



## **EFFECT OF SPORTS LOADING PROGRAMME ON SELECTED ENDURANCE PARAMETERS OF MEN HOCKEY PLAYERS**

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### **ABSTRACT**

*The purpose of the study was to find out the effect of sports loading programme on selected endurance parameters of men hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 24 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent sports loading programme and Group 'B' undergone no training. The sports loading programme group was undergone training for six weeks on alternate days. The endurance parameters namely cardiovascular endurance and strength endurance were selected as variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance. From the analysis of data it was found that the sports loading programme group showed significant improvement on all selected variables.*

**KEYWORDS:** Sports loading programme, Endurance, Hockey.

### **INTRODUCTION**

Sport loading can be defined as the systematic addition of weight to the others player's body in any form (uniform, vest pants or shirts) or to the implements used in sports (sticks, pats, balls and so on). Sport loading is a technique designed to improve explosive concentric movements such as sprinting speed. A relatively light resistance that does not drastically alter sprinting form produces the best results. Sport loading along with strength training, speed endurance training, plyometric and over speed training produce the greatest change in the exercise in the fast twitch muscle fibres (Clark et al. 2012).

### **METHODOLOGY**

The purpose of the study was to find out the effect of sports loading programme on selected endurance parameters of men hockey players. To achieve the purpose 30 hockey players from Tamilnadu Physical Education and Sports University, Chennai were selected as subjects and their age ranged from 18 to 24 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent sports loading programme and

Group ‘B’ undergone no training. The sports undergone training for six weeks on alternate days. The endurance parameters namely cardiovascular endurance and strength endurance were selected as

loading programme group was variables. Analysis of covariance was used, where the final means were adjusted for differences in the initial means, and the adjusted means were tested for significance.

**RESULTS AND DISCUSSION**

**TABLE – I  
COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF  
CARDIOVASCULAR ENDURANCE OF EXPERIMENTAL  
AND CONTROL GROUPS**

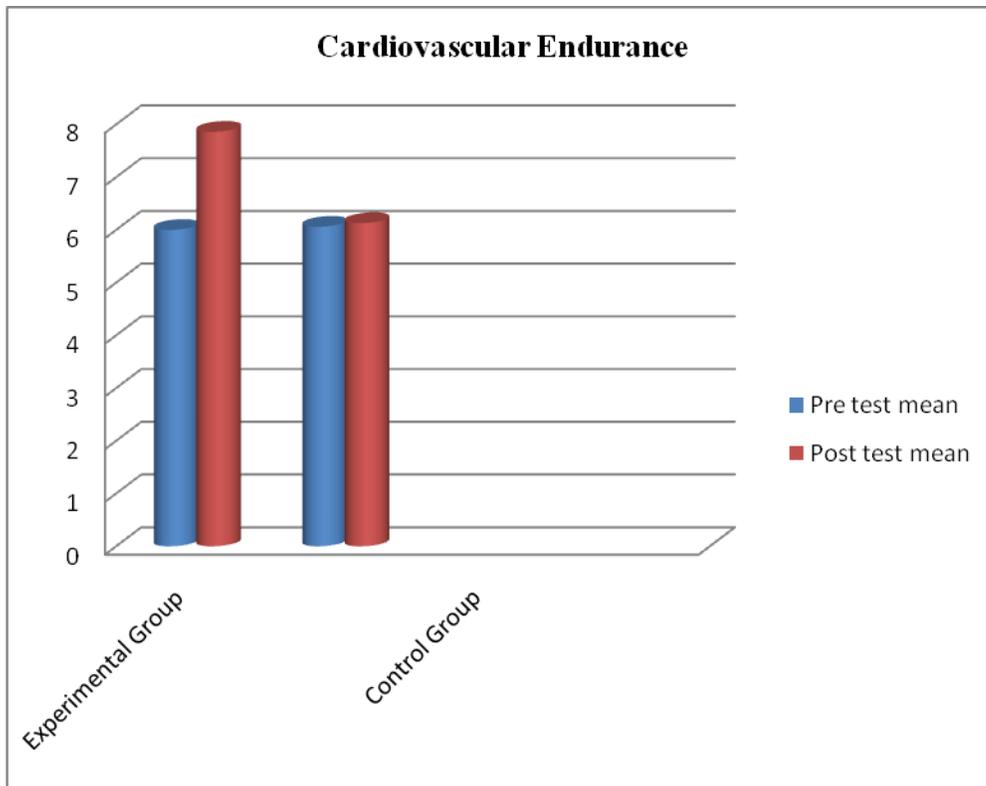
	<b>Experimental Group</b>	<b>Control Group</b>	<b>Source of variance</b>	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>
Pre test mean	6.00	6.06	BG	0.03	1	0.03	0.05
			WG	16.93	28	0.60	
Post test mean	7.86	6.13	BG	22.53	1	22.53	20.05
			WG	31.46	28	1.12	
Adjusted post mean	7.86	6.13	BG	222.27	1	22.27	19.27
			WG	31.19	27	1.15	

\* Significant at 0.05 level

Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of cardiovascular endurance of experimental and control groups were 7.86 and 6.13 respectively. The obtained F-ratio of 19.27 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at

0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on cardiovascular endurance. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly.



**TABLE – II**  
**COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE OF**  
**STRENGTH ENDURANCE OF EXPERIMENTAL**  
**AND CONTROL GROUPS**

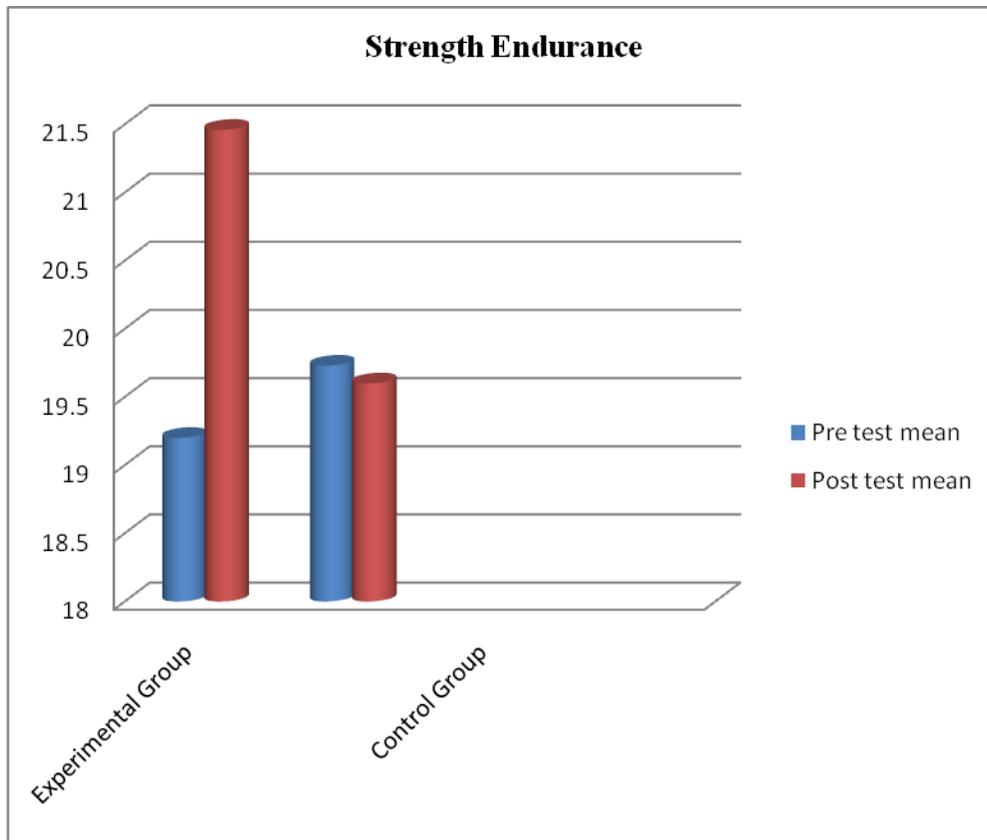
	Experimental Group	Control Group	Source of variance	Sum of squares	df	Mean square	F
Pre test mean	19.20	19.73	BG	2.13	1	2.13	2.35
			WG	25.33	28	0.90	
Post test mean	21.46	19.60	BG	26.13	1	26.13	12.76
			WG	57.33	28	2.04	
Adjusted post mean	21.49	19.56	BG	25.76	1	25.76	12.20
			WG	56.97	27	2.11	

\* Significant at 0.05 level

Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of strength endurance of experimental and control groups were 21.49 and 19.56 respectively. The obtained F-ratio of 12.20 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at

0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on strength endurance. The above table also indicates that both pre and post test means of experimental and control groups also differ significantly.



## CONCLUSION

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

1. It was found that the sports loading programme group showed significant improvement on all selected variables.
2. It was also found that the experimental group shown significant improvement than the control group.

## REFERENCES

1. Bimal Kumar, K.J. & Vikram, S.V. (2013). Comparative Study on Effect of Plyometric Training on Strength and Endurance of Abdominal Muscles, Leg Strength, Thigh Girth and Calf Girth. Asian Journal Physical Education and Computer Science in Sports Volume No.8, No.1.pp36-38.
2. Carlson, K., Magnusen, M. & Walters, P. (2009). Effect of various

- training modalities on vertical jump. *Res Sports Med.*17(2):84-94.
3. Chittibabu, B. & Akilan. N. (2013). Effect of basketball specific endurance circuit training on aerobic capacity and heart rate of high school male basketball players. *International Journal of Physical Education, Fitness and Sports.* 2,4;22-25.
  4. Clark, K.P., Stearne, D.J., Walts, C.T. & Miller, A.D. (2012). Longitudinal effects of resisted sprint training using weighted sleds vs. weighted vests. *J Strength Cond Res* 24(12): 3287-3295.
  5. De Villarreal, E.S., Kellis, E., Kraemer, W.J. & Izquierdo, M. (2009). Determining variables of plyometric training for improving vertical jump height performance: a meta-analysis. *J Strength Cond Res.* 23(2):495-506.
  6. De Vos, N.J., Singh, N.A., Ross, D.A., Stavrinou, T.M., Orr, R., Fiatarone, S.M.A. (2005). Optimal load for increasing muscle power during explosive resistance training in older adults. *J Gerontol A Biol Sci Med Sci.* 60(5):638-47.
  7. Dick, F. W. (1980). *Sporting Training Principles.* Great Britain: University Press Cambridge.