

## Effect of Weight Training on Maximum and Relative Strength of Kabaddi Players

**Varender S. Patial**

Department of Physical Education, Lovely Professional University, Phagwara, Punjab, India

### Abstract

The purpose of the present study was to find out the effect of weight training on maximum and relative strength of Kabaddi Players. Twenty (20) male Kabaddi Players aged between 18-25 years those were participated in the state level competition of Punjab, India were selected by the stratified random sampling technique and after the pre-test they were divided into two different groups i.e. experimental group and control group (n=10 in each group). To assess the maximum strength of the subjects, 1-RM bench press test was applied on Kabaddi Players before dividing them into the experimental as well as control group where as to assess the relative strength of the Kabaddi Players their maximum strength was divided by their body weight. The experimental group underwent the eight weeks of weight training program whereas the controlled group was not given any kind of training. Pre-test and post-test were applied to get the data from both the groups. The difference between groups was analyzed by applying t-test for the significant differences at 0.05 levels. The findings pertaining to 1-RM bench press test shown; that the eight weeks weight training is responsible for improving maximum strength of the Kabaddi Players. So the study analyzed that weight training improves the maximum and relative strength of Kabaddi Players which is the main asset in the game of Kabaddi.

**KEYWORDS:** Weight training, 1-RM test, Maximum strength, Relative strength.

### INTRODUCTION

Sports where weight training is central are bodybuilding, weightlifting, power lifting, wrestling and Kabaddi. It is also beneficial in shot put, discus throw and javelin throw. Weight training for other sports and physical activities is becoming increasingly popular. Weight training is an inclusive term that describes all exercises devoted toward increasing physical strength. Weight training is a type of strength training that uses weights rather than elastic, eccentric training or muscular resistance to increase strength. Sports training is the process of sports protection based on scientific and pedagogical principles for higher performance.

Improving skill means that the performance of any motor task becomes more efficient thereby reducing the time taken to complete the task and the level of effort required. This increased level of skilfulness could also mean more enjoyment and satisfaction for the performer by increasing the ease with which the task can be completed or by allowing new, more complex skills to be attempted. If by understanding the processes that govern the control of movement we can show the way for all individuals to improve their ability to perform the myriad of motor tasks that they confront, then we can claim to have made a real contribution to improving the quality of life within our society.

Weight training is an inclusive term that describes all exercises devoted toward increasing physical strength. Weight training is a type of strength training that

uses weights rather than elastic, eccentric training or muscular resistance to increase strength. Weight training is often used as a synonym for strength training, but is actually a specific type within the more inclusive category. The training process acts as a means of improvement of sports performance. In order to ensure fast development of sports performance in every individual the physical education teacher, the coaches and the instructors must possess a thorough knowledge of the improvement aspects of sports training.

Training improves the functions of the circulatory, the respiratory and the muscle system while practice is largely aimed at improving the control of muscle activity by the nervous system. Different training methods have been commonly used to improve physical fitness and its related standards of performance of the players.

## MATERIALS AND METHODS

To achieve the purpose of study twenty (20) male Kabaddi Players, who have been participated at least state level competition, Punjab were selected through stratified random sampling and used as subjects in this study. Age group ranged from 18-25 years. As it was an experimental study so the investigator after pre-test, divided the entire subjects into two equal groups of ten subjects in each i.e. experimental group (n=10) and control group (n=10). The experimental group underwent the eight weeks of weight training program whereas the controlled group was not given any kind of training. The eight weeks weight training programme was followed by the experimental group for alternate days and thrice a week. After the completion of eight weeks training programme post-test was conducted. To assess the maximum strength of the subjects, 1- RM bench press test was applied on Kabaddi Players. The difference between groups was analysed by applying *t*-test.

## RESULT AND DISCUSSION

The data collected by adopting above procedure were statistically analysed. The results were presented in the following tables.

**Table 4.1**  
**Comparison of pre-test and post-test mean scores of experimental and control group on maximum strength of Kabaddi players**

Group	Test	N	Mean	SD	MD	df	t-ratio
Experiment	Pre	10	71	16.29	5	9	-6*
	Post		76	16.55			
Control	Pre	10	72.75	8.20	0.10	9	0.0083
	post		72.85	8.67			

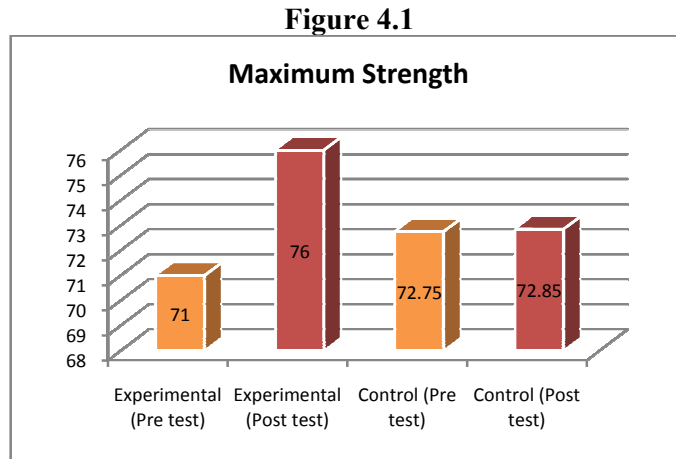
\*Significant at .05 level (tabulated value 2.26)

Table 4.1 shows the comparison of pre and post test scores of experimental and control group. Where the mean score of pre and post-test of experimental group is 71 and 76 and standard deviation is 16.29 and 16.55 respectively. The t-ratio -6 is found to be significant at 0.05 level of confidence which shows that maximum strength of experimental group after eight weeks of weight training is higher than the pre-test of same group.

Further it shows the comparison of pre and post-test of control group. Where the mean score of pre and post-test of control group is 72.75 and 72.85 and standard

deviation is 8.20 and 8.67 respectively. The t-ratio 0.0083 is found to be insignificant at 0.05 level.

As the experimental treatment shows significant effect on the subjects, so hypothesis two, which states that there will be significant effect of weight training on maximum strength of Kabaddi players, is accepted.



Above Figure 4.2 reflects the comparison of mean on maximum strength between experimental and control group of Kabaddi players. So it is clearly showing the training effect though the t-ratio is found significant.

**Table 4.2**  
**Comparison of pre-test and post-test mean scores of experimental and control group on relative strength of Kabaddi players**

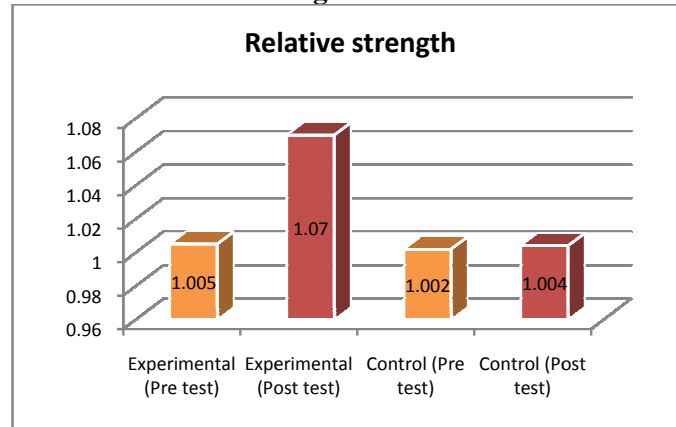
Group	Test	N	Mean	SD	MD	df	t-ratio
Experiment	Pre	10	1.005	0.1840	0.065	9	4.76*
	Post		1.070	0.1659			
Control	Pre	10	1.002	0.713	0.002	9	0.32
	post		1.004	0.064			

\*Significant at .05 level (tabulated value 2.26)

Table 4.2 shows the comparison of pre and post test scores of experimental and control group. Where the mean score of pre and post-test of experimental group is 1.005 and 1.070 and standard deviation is 0.1840 and 0.1659 respectively. The t-ratio 4.76 is found to be significant at 0.05 level of confidence which shows that relative strength of experimental group after eight weeks of weight training is higher than the pre-test of same group.

Further it shows the comparison of pre and post-test of control group. Where the mean score of pre and post-test of control group is 1.002 and 1.004 and standard deviation is 0.713 and 0.064 respectively. The t-ratio 0.32 is found to be insignificant at 0.05 level.

As the experimental treatment shows significant effect on the subjects, so hypothesis four, which states that there will be significant effect of weight training on relative strength of Kabaddi players, is accepted.

**Figure 4.2**

Above Figure 4.2 reflects the comparison of mean on relative strength between experimental and control group of kabaddi players. So it is clearly showing the training effect though the t-ratio is found significant.

## REFERENCES

- Anita. (2001) Effect of weight training, polymeric training and combination on selected motor component. *Journal of sports and sports science*. 24 (4), pp. 5.
- Cheng, Yi., H., and Shang, H. S. (2011) Studied the different intensity of maximum strength enhancement in young males after ten weeks of weightlifting training. *International Journal of Sport and Exercise Science*, 3(2): pp. 43-46.
- Fernandez, C. B., Gonzalez, C. T., Vecino, J. D., and Curiael, D. A. (2013) The effective of power training cycle on the strength, maximal power, vertical jump height and acceleration of height level 400 meter hurdlers. *Journal of human kinetics* volume 36, pp. 119-126.
- Felipe, B. D., Anderson, S. C., Guilherme, F., and Denadai, B. S. (2013) Resistance training for explosive and maximal strength: effects on early and late rate of force development. *Journal of Sports Science and Medicine* volume 12, pp. 402-408.
- Hoeger, Warner, W. K., Barette, Sandral, H., Douglas, F., and David, R. (1987) Effect of weight training on dynamic leg strength and leg power. *Journal of strength and conditioning research*. Volume-1 issue 1, pp. 11-33.
- James, C., and David, D. (1999) Studied the effects of 4 and 10 repetition maximum weight-training protocols on neuromuscular adaptations in untrained men. *Journal of Strength and Conditioning Research*, 1999, 13(4), pp. 353-359
- Kemmler, W. K., Lauber, D., Engelke, K., and Weineck, J. (2004) Effects of single- vs. multiple-set resistance training on maximum strength and body composition in trained postmenopausal women. *Journal of Strength and Conditioning Research*, 2004, 18(4), pp. 689-694.
- Luis, M., Alegre, Fernando, J., Jose, M., Rafael, M., and Xavier, A. (2005) Effects of dynamic resistance training on fascicle length and isometric strength. *Journal of Sports Sciences*, 24(5): pp.501-508.

- Nikolaos, Z., Konstantinos, S., and Spyridon, M. (2013) Studied the effects of strength vs. ballistic-power training on throwing performance. *Journal of Sports Science and Medicine* 12, pp.130-137.
- Spanos, K., Karaiskos, L., Zetou, E., and Portokalis, C. (2007) The effects of two resistance training programs in maximum strength and muscular endurance of male adults. *Scand. J. Med. Sci. Sports* , 14: pp.176-185.