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BADMINTON PLAYER'S FITNESS OUTPUT IN RESPONSE TO KETTLEBELL TRAINING

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ABSTRACT

The underlying principle of this study was to discover the badminton player's fitness output in response to kettlebell training. To accomplish this purpose of the study thirty college level women badminton players from PSNA College of Engineering and Technology, Dindigul district, Tamilnadu, India were randomly selected as subjects. Their age ranged in between 18 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 present study showed that the kettlebell training has significant enhancement on leg strength and muscular strength of badminton players.

KEYWORDS: ***Kettlebell Training, Physical Fitness Components, Badminton Players.***

1. INTRODUCTION

kettlebell is a cast-iron or cast steel weight (resembling a cannonball with a handle) used to perform all types of exercises, including but not limited to ballistic exercises that combine 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 movements typical of kettlebell exercises are superior 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 compound, whole body movements 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 increase in leg strength, muscular strength and muscular endurance will advantages of every sport. As badminton game involves more of muscular contraction. Which build the components for the game, as a research scholar special planned kettlebell training programme for the college level women badminton players.

2. METHODOLOGY

The underlying principle of this study was to discover the badminton player's fitness output in response to kettlebell training. To accomplish this purpose of the study thirty college level women badminton players from PSNA College of Engineering and Technology, Dindigul district, Tamilnadu, India were randomly selected as subjects. Their age ranged in between 18 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 six weeks. Training was given in the evening session. The training session includes warming up and cool down. All day the workout lasted for 50 to 60 minutes

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approximately. The subjects underwent their training programmes as per the schedules such as pistol squat, biceps curl, row and front raise under the strict regulation of the researcher. During experimental period control group did not contribute in any of the exceptional 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 BADMINTON PLAYERS

Physical Fitness Variable	Groups	Test	Mean	S.D	't' Values
Leg Strength	Control Group	Pre Test	68.80	17.12	0.26
		Post Test	68.86	17.27	
	Kettlebell Group	Pre Test	81.73	11.84	12.33*
		Post Test	86.46	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 68.80 and 68.86 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 badminton players. The obtained mean and standard deviation values of pre test and post test scores of kettlebell group were 81.73 and 86.46 respectively; the obtained t ratio was 12.33. 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 badminton players. The mean values on kettlebell group and control group are graphically represented in figure-1

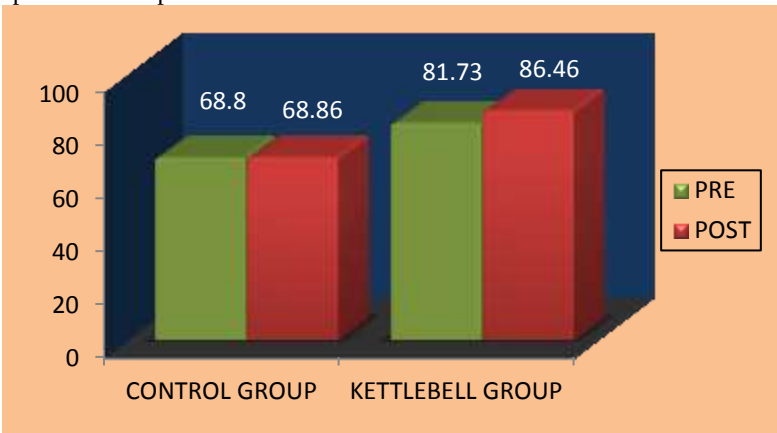

Figure-1: Bar Diagram Showing the Pre Test & Post Test On Leg Strength of Control and Kettlebell Groups

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

Physical Fitness Variable	Groups	Test	Mean	S.D	't' Values
Muscular Strength	Control Group	Pre Test	25.46	6.42	0.48
		Post Test	25.33	6.52	
	Kettlebell Group	Pre Test	27.66	5.16	3.19*
		Post Test	31.80	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 25.46 and 25.33 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 badminton players. The obtained mean and standard deviation values of pre test and post test scores of kettlebell group were 27.66 and 31.80 respectively; the obtained t ratio was 3.19. 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 badminton players. The mean values on kettlebell group and control group are graphically represented in figure-2

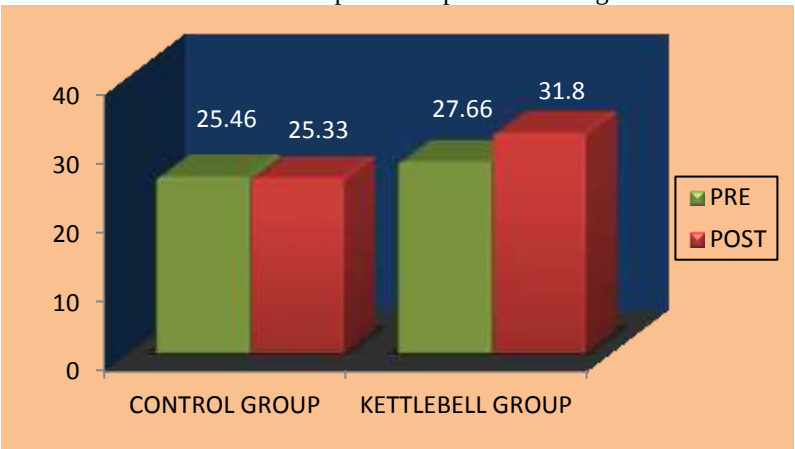

Figure-2: Bar Diagram Showing the Pre Test & Post Test On Muscular Strength of Control and Kettlebell Groups

5. DISCUSSION ON FINDINGS

The kettlebell training is a incredible training which has been found to be beneficial of the badminton players. To study the kettlebell training on leg strength and muscular strength of college level women badminton players, it was tested under to difference 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 badminton players. The results of the study are in line with the studies of **Ooraniyan et al (2018), Manocchia, P et al., (2015) & Joe girard et al., (2014)** 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 badminton players.

6. CONCLUSIONS

Based on the findings and within the limitation of the study it is noticed that practice of kettlebell training helped to improve leg strength and muscular strength of college level women badminton players. It was also seen that there is progressive improvement in the selected criterion variables of kettlebell group of badminton 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 positive sign over the course of the treatment period on leg strength and muscular strength of college level women badminton players.
2. It was concluded 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 badminton players.
3. The results of comparative effects lead to conclude that kettlebell group had better significant improvement on leg strength and muscular strength of college level women badminton players as compared to their performance with control group.

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