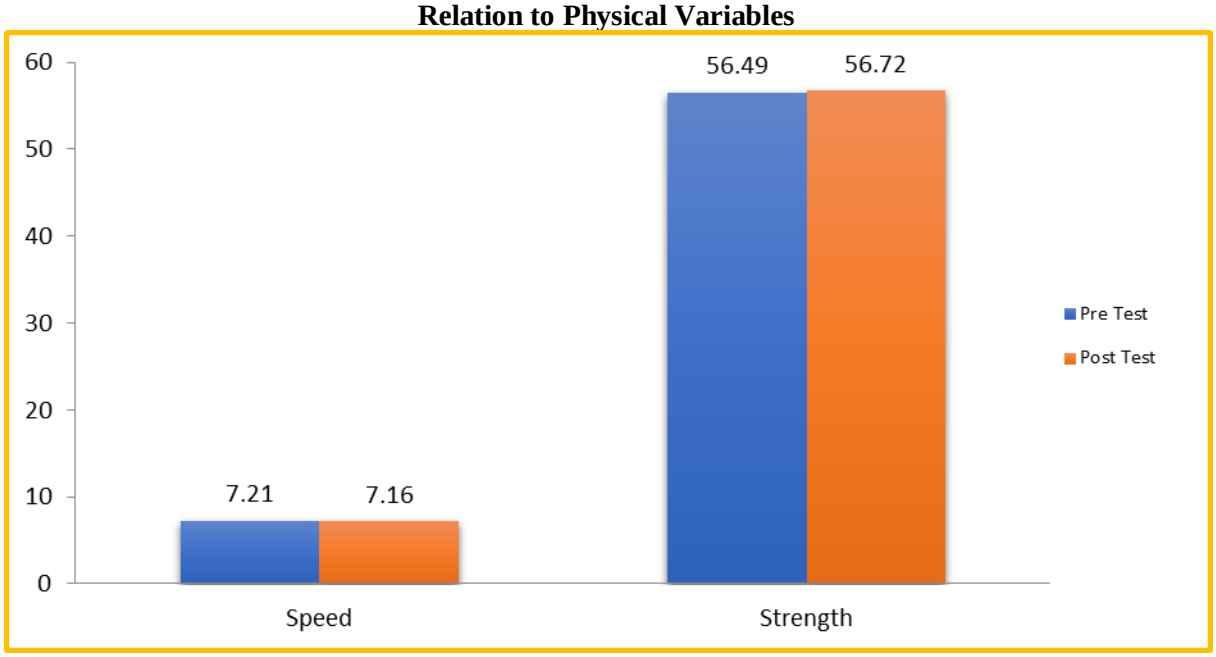
Table 3. Significance of Mean Gains & Losses between Pre and Post Test Scores on Selected Variables of Control Group

S.No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
1	Speed	7.21	7.16	0.05	0.67	0.21	1.56
2	Strength	56.49	56.72	0.23	1.54	0.57	1.24

* Significant at 0.05 level

The obtained "t" ratios for the pre- and post-test mean differences in the chosen variables of strength (1.24), and speed (1.56), are displayed in Table 3. The obtained ratios were determined to be statistically significant at the 0.05 level of confidence when compared to the degrees of freedom (1, 14) table value of 2.14. It was found that there was no significant improvement in the mean gain or loss from the pre-test to the post-test.

Figure 2. Comparisons of Pre – Test Means and Post – Test Means for Control Group in Relation to Physical Variables



4. Discussions on Findings

When it comes to physical variables like strength and speed, the experimental group's outcomes prior to and following the test were noticeably better than those of the control group. This is made attainable by consistently battle rope training, which can also cause volleyball players' physical variables to suddenly peak. The results of this study clearly show that twelve weeks of battle rope training significantly affects a few tangible variables, such as strength and speed. As a result, the previously established hypothesis—that a battle rope training program would have had a noteworthy impact on a few physical variables—was accepted.

5. Conclusion and Future Scope

The battle rope training had positive impact on speed and strength among college level volleyball players. In addition to outlining the advantages of training, the study identified particular

exercises that the students enjoyed and found objectionable. Therefore, the coaches need to focus on the positive aspects of coaching. Additional physiological, psychological, and biochemical variables could be included in future study.

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