

Effectiveness Of Kettlebell Intervention On Speed And Muscular Endurance Among Women Volleyball Players

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Abstract

The current study was conducted to assess the effect of Kettlebell training on selected physical parameters among women volleyball players. Forty (N=40) women volleyball players (age range 18-25) from SRM University were selected at randomly and divided into two groups (n=20) of control and experimental group. The kettlebell training group was subjected to specific self-structured training programme for six weeks (3 session per week, 60 minutes per session), while the control group did not under any special training, they are participated in regular volleyball training only. The dependent variables were speed and muscular endurance was examined before and after six weeks of kettlebell training in both groups. In order to find out the effect of kettlebell training on speed and muscular endurance among women volleyball players. The descriptive statistics and paired sample 't' test were used to find out the significant differences. In all the cases 0.05 levels of significance were fixed. The results of the study showed that there was significant improvement on muscular endurance and there was no significant improvement on speed due to influence of kettlebell training.

Introduction

Sport has an important role in today's society. Sport's attraction originates in part from the vast range of sensations and sentiments that come with participation: pleasure, agony, success, failure, exhaustion, pain, relief, and a sense of belonging, according to the International Olympic Committee. Sport may provide money, glory, status, and goodwill, among other things. Sports activity and competition serve as compelling modes of social communication among distinct social orders, races, and countries, allowing for the expansion of shared understanding between social orders and countries. Sports preparation is a technique for athletic improvement in view of methodological standards, in which athletes are able to achieve remarkable and record-breaking athletic performance by fine-tuning their mental and physical efficiency, capacity, and inspiration. Sports training also includes all of the learning effects and techniques that have been associated with improved game performance.

Volleyball is a modern sport with high-intensity motor skills. Players are subjected to a wide range of regulations when participating in activities. All of their skills It's difficult to distinguish a skill or a talent. This is a trait that is not used in the game of volleyball players. For the performance of specialised motor assignments and space orientation, basic and specific motor abilities are required as well as agility and quickness, both of which are required for effective game scenario resolution. Physical activities like motor ability, sprinting, and attacking are regarded key parts of the game and contribute to the team's excellent performance. Volleyball players must have strong muscular strength, explosive power, as well as speed, agility, and flexibility. They must also be able to jump high, react quickly, and move quickly. Sprints, hops (blocking), and high-intensity court motions, which occur repeatedly during competition, exert a significant load on the neuromuscular system. In the current sport of volleyball, versatility and speed are the prevailing trends.

Volleyball

Physical Demands of modern Volleyball

It is a high-intensity team activity that requires both aerobic and anaerobic fitness in order to carry out a sequence of synchronised moves. To compete well in intermittent team sports like volleyball, players must be able to function at a high intensity for a long period of time, as well as maintain a steady, submaximal work rate throughout the match. Sprinting, running, jumping, and throwing are all crucial in team volleyball.

Kettle bell training

Kettle bell training combines strength and aerobic training with a primitive piece of equipment that resembles a cannonball with a grip attached. They are excellent fat-burning tools since they can be used to increase strength, endurance, agility, and balance. Many training ideas have been developed to help players improve their performance levels. Kettle bell training is a type of exercise that improves not only one's physical look but also one's strength and mental toughness. Kettle bell training, according to the basic movements, can increase heart rate and improve muscles all over the body. The kettle bell is a type of conventional weight training that is used to isolate different muscles with various forms of exercise. Kettle bells have re-emerged as a popular training technique for athlete conditioning in recent years. They wanted to see if they could quantify the cardio challenge of a popular Kettle bell workout. The trainer may perform various exercises through Kettle bell, the swing is the basic exercise for the improvement of upper and lower extremities, the handle of the Kettle bell is used to make the swinging action. The Kettle bell exercises are develops strength and endurance, particularly lower back, legs and shoulder, and also it is increases the grip strength.

Materials And Methods

The forty (N=40) women volleyball players were randomly selected for the study. The selected subjects were randomly divided in to two groups and assigned into kettlebell training group and control group. Each group consisted of twenty (n=20) subjects. The subjects where tested on speed and muscular power ability before and after the training period. The experimental group underwent Kettlebell training for six weeks. Before and after the completion of experimental period, all the subjects were measured of the criterion variables. The difference between the initial and the final means on criterion variables

were considered as the effect of treatment among the subjects.

Training Intervention

The Experimental group underwent kettlebell exercises thrice in a week on Tuesdays, Thursdays and Saturdays for a periods of six weeks. The training programme consisted of warm up and stretching for 10 minutes, selected kettlebell exercises for 35 minutes and 15 minutes of warm down. The initial intensity Kettlebell exercises was fixed at 60-65%. The intensity of Kettlebell exercises was gradually increase in every weeks. The intensity was fixed between 65%, 70% during 3rd week and 75% during 4th weeks. On the basis of pilot study, the initial intensity of the Kettlebell exercise was fixed to 75-80%. The intensity of the exercise was gradually increased, once in every two weeks. The intensity was fixed between 80% and 85% during 5th weeks, 85 and 90% during 6th weeks.

Statistical Techniques

In order to find out the effect kettlebell training on speed and muscular strength among women volleyball players, the descriptive statistics and paired sample 't' test were used to find out the significant differences if any. In all the cases, the level of significance was fixed at 0.05 level.

Result and Discussion

Descriptive Statistics and Paired't' Value on Speed of control and Experimental Group

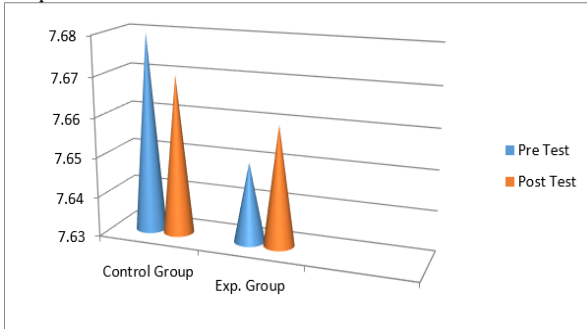
Group	Pre Test mean	Post Test mean	Pre Sd	Post Sd	MD	t value
Control Group	7.685	7.674	0.213	0.218	0.011	-1.89
Exp. Group	7.65	7.66	0.19	0.20	0.01	-1.62

Before and after the treatment of control group among volleyball Players in relation to Speed reveals that, in pre-test, mean score is 7.685, SD score is 0.213, and in post test mean score is 7.674 and SD value is 0.218. The t score is -1.89 and p score is 0.7316 which is lesser than 0.05. Hence, Pre-test and post-test mean similarity were not statistically significant among Training group on speed.

Before and after the treatment of Experimental group among volleyball Players in relation to Speed reveals that, in pre-test, mean score is 7.65, SD score is 0.19, and in post test mean score is 7.66

and SD value is 0.20. The t score is -1.62 and p score is .12031 which is lesser than 0.05. Hence, Pre-test and post-test mean similarity were not statistically significant among Experimental group on speed.

Figure I: Bar diagram shows the pre test and post test mean values on Speed of control group and Experimental Group



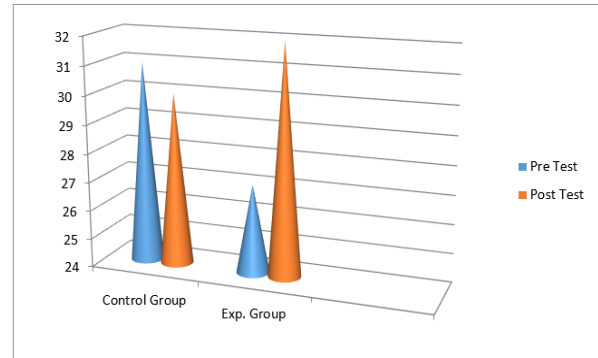
Descriptive Statistics and Paired‘t’ Value on Muscular Endurance of control and Experimental Group

Group	Pre Test mean	Post Test mean	Pre Sd	Post Sd	MD	t value
Control Group	31	30.85	2.29	1.75	0.15	0.47
Exp. Group	27.1	32.2	3.55	3.38	5.1	8.67

Before and after the treatment of control group among volleyball Players in relation to Muscular Endurance reveals that, in pre-test, mean score is 31, SD score is 2.29, and in post test mean score is 30.85 and SD value is 1.75. The t score is 0.47 and p score is 0.64304 which is lesser than 0.05. Hence, Pre-test and post-test mean similarity are not statistically significant among Training group on Muscular Endurance.

Before and after the treatment of Experimental group among volleyball Players in relation to Speed reveals that, in pre-test, mean score is 27.1, SD score is 03.55, and in post test mean score is 32.2 and SD value is 3.38. The t score is 8.67 and p score is .00001 which is greater than 0.05. Hence, there is significance mean difference in pre-test and post test due to the effect of kettlebell training among experimental group on Muscular Endurance.

Figure II: Bar diagram showing the pre test and post test mean values on mental health of control group



5. CONCLUSION

Through the statistical treatments applied, the researcher concluded that after the assessment and evaluation, the scores of the subjects of the study revealed that there was a significant improvement on Muscular Endurance among the Volleyball Players of experimental group and there was no significant improvement on speed among the Volleyball Players of experimental group due to the effect of Kettlebell training.

Reference

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