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IMPACTS OF KETTLEBELL TRAINING ON LEG STRENGTH AND MUSCULAR STRENGTH AMONG COLLEGE LEVEL WOMEN KABADDI PLAYERS

D. Prabakaran[1] and Dr. P. Sridar[2]

[1]*Physical Education Teacher, Delhi World Public School, Madurai, Tamilnadu, India.*

[2]*Director of Physical Education, Government Arts and Science College, Modakkurichi, Erode, (Affiliated to Bharathiar University, Coimbatore), Tamilnadu, India.*

ABSTRACT

The main principle of this study was to discover the impacts of kettlebell training on leg strength and muscular strength among college level kabaddi players. To accomplish this purpose of the study thirty college level women kabaddi players from Mangayarkarasi College of Arts and Science for Women, Madurai, Tamilnadu, India were randomly selected as subjects. Their age ranged in between 19 and 23 years. The subjects were separated into two groups namely kettlebell group and control group. The kettlebell group was subjected to kettlebell training (for weekly three days monday, wednesday, friday) at evening session for eight weeks. Leg strength and muscular strength was selected as dependent variable. After the compilation of proper data, it was statistically analyzed by using paired't' test. The level of significance was set at 0.05. The result of the current study showed that the kettlebell training has significant development on leg strength and muscular strength of kabaddi players.

KEYWORDS: *Kettlebell Training, Leg strength, muscular strength and kabaddi players.*

1. INTRODUCTION

kettlebell is a cast-iron or cast steel load (resembling a cannonball with a handle) used to carry out all types of exercises, including but not imperfect to ballistic exercises that merge cardiovascular, strength and flexibility training. They are also the primary equipment used in the weight lifting sport of kettlebell lifting. It's well-known that compound, whole body actions typical of kettlebell exercises are better to machines that isolate muscles for improving muscle tone, body composition, and strength. Further, kettlebells strengthen the tendons and ligaments, making the joints tougher and less-susceptible to injury. Strengthens every muscle from head-to-toe. Kettlebell training consists of whole-body movement exercises. It's well-known that complex, whole body actions typical of kettlebell exercises are superior to machines that isolate muscles for improving muscle tone, body composition, and strength. Kettlebell training should be implemented in the condition program of all sports, not just strength sports. The expand in leg strength, muscular strength and muscular endurance will advantages of every sport. As athletes involves more of muscular contraction. Which build the components for the game, as a researcher special planned kettlebell training programme for the college level women kabaddi players.

2. METHODOLOGY

The main principle of this study was to discover the impacts of kettlebell training on leg strength and muscular strength among college level kabaddi players. To accomplish this purpose of the study thirty college level women kabaddi players from Mangayarkarasi College of arts and science for women, madurai, Tamilnadu, India were randomly selected as subjects. Their age ranged in between 19 and 23 years. The subjects were separated into two groups namely kettlebell group and control group. The kettlebell group was subjected to kettlebell training (for weekly three days monday, wednesday, friday) at evening session for eight weeks. Leg strength and muscular strength was selected as dependent variable. After the compilation of proper data, it was statistically analyzed by using paired't' test. The level of significance was set at 0.05.

3. TRAINING PROTOCOL

For kettle group underwent their training programme as three days per week for eight weeks. Training was specified in the evening session. The training session includes warming up and cool down. All day the workout lasted for 50 to 60 minutes roughly. The subjects underwent their training programmes as per the schedules such as pistol squat, biceps curl, row and front

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raise under the strict regulation of the researcher. During experimental period control group did not supply in any of the outstanding training.

4. RESULTS

TABLE-I
RELATIONSHIP OF MEAN, SD AND'T'-VALUES OF THE LEG STRENGTH BETWEEN PRE & POST TEST OF THE KETTLEBELL AND CONTROL GROUPS OF KABADDI PLAYERS

	Groups	Test	Mean	S.D	't' Values
Leg Strength	Control Group	Pre Test	72.80	17.12	0.26
		Post Test	72.86	17.27	
	Kettlebell Group	Pre Test	73.73	11.84	8.38*
		Post Test	78.46	12.18	

*Significant at 0.05 level of confidence

Table-I reveals that the mean values of per test and post test of control group for leg strength were 72.80 and 72.86 respectively; the obtained t ratio was 0.26 respectively. The tabulated t value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated t ratio was lesser than the table value. It is found to be insignificant change in leg strength of the kabaddi players. The obtained mean and standard deviation values of pre test and post test scores of kettlebell group were 73.73 and 78.46 respectively; the obtained t ratio was 8.38. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The obtained t ratio was greater than the table value. It is found to be significant changes in leg strength of the kabaddi players. The mean values on kettlebell group and control group are graphically represented in figure-1

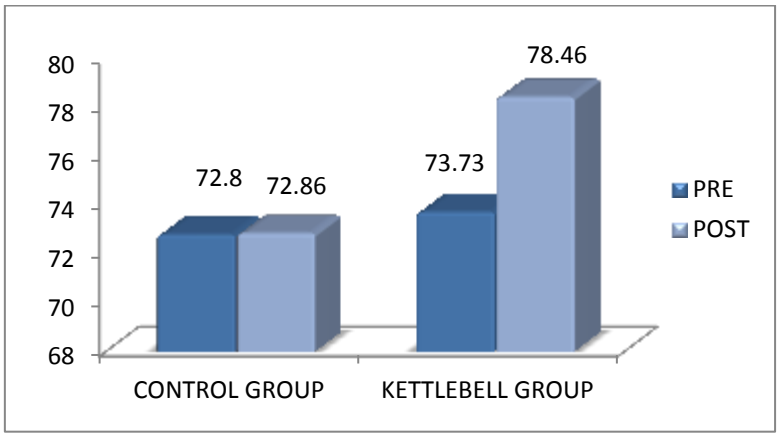

FIGURE-1: BAR DIAGRAM SHOWING THE PRE TEST & POST TEST ON LEG STRENGTH OF CONTROL AND KETTLEBELL GROUPS

TABLE-II
RELATIONSHIP OF MEAN, SD AND'T'-VALUES OF THE MUSCULAR STRENGTH BETWEEN PRE & POST TEST OF THE KETTLEBELL AND CONTROL GROUPS OF KABADDI PLAYERS

	Groups	Test	Mean	S.D	't' Values
Muscular Strength	Control Group	Pre Test	31	6.42	0.48
		Post Test	32	6.52	
	Kettlebell Group	Pre Test	32	5.16	5.19*
		Post Test	37	5.73	

*Significant at 0.05 level of confidence

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Table-II reveals that the mean values of per test and post test of control group for muscular strength were 31.46 and 31.33 respectively; the obtained t ratio was 0.48 respectively. The tabulated t value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated t ratio was lesser than the table value. It is found to be insignificant change in muscular strength of the kabaddi players. The obtained mean and standard deviation values of pre test and post test scores of kettlebell group were 32.66 and 37.80 respectively; the obtained t ratio was 5.19. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The obtained t ratio was greater than the table value. It is found to be significant changes in muscular strength of the kabaddi players. The mean values on kettlebell group and control group are graphically represented in figure-2

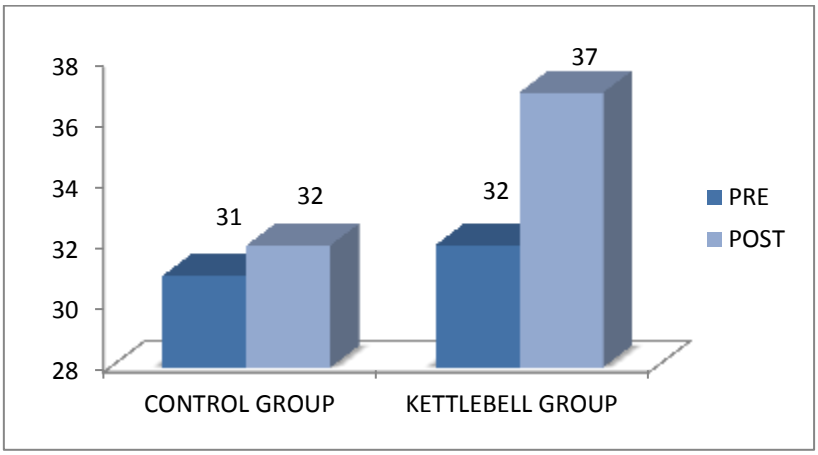

FIGURE-2: BAR DIAGRAM SHOWING THE PRE TEST & POST TEST ON MUSCULAR STRENGTH OF CONTROL AND KETTLEBELL GROUPS

5. DISCUSSION ON FINDINGS

The kettlebell training is an implausible training which has been found to be useful of the kabaddi players. To study the kettlebell training on leg strength and muscular strength of college level women kabaddi players, it was tested under to differentiation between kettlebell group and control group. The kettlebell training includes on selected physical fitness components. The kettlebell exercises are namely pistol squat, biceps curl, row and front raise. It also improves the leg strength, muscular strength, muscle size and other than some physical fitness components are namely speed, agility, and power. The obtained result proved positively the kettlebell group significantly improved. The result of the present study showed that the kettlebell training has significant improvement on leg strength and muscular strength of kabaddi players. The results of the study are in line with the studies of **Vijay and Vallimurugan (2021)[1], Abdul Halik et al (2021)[2], Ooraniyan and Senthil Kumaran (2018)[4].**The result of the study showed that the control group was not significantly improved kettlebell training on leg strength and muscular strength of college level women kabaddi players.

6. CONCLUSIONS

Based on the result and within the limitation of the study it is noticed that practice of kettlebell training helped to get better leg strength and muscular strength of college level women kabaddi players. It was also seen that there is progressive improvement in the selected criterion variables of kettlebell group of kabaddi players after eight weeks of kettlebell training programme. Further, it also helps to improve leg strength and muscular strength.

1. It was concluded that individualized impacts of kettlebell group showed a statistically significant optimistic sign over the path of the treatment period on leg strength and muscular strength of college level women kabaddi players.
2. It was done that individualized impacts of control group showed a statistically insignificant positive sign over the course of the period on leg strength and muscular strength of college level women kabaddi players.
3. The outcome of relative effects direct to conclude that kettlebell group had enhanced significant development on leg strength and muscular strength of college level women kabaddi players as compared to their performance with control group.

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