

RELATIONSHIP BETWEEN RESISTANCE TRAINING AND PHYSICAL VARIABLES AMONG VOLLEYBALL PLAYERS

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Cite This Article: P. Vignesh, Dr. B. S. Sha Yin Sha, Dr. K. Pradeep Kumar & Dr. M. Suresh Kumar, "Relationship Between Resistance Training and Physical Variables Among Volleyball Players", Indo American Journal of Multidisciplinary Research and Review, Volume 6, Issue 2, Page Number 188-191, 2022.

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Abstract:

The purpose of the study was to find out the influence of resistance training programme on physical variables. To achieve the purpose of the present study, thirty volleyball players were selected as subjects at random from Jamal Mohamed College, Tiruchirappalli, Tamilnadu, India and their ages ranged from 18 to 21 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n=30) were randomly assigned into two equal groups of fifteen volleyball players each. The groups were assigned as resistance training group (RTG) and control group (CG) in an equivalent manner. The subjects were treated for about 12 weeks in their respective training programmes. The training programmes were scheduled at 6.30 to 7.30 am for alternate three days in a week. The subjects belonging to control group was not treated with any training program. After completion of the treatment the subjects belong to all the groups were again tested on criterion measures as measured during the initial test. The collected data on criterion measures were treated by dependent 't' test. The result reveals that strength and agility of resistance training group showed significant differences than the control group.

Key Words: Unilateral, Bilateral, Power

Introduction:

Resistance training programs can increase fat-free mass and decrease body fat percentage. One of the most notable advantages of resistance exercise for weight loss is its beneficial effects on maintaining or increasing fat-free body mass while promoting the loss of fat body weight. It also has a positive impact on increasing energy expenditure during the exercise session and somewhat during recovery. Body composition is more likely to be influenced and controlled by resistance training regimens with bigger muscle groups and higher total volume (Stone, Fleck, Triplett, & Kramer, 1991). Resistance training volume is based on total workload, which is a function of the energy expended during the workout. Multiplying the weight of the load (total repetitions x weight) by the total number of repetitions (repetition x sets) completed yields the total volume. A common method for calculating total volume is to multiply the number of sets, repetitions, and load. For example, three sets of twelve repetitions with 50 lbs would have a volume of $3 \times 12 \times 50 = 1,800$ lbs. Resistance training is notable for one thing: compared to other forms of exercise, it appears that there is a higher energy expenditure following the higher total volume workouts, which is beneficial for weight loss objectives.

Methodology:

The purpose of the study was to find out the influence of resistance training programme on physical variables. To achieve the purpose of the present study, thirty volleyball players were selected as subjects at random from Jamal Mohamed College, Tiruchirappalli, Tamilnadu, India and their ages ranged from 18 to 21 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n=30) were randomly assigned into two equal groups of fifteen volleyball players each. The groups were assigned as resistance training group (RTG) and control group (CG) in an equivalent manner. The subjects were treated for about 12 weeks in their respective training programmes. The training programmes were scheduled at 6.30 to 7.30 am for alternate three days in a week. The subjects belonging to control group was not treated with any training program. After completion of the treatment the subjects belong to all the groups were again tested on criterion measures as measured during the initial test. The collected data on criterion measures were treated by dependent 't' test.

Result:

Table 1: Dependent 't' - Ratio for Inter Collegiate Level Volleyball Players on Leg Explosive Strength (Scores in meters)

S.No	Group	Mean		Standard Deviation		Obtained Value	Table Value
		Pre	Post	Pre	Post		
1	Control Group	0.75	0.74	0.04	0.03	0.50	2.14
2	Experimental Group	0.76	0.92	0.05	0.07	8.00*	

Degree of freedom = $(N - 1) = 14$. *Significant at 0.05 level of confidence. Table value at 0.05 level = 2.14

Table 1 shows that the mean value of pre and post test means were 0.75 and 0.74 of control group. The obtained t-ratio 0.50 was not significant this was lesser than the table value of 2.14.

Table 1 shows that the mean value of pre and post test mean were 0.76 and 0.92 of experimental group. The obtained 8.00 was significant this was higher than the table value of 2.14.

Leg explosive strength was measured through vertical jump. The result presented in table showed significances differences in the adjusted means, as the obtained 't' value was greater than the required 't' value the means proved that there was significances differences existed between control group and resistance training group.

Figure 1: The Bar Diagram Shows the Result of Pre and Post Mean of the Leg Explosive Strength among Inter Collegiate Level Volleyball Players

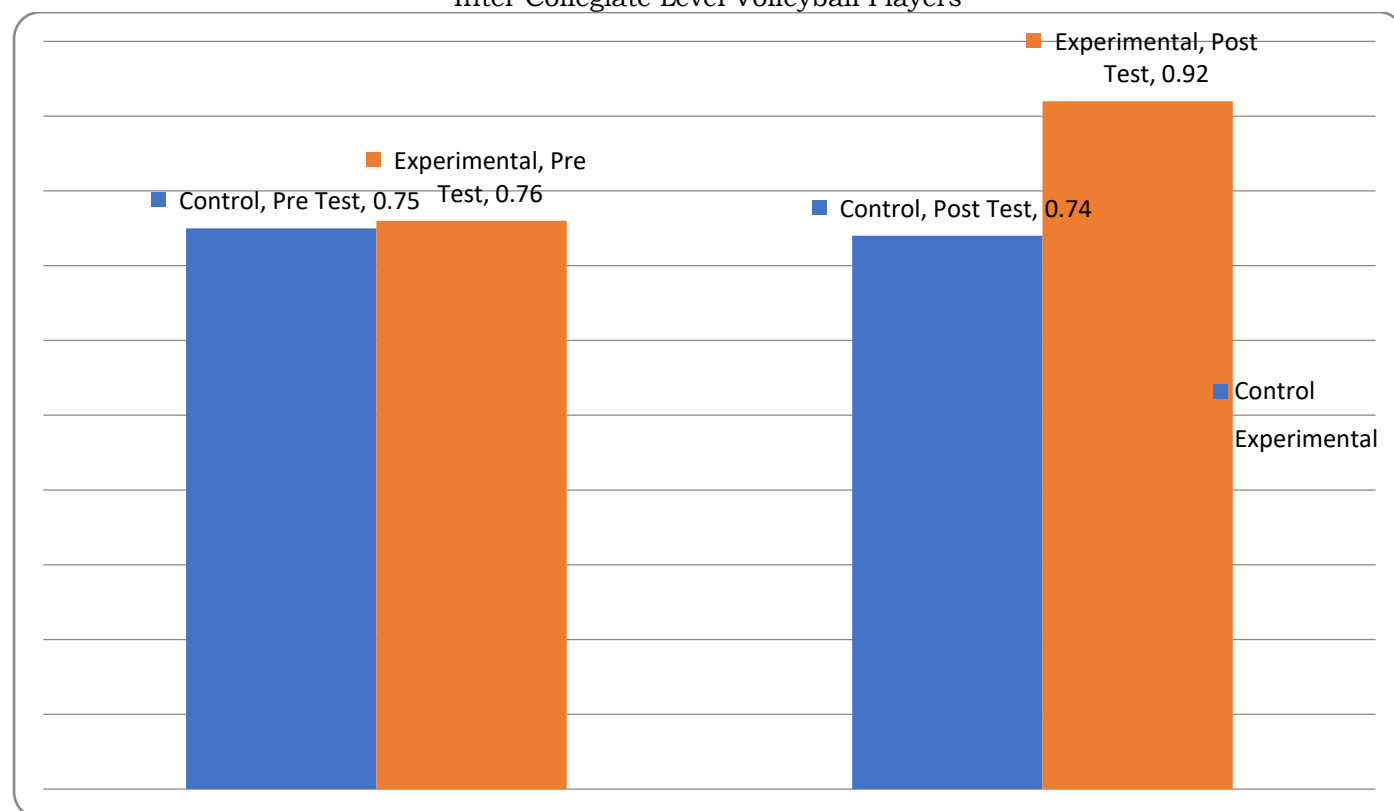


Table 2: Dependent 't' - Ratio for Inter Collegiate Level Volleyball Players on Agility (Scores in seconds)

S.No	Group	Mean		Standard Deviation		Obtained Value	Table Value
		Pre	Post	Pre	Post		
1	Control Group	30.40	30.10	1.43	1.59	1.25	2.14
2	Experimental Group	28.75	27.54	1.24	1.31	4.03*	

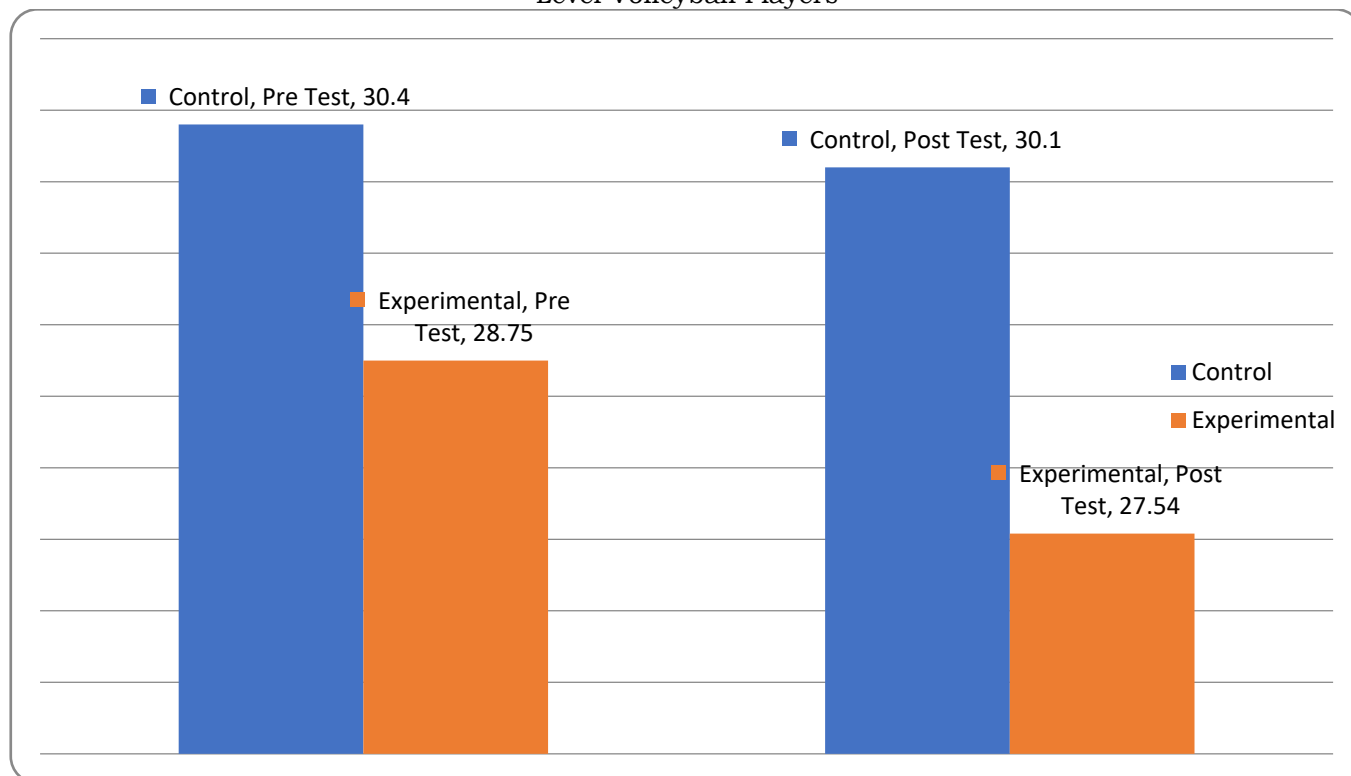
Degree of freedom = $(N - 1) = 14$. *Significant at 0.05 level of confidence. Table value at 0.05 level = 2.14

Table 2 shows that the mean value of pre and post test means were 30.40 and 30.10 of control group. The obtain t-ratio 1.25 was not significant this was lesser than the table value of 2.14.

Table 2 shows that the mean value of pre and post test mean were 28.75 and 27.54 of experimental group. The obtained 4.03 was significant this was higher than the table value of 2.14.

Agility was measured through 4x10 shuttle run. The result presented in table showed significances differences in the adjusted means, as the obtained 't' value was greater than the required 't' value the means proved that there was significances differences existed between control group and resistance training group.

Figure 2: The Bar Diagram Shows in the Result of Pre and Post Mean of the Agility Among Inter Collegiate Level Volleyball Players



Conclusion:

From the analysis of the data, the following conclusions were drawn:

- The result reveals that strength of resistance training group showed significant differences than the control group.
- The result reveals that agility of resistance training group showed significant differences than the control group.

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