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## EFFECT OF STRENGTH TRAINING ON PHYSICAL FITNESS VARIABLES OF INTERCOLLEGIATE VOLLEYBALL PLAYERS

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### Abstract:

*Aim of this study was to determine how Circuit Training affected selected motor fitness indicators as well as male volleyball skill performance. Thirty male volleyball players from Gujarat, ranging in age from 18 to 25, were selected as study participants. They were distributed into two groups at random: experimental and control, each with 15 topics. The motor fitness parameters were explosive power, cardio-respiratory endurance, and muscular strength. The Brady volley test and the Russell Lange serving exam were used to measure the subjects' volleyball skill performance before and after the trial. The experimental group conducted a circuit training program 3 days a week for 8 weeks. Data were subjected to statistical evaluation. (P 0.05) ANCOVA circuit training results were significantly improved.*

**Keywords:** strength training, physical variables, volleyball players

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### Background:

The purpose of this study is to investigate the effect of strength training on the physical strength of volleyball players at the National Collegiate Athletic Association.

### Method:

Thirty intercollegiate volleyball players from three Variance Colleges affiliated with South Gujarat University were assigned to this subject. Veer Narmad South Gujarat University, Surat. Subjects were between 18 and 25 years of age. Absolute (n = 30) intercollegiate volleyball players were randomly divided into two equal groups. The groups were named strength training group and control group. Upper extremity strength was measured by bench press, and lower extremity strength was measured by half squat. The study group was trained for 6 weeks and showed a post-test after the training period was over.

### Introduction to Strength Training:

Features Volleyball training strengthens the muscles of the upper and lower body, thighs and legs. Volleyball strengthens and strengthens the cardiovascular and pulmonary systems. When blood circulation is improved, more blood, oxygen and nutrients are circulated throughout the body, improving body function and overall health and well-being. Volleyball is a sport where strength and power reign. To rise high in the air, an athlete needs not only upper body strength to throw, block, and dig the ball, but

also leg strength. The inherent strength of volleyball allows players to reach their full potential. In volleyball, passing is often considered the most important ability. If you do not pass the serve, you are out. Your team will never score. The value of passes, volleys and serves is sometimes overlooked. Strength function Volleyball players train to improve their abilities, movements and stamina. Passing, setting, spiking, blocking, digging, and serving are the six basic core skills of volleyball. As the player's abilities grow, so does the standard. This is very important if you want to build a very successful volleyball team. When a player's stamina improves, expectations rise. As players gain experience, they begin to expect more success. Learning is fun and as players improve their stamina, they will naturally strive to improve their stamina. This sequence will never end. Until players are never "exhausted" as their health and skill levels increase. Sometimes it's natural to be dissatisfied. Players will continue to do better as long as they believe and expect to improve.

### Methodology

The purpose of this study was to determine the effect of strength training on physical performance in intercollegiate volleyball players. For the purpose of this study, 30 national intercollegiate college volleyball players out of 3 college-level volleyball players from Surat, Gujarat were randomly selected for the study and

their age range was 18 to 25 years. The subjects were divided into two equal groups of 15 volleyball players each. This study was formulated with a targeted randomized group design consisting of a pre-test and a post-test. Groups were selected as strength training group and control group in an equivalent manner. The experimental group participated in training for 6

weeks to learn the results of the training package, and the control group did not participate in the training programmer. A paired t-test was used. In this study, performed in all cases, a confidence level of 0.05 was set to test the hypothesis.

**Table- 1 Variables and Test Items**

Sr. No	Variables	Test
1	Upper Extremity Strength	Bench Press
2	Lower Extremity Strength	Half Squat

**Result:**

**Table II:** Significance of Mean Gains & Losses between pre and post test Scores on Selected Variables of Strength Training Group (STG)

Sr.No	Variables	Pre-test mean	Post-test mean	Mean difference	Std error Dm	't' Ratio
1	Upper Extremity Strength	6.86	7.80	0.93	0.26	3.50*
2	Lower Extremity Strength	5.80	6.33	0.53	0.13	4.00*

\* Significant at 0.05 level

Table II shows the obtained 't' ratios for pre and post-test mean variance in the nominated variables of Upper Extremity Strength (3.50) and Lower Extremity Strength (4.00). The obtained ratio when compared with the table value of 2.14 of degrees of freedom (1.14) it was found to be statistically significant at 0.05 level of

confidence. It was observed that the means gain and losses made from pre and post-test were significantly improved in physical fitness variables of Upper Extremity Strength (0.93,  $p < 0.05$ ) and Lower Extremity Strength (0.53,  $p < 0.05$ ).

**Fig I:** Shows the Pre and Post-Test Mean Values of Experimental Group on Selected Variables

**Table III:** Significance of Mean Gains & Losses between pre and post test Scores on Selected Variables of Control Group (CG)

Sr. No	Variables	Pre-test mean	Post-test mean	Mean difference	Std error Dm	't' Ratio
1	Upper Extremity Strength	6.86	6.80	0.66	0.66	1.00
2	Lower Extremity Strength	5.80	5.73	0.66	0.15	0.435

\* Significant at 0.05 level

Table III shows the obtained ratios for pre and post-test mean difference in the nominated variables of Upper Extremity Strength (1.00) and Lower Extremity Strength (0.435). The obtained ratio when compared with the table value of 2.14 of degrees of freedom (1.14) it was found to be statistically significant

at 0.05 level of confidence. It was observed that the means gain and losses made from pre and post-test were significantly improved in physical variables of Upper Extremity Strength (0.66,  $p < 0.05$ ) and Lower Extremity Strength (0.66,  $p < 0.05$ ).

**Fig II:** Shows the Pre and Post-test Mean Values of Control Group on Selected Variables

**Results:**

**Findings of the Study:** As a result of the study, it can be seen that the strength training test group significantly improved upper extremity muscle strength and lower extremity muscle strength after 6 weeks of training. In addition, it was

found that the improvement by strength training was superior to that of the control group..

**Conclusions:**

As a result of analyzing the data, the following conclusions were drawn. The strength training group showed significant improvement

in all fitness measures selected among the intercollegiate volleyball players after the strength training group for 8 sessions.

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