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Efficacy of Battle Rope with Cricket Skill Training on Physical Fitness and Skill Performance Variables of Inter Collegiate Level Cricketers

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ABSTRACT

The purpose of this study was to evaluate the efficacy of battle rope with cricket skill training on physical fitness and skill performance variables of inter collegiate level cricketers. To achieve this, thirty male cricket players from Coimbatore district, aged between 18 and 25 years, were randomly selected as subjects. The participants were divided into two groups: an experimental group (n=15) and a control group (n=15). The study followed a true purposive random group design, incorporating both pre-test and post-test assessments. The selected skill performance variables for evaluation were batting and bowling. Before the intervention, all participants underwent a pre-test to establish baseline measurements. The experimental group then participated in an eight-week battle rope with cricket skill training program, conducted five days a week for 45 minutes per session, while the control group did not receive any specific training. After the completion of the training period, a post-test was administered, and the results were recorded. To analyze the effectiveness of the training, a paired sample t-test was conducted to compare pre-test and post-test scores within and between groups. The significance level was set at 0.05 to determine whether the observed differences were statistically significant.

BATTLE ROPE TRAINING

Battling ropes, also known as battle ropes or heavy ropes, are a type of strength training equipment that have gained popularity in recent years. They are typically made of thick, heavy ropes that are anchored to a stable surface, such as a pole or a tree. The ropes are then used for a variety of exercises that aim to improve strength, endurance, and power. Battling ropes are a versatile piece of equipment that can be used for many different goals. Here are some benefits that can be gained from using battling ropes: Improves cardiovascular fitness, Increases muscle power and endurance, Enhances grip strength, Increases core strength, Improves coordination and balance and Enhances mental toughness. Battle rope workouts are a great way to make significant fitness gains in a short amount of time. Battling ropes (also known as battle ropes or heavy ropes) are used for fitness training to increase full body strength and conditioning (Panday, D., 2013).

PHYSICAL FITNESS

Physical fitness is a set of attributes that are either health- or skill-related. Being physically fit has been defined as "the ability to carry out daily tasks with vigour and alertness, without undue fatigue and with ample energy to enjoy leisure-time pursuits and to meet unforeseen emergencies". The degree to which people have these attributes can be measured with specific tests. Physical fitness measures are closely allied with disease prevention and health promotion, thus it is common and appropriate to measure components of physical fitness before preventive and rehabilitative programs. Physical fitness can be modified through regular physical activity and exercise. Physical fitness components have been shown to have a significant positive relationship with enhanced outcomes in physical activity, including sports participation (Farley., 2020).

SELECTION OF SUBJECTS

The purpose of this study was to determine the efficacy of battle rope training combined with cricket skill training on the skill performance variables of intercollegiate-level cricketers. To achieve this purpose, thirty male intercollegiate cricket players who were studying at Sri Ramakrishna Mission Vidyalaya Maruthi College of Physical Education (N=15) and Ramakrishna Mission Vivekananda Educational and Research Institute – General and Adapted Physical Education and Yoga (N=15), Coimbatore, were randomly selected as subjects. Their ages ranged from 20 to 25 years, respectively.

SELECTION OF VARIABLES

The research scholar reviewed the available literature pertaining to battle rope with cricket skill training practices from books, journals, periodicals, magazines, and research papers. Taking into consideration feasibility criteria, availability of instruments, and the relevance of the variables to the present study, the following variables were selected. Based on feasibility, the following physical fitness and skill performance variables were chosen for this study.

❖ PHYSICAL FITNESS VARIABLES

- Shoulder Strength
- Shoulder Explosive Power

❖ SKILL PERFORMANCE VARIABLES

- Batting
- Bowling

CRITERION MEASURES

As per the available literature and consultation with experts, the following standardized tests were used to collect data on selected physical fitness and skill performance variables. The selected criterion variables were measured using standardized tests and equipment. The criterion variables selected, test items used, and the units of measurement were presented in Table-1.

TABLE-I

LIST OF CRITERION VARIABLES AND TEST ITEMS

S.NO	VARIABLES	TEST	MEASUREMENT
PHYSICAL FITNESS VARIABLES			
1	Shoulder Muscular Strength	Pull-ups	In Count
2	Shoulder Explosive Power	Soft Ball Throw	In Metres
SKILL PERFORMANCE VARIABLES			
3	Batting	Rating scale	Out of 10
4	Bowling		Out of 10

EXPERIMENTAL DESIGN

This study is being conducted to determine the possible cause and effect of Battle rope with cricket skill training on selected physical fitness and skill performance variables of intercollegiate level cricketers. The study is formulating as a true random group design, consisting of a pre-test and post-test. The subjects (N=30) are randomly assigned into two groups: Group I, the experimental group (N=15) and Group II, the control group (N=15), with fifteen subjects in each. All participants will be tested prior to and after the experimentation on physical fitness variables, namely Shoulder Muscular Strength and Shoulder Explosive Power which are rated by standardized tests. Skill performance variables, namely batting, and bowling performance, are rated by non-standardized tests. After the pre-test, the experimental group undergoes eight weeks of Battle rope with cricket skill training for 5 days per week, 45 minutes per day, while the control group is not given any specific training. After eight weeks of training, the post-test is conducted, and the readings are carefully recorded as the post-test scores.

TRAINING PROGRAMME

The training group namely battle rope with cricket skill training group undergo their training programme for 8 weeks. Weekly 5 days the work out lasted for 45 minutes including warm up and warm down exercises. Control group does not participate in any specific battle rope with cricket skill training; however they performed their regular physical education curriculum.

TABLE – II

SIGNIFICANCE OF MEAN GAINS /LOSSES BETWEEN PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP ON SHOULDER STRENGTH

Group	Pre mean ±S.D	Post mean ±S.D	Mean. Diff	Std. Error	DF	P Value	't' ratio
Experimental	7.07 ± 2.28	8.80 ± 2.45	1.73	0.12	14	0.00	14.67*
Control	6.86 ± 1.72	7.13 ± 1.50	0.27	0.23	14	0.26	1.17

**Significant at 0.05 level*

The above table –II reveals that pre and post test mean value on shoulder strength of experimental group of intercollegiate level cricketers are 7.07 and 8.80 respectively. The obtained 't' ratio value is 14.67 which is greater than 2.14 table value. This shows that there is significant difference between the pre test and post test mean value of Battle rope with cricket skill training group on shoulder strength. The pre and post test mean values on shoulder strength of control group of intercollegiate level cricketers are 6.86 and 7.13 respectively. The obtained 't' ratio value is 1.17 which is less than 2.14 table value. This shows that there is no significant difference between the pre test and post test mean value of control group on shoulder strength. Pre- test and post- test results of Battle rope with cricket skill training group and control group on shoulder strength are presented in figure 1.

FIGURE-1

FIGURE SHOWING MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUP SHOULDER STRENGTH

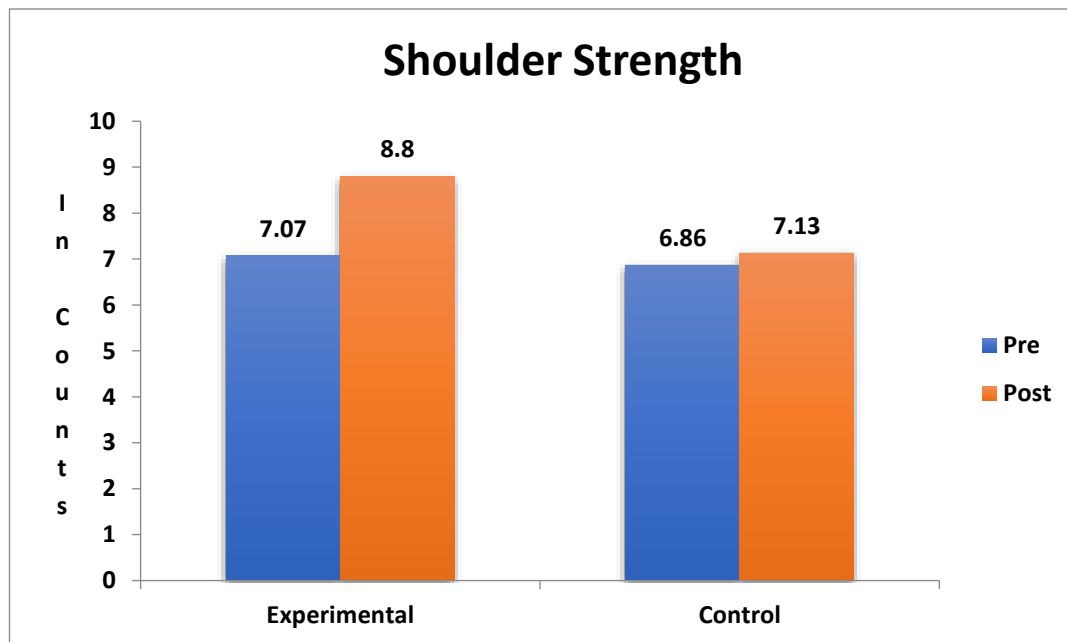


TABLE- III

SIGNIFICANCE OF MEAN GAINS /LOSSES BETWEEN PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP ON SHOULDER EXPLOSIVE POWER

Group	Pre mean ±S.D	Post mean ±S.D	Mean. Diff	Std. Error	DF	P Value	't' ratio
Experimental	39.07 ±4.83	42.40 ±5.07	3.33	0.30	14	0.00	10.99*
Control	38.20 ±4.38	38.33 ±4.51	0.13	0.36	14	0.72	0.37

**Significant at 0.05 level*

The above table – III reveals that pre and post test mean value on shoulder explosive power of experimental group of intercollegiate level cricketers are 39.07 and 42.40 respectively. The obtained 't' ratio value is 10.99 which is greater than 2.14 table value. This shows that there is significant difference between the pre test and post test mean value of Battle rope with cricket skill training group on shoulder explosive power. The pre and post test mean values on shoulder explosive power of control group of intercollegiate level cricketers are 38.20 and 38.33 respectively. The obtained 't' ratio value is 0.37 which is less than 2.14 table value. This shows that there is no significant difference between the pre test and post test mean value of control group on shoulder explosive power. Pre- test and post- test results of Battle rope with cricket skill training group and control group on shoulder explosive power are presented in figure 2.

FIGURE-2

FIGURE SHOWING MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUP SHOULDER EXPLOSIVE POWER

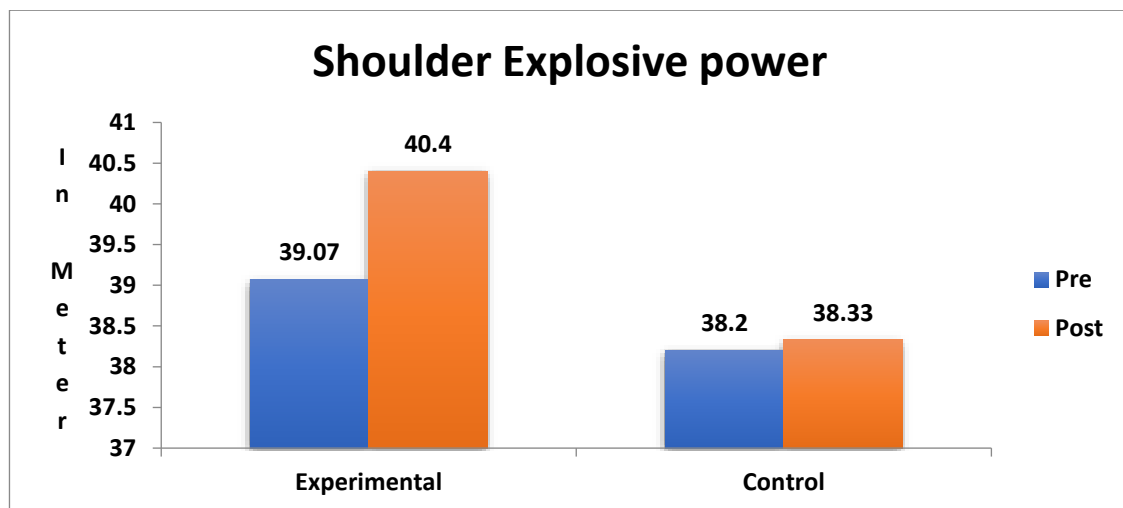


TABLE-IV

SIGNIFICANCE OF MEAN GAINS /LOSSES BETWEEN PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP ON BATTING

Group	Pre mean ±S.D	Post mean ±S.D	Mean. Diff	Std. Error	DF	't' ratio
Experimental	5.85 ±0.90	7.29 ±1.17	1.44	0.15	14	10.71*
Control	5.90 ±0.94	6.05 ± 0.77	0.13	0.25	14	0.32

*Significant at 0.05 level

The results presented in Table IV indicate that the pre-test and post-test mean values for batting in the experimental group of intercollegiate-level cricketers were 5.85 and, 7.29 respectively. The obtained 't' ratio value of 10.71 exceeded the table value of 2.14, demonstrating a significant difference between the pre-test and post-test mean values in the experimental group for batting. Conversely, in the control group, the pre-test and post-test mean values were 5.90 and 6.05, respectively, with an obtained 't' ratio value of 0.32, which was lower than the table value of 2.14. This indicates no significant difference in the batting performance of the control group. The pre-test and post-test results for the experimental and control groups in batting are illustrated in Figure 3.

FIGURE-3

FIGURE SHOWING MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUP ON BATTING

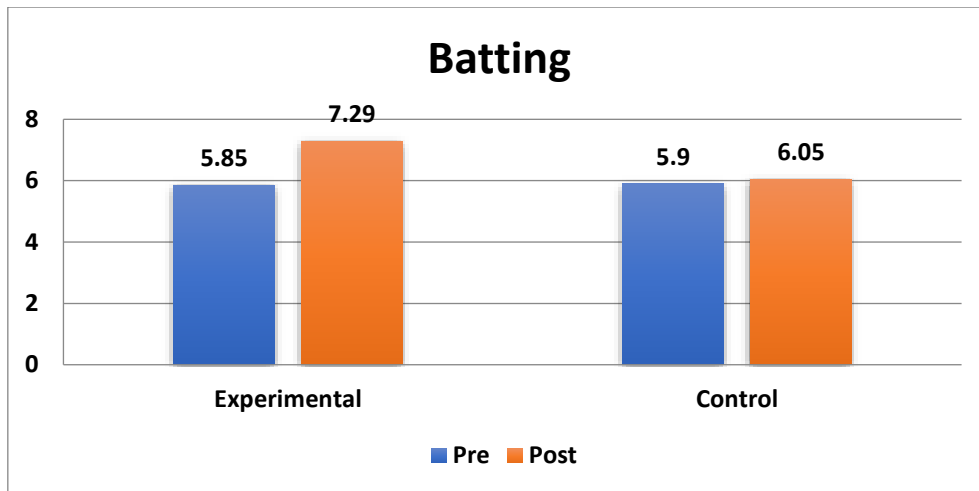


TABLE - V

SIGNIFICANCE OF MEAN GAINS /LOSSES BETWEEN PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP ON BOWLING

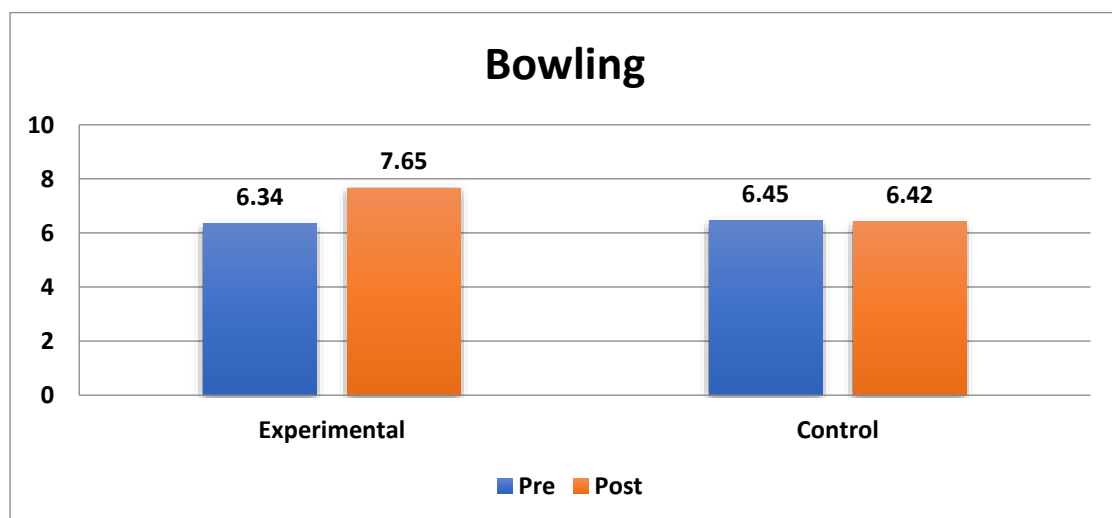
Group	Pre mean ±S.D	Post mean ±S.D	Mean. Diff	Std. Error	DF	't' ratio
Experimental	6.34 ± 0.83	7.65 ± 1.15	1.31	0.15	14	8.35*
Control	6.45 ± 0.65	6.42 ± 0.80	0.03	0.20	14	0.30

*Significant at 0.05 level

The results presented in Table III shows that the pre-test and post-test mean values for bowling in the experimental group were 6.34 and 7.65, respectively. The 't' ratio value of 8.35 was greater than the table value of 2.14, signifying a significant improvement in the experimental group's bowling performance. However, in the control group, the pre-test and post-test mean values were 6.45 and 6.42, respectively, with an obtained 't' ratio value of 0.30, which was below the table value of 2.14. This confirms that there was no significant difference in the bowling performance of the control group. The pre-test and post-test results for the experimental and control groups in bowling are depicted in Figure 4.

FIGURE-4

FIGURE SHOWING MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUP ON BOWLING



DISCUSSION OF FINDINGS

The results of the study indicate that the experimental group that underwent battle rope with cricket skill training showed significant improvement in the selected dependent variables, namely batting and bowling, compared to the control group. The findings further suggest that battle ropewith cricket skill training had a greater impact on enhancing cricket skill performance variables namely: batting and bowling than the absence of specialized training.

These results align with previous research, such as Senthil Kumar Ponmoorthi (2024), which examined the comparative analyses on selected skill performance variables, between college level right arm off spinner, right arm finger leg spin and right arm wrist leg spinner of cricket players. The study found that the training group demonstrated significant improvements in physical fitness and skill performance variables compared to the control group. Similarly, the present study confirms that battle rope with cricket skill training can be an effective method for improving key physical fitness and skill performance variables in cricket players.

CONCLUSION

The findings of this study demonstrate that battle rope training combined with cricket skill training significantly improved physical fitness and skill performance in intercollegiate-level cricketers compared to the control group. The results suggest that integrating battle rope exercises into cricket training can be more effective in enhancing these physical fitness and skill performance variables than the absence of specialized training. Therefore, battle rope with cricket skill training can be considered a valuable addition to cricket conditioning programs to improve overall physical fitness and skill performance.

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