

## **Effect of Eight Weeks Training and Detraining on Selected Physical Variables of Junior National Kabaddi Players**

*Kusum Rani\**, *Dr. D. P. Sharma\*\**, *Dr. Manish Kumar Pillai\*\*\**, *Dr. Madhavi Pathak Pillai<sup>#</sup>*, *Bhagwati<sup>##</sup>*

**\*Research Scholar, Shri Venkateshwara University, Amroha (Uttar Pradesh).**

**\*\*Associate Professor, I.G.I.P.E.S.S, University of Delhi**

**\*\*Head of Department, Physical Education, S.F.S, Delhi.**

**\*\*\*Physical Education Teacher, TAFS, Delhi.**

**\*\*\*\*Research Scholar, Shri Venkateshwara University, Amroha (Uttar Pradesh).**

(Received 01 March 2018-Accepted & Published 07 March 2018)

### **ABSTRACT**

The purpose of the study was to find out the **Effect of Eight Weeks Training and Detraining on Selected Physical Variables of Junior National Boys Kabaddi Players**. For the present study 40 subjects were selected from Kabaddi Junior National Camp between the age group of 13 to 16 years. The students divided into two groups of 20 each. All the subjects were tested on selected criterion variables, i.e., Physical variables like strength endurance, power, flexibility, and agility. The data were collected before and after six weeks of training and again after two weeks detraining period. The data were analyzed by applying ANOVA to find out the effect of training on junior national kabaddi player.

It was found that variables namely strength endurance and flexibility found to have significantly different (between training and detraining period) in the experimental group. But no significant difference was found in power and agility. In case of Control group, no significant difference was found in any of the selected four physical variables. It was concluded that detraining affect the strength endurance and flexibility significantly. In case of power and agility if the effect was not significant.

**Keywords: Training, Detraining, Kabaddi, Physical Variable.**

### **INTRODUCTION**

Physical education provides an opportunity for children to develop critical life skills, such as problem-solving, strategy, and working together'. Many team sports require participants to work together to achieve a goal. Children also learn the basics of good sportsmanship and that there is much more to sports and physical activities than simply winning or losing. Sports require training, mental and physical preparation, and help build self-confidence.

Sports training consist of exercise performed systematically to improve physical abilities and to acquire skills connected with the technique of the performance of the sports event. Experience and, to a certain extent, the results of related studies -suggest to the coach which exercises are necessary. The testing of physical abilities, visual evaluation leaves a gap between exercise and the effects of its systematic repetition. In the guiding of training, an essential problem arises since a couple of months are necessary before the training effects are demonstrated in physical abilities and physical working capacity to a measurable extent. Therefore, only delayed feedback information on training effects may be obtained by the tests of physical abilities and competition results. Moreover, the main shortcoming of this feedback information is that the concerned changes reflect an integral action of various exercises, training methods, and regimens.

The game of Kabaddi is full of challenges and counter challenges between the contesting teams. Many unforeseen situations evolve during the game. The most important

factor of kabaddi is influenced by the stress of competitiveness in each conflicting situation. Performance of a team depends on the talents of the individual players and the understanding between the teammates and above all, the attitude of players towards the interest of the team. Opinions on coaching and methods of play may differ, but there should not be many differences in the qualities of a successful player. Good players mainly depend on the quality of players. (Sukumar Saha, 1996). Success in competitive sports depends largely on the athlete's skill and motivation.

Kabaddi practitioners require many attributes to become successful players. These include cardiovascular fitness, muscle strength, endurance, flexibility, agility, coordination, skill and tactical knowledge. Few players possess 'natural ability' in all areas. Indeed, the majority of players undergo training programmes, in some or all attributes, to improve their ability on the field. An understanding of basic anatomy and physiology and knowledge of muscle actions during kabaddi skills such as running, catching, jumping, and pushing will be useful to the player, coach, trainer and medical staff. This knowledge may be employed in the design of training programmes to enhance the performance of kabaddi skills, injury prevention, diagnosis, and rehabilitation programmes. (Tracey Howe, 1996)

#### **Statement of the Problem**

The purpose of the study was to find out “ *study the effect of eight weeks of training-detraining on selected physical variables among junior national kabaddi players*”.

#### **METHODOLOGY**

Based on the research purpose 40 subjects were selected from National Kabaddi Junior camp between the age group from 13 to 16 years. The total of 40 students divided into two groups of 20 each. All the subjects were tested on selected criterion variables, i.e., Physical variables like strength endurance, power, flexibility, and agility. The experimental group had undergone a systematic training for six weeks and there after two weeks of detraining. The data were collected before and after six weeks of training and again after two weeks detraining period. The data were analyzed by applying ANOVA to find out the effect of training on junior national kabaddi player.

#### **FINDING AND RESULT**

The purpose of the study was to find out the effect of six weeks of training and two weeks of detraining on selected Physical variables among junior national level boys kabaddi players. The pre, post and detraining test data pertaining to the respective physical variable were collected by employing standard test used on both the experimental and control group.

#### **Strength-Endurance**

The data for Strength-endurance variable was collected before, after training and after detraining for experimental and control groups were analyzed and presented in table I and II.

**Table I MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP ON STRENGTH ENDURANCE TRAINING**

Test	Statistics	Experimental group	Control group	N
<b>Pre-test</b>	Mean	38.8	39.8	20
	S.D	6.2	8.2	
<b>Post-test</b>	Mean	44.8	39.6	20
	S.D	6.7	8.1	
<b>Detraining test</b>	Mean	41.6	38.5	20
	SD	6.1	8.3	

Table – I indicates mean and SD, the pre-test means and SD of Strength-endurance between experimental group and control group is  $38.8 \pm 6.2$ , and  $39.8 \pm 8.2$  respectively. The post-test mean and SD of Strength-endurance between the experimental group and control group is  $44.8 \pm 6.7$  and  $39.6 \pm 8.0$  respectively. The detraining test means and SD of Strength-endurance between the experimental group and control group were  $41.6 \pm 6.01$  and  $38.5 \pm 8.3$  respectively.

**Table II ANALYSIS OF COVARIANCE FOR THE DATA ON STRENGTH-ENDURANCE OF EXPERIMENTAL AND CONTROL GROUPS**

Groups	Source of variance	Sum of squares	df	mean squares	'F' ratio
<b>Experimental group</b>	Between	354.70	02	56.26	<b>4.123*</b>
	Within	2308.55	57	49.36	
<b>Control group</b>	Between	18.63	02	9.31	.141
	Within	3824.70	57	67.10	

Table –II present the '**F**' ratio, of experimental and control group. The table values required for significance at 0.05 level of confidence with df 2 and 57 were 3.23. The obtained 'F' ratio is 4.123 for experimental group on Strength-endurance which is higher than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there is a significant difference found between Pre, post and detraining effect on Strength-endurance in the experimental group.

The obtained 'F' ratio 0.141 for control groups on Strength-endurance is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there was no significant difference found between Pre, post and detraining effect on Strength-endurance in control group.

#### **Power**

The data for power variable was collected before, after training and after detraining for experimental and control groups were analyzed and presented in table III and IV.

**Table III MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP ON POWER**

Test	Statistics	Experimental group	Control group	N
<b>Pre-test</b>	Mean	.34	.33	20
	S.D	.09	.11	
<b>Post-test</b>	Mean	.33	.33	20
	S.D	.09	.12	
<b>Detraining test</b>	Mean	.30	.33	20
	SD	.09	.11	

Table – III indicates mean and SD, the pre-test means and SD of Power between experimental group and control group is  $.34 \pm .09$ , and  $.33 \pm .11$  respectively. The post-test mean and SD of Power between the experimental group and control group is  $.33 \pm .09$  and  $.33 \pm .12$  respectively. The detraining test means and SD of Power between the experimental group and control group were  $.30 \pm .09$  and  $.33 \pm .11$  respectively.

**Table IV ANALYSIS OF COVARIANCE FOR THE DATA ON POWER OF EXPERIMENTAL AND CONTROL GROUPS**

Groups	Source of variance	Sum of squares	Df	mean squares	'F' ratio
<b>Experimental group</b>	Between	.019	02	.010	.359
	Within	.525	57	.009	
<b>Control group</b>	Between	.00	02	.001	.001
	Within	.83	57	.015	

Table –IV presents the '**F**' ratio, of the experimental and control group. The table values required for significance at 0.05 level of confidence with df 2 and 57 were 3.23. The obtained 'F' ratio is .359 for the experimental group on power which is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there is no significant difference found between Pre, post and detraining effect on Strength-endurance in the experimental group.

The obtained 'F' ratio 0.001 for control groups on Strength-endurance is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there was no significant difference found between Pre, post and detraining effect on power in the control group.

#### **Agility**

The data for agility variable was collected before, after training and after detraining for experimental and control groups were analyzed and presented in table V and VI.

**Table V MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP ON AGILITY**

Test	Statistics	Experimental group	Control group	N
<b>Pre-test</b>	Mean	23.72	23.68	20
	S.D	2.76	2.73	
<b>Post-test</b>	Mean	23.17	23.82	20
	S.D	2.06	2.68	
<b>Detraining test</b>	Mean	23.40	23.68	20
	SD	2.64	2.73	

Table – V indicates mean and SD, the pre-test means and SD of Agility between experimental group and control group is  $23.72 \pm 2.76$ , and  $23.68 \pm 2.73$  respectively. The post-test mean and SD of Agility between the experimental group and control group is  $23.17 \pm 2.06$  and  $23.82 \pm 2.68$  respectively. The detraining test means and SD of Agility between the experimental group and control group were  $23.40 \pm 2.64$  and  $23.68 \pm 2.73$  respectively.

**Table VI ANALYSIS OF COVARIANCE FOR THE DATA ON AGILITY OF EXPERIMENTAL AND CONTROL GROUPS**

Groups	Source of variance	Sum of squares	df	mean squares	'F' ratio
<b>Experimental group</b>	Between	3.02	2	1.51	
	Within	359.41	57	6.30	.285
<b>Control group</b>	Between	.263	2	.132	
	Within	421.01	57	7.386	.020

Table – VI presents the ‘F’ ratio, of the experimental and control group. The table values required for significance at 0.05 level of confidence with df 2 and 57 were 3.23. The obtained ‘F’ ratio is .285 for the experimental group on Agility which is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there is a no significant difference found between Pre, post and detraining effect on Agility in the experimental group.

The obtained ‘F’ ratio 0.020 for control groups on Agility is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there was no significant difference found between Pre, post and detraining effect on Agility in control group.

### Flexibility

The data for Flexibility variable was collected before, after training and after detraining for experimental and control groups were analyzed and presented in table VII and VIII.

**Table VII MEAN AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP ON FLEXIBILITY**

Test	Statistics	Experimental group	Control group	N
Pre-test	Mean	19.30	21.10	20
	S.D	4.11	4.06	
Post-test	Mean	22.85	21.60	20
	S.D	3.39	3.11	
Detraining test	Mean	20.70	21.10	20
	SD	3.48	4.06	

Table – VI indicates mean and SD, the pre-test means and SD of Flexibility between experimental group and control group is  $19.30 \pm 4.11$  and  $21.10 \pm 4.06$  respectively. The post-test mean and SD of Flexibility between the experimental group and control group is  $22.85 \pm 3.39$  and  $21.60 \pm 3.11$  respectively. The detraining test means and SD of Strength-endurance between the experimental group and control group were  $20.70 \pm 3.48$  and  $21.10 \pm 4.06$  respectively.

**Table VIII ANALYSIS OF COVARIANCE FOR THE DATA ON FLEXIBILITY OF EXPERIMENTAL AND CONTROL GROUPS**

Groups	Source of variance	Sum of squares	df	mean squares	‘F’ ratio
Experimental group	Between	127.900	2	10.55	4.720*
	Within	770.950	57	17.483	
Control group	Between	3.33	2	1.66	.890
	Within	812.40	57	14.253	

Table –VII present the ‘F’ ratio, of experimental and control group. The table values required for significance at 0.05 level of confidence with df 2 and 57 were 3.23. The obtained ‘F’ ratio is 4.720 for experimental group on Flexibility which is higher than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that there is a significant difference found between Pre, post and detraining effect on Flexibility in the experimental group.

The obtained ‘F’ ratio 0.890 for control groups on Flexibility is less than the required table value 3.23 for significant at 0.05 level of confidence with df 2 and 57. It indicated that

there was no significant difference found between Pre, post and detraining effect on flexibility in the control group.

## CONCLUSION

On the basis of finding and result the following conclusion was made:

The results of the study indicate that six weeks training and two weeks of detraining significantly affect the strength-endurance and flexibility among kabaddi players in an experimental group as compared to the control group and simultaneously also in case of power and agility no significant change was recorded, both in experimental and control group.

Hence on the basis of finding it is concluded that strength-endurance and flexibility are two physical variables performance decreases at a faster rate when compared to other selected physical variables in the study.

## Bibliography

- **Haradaya Singh** "Science of sports training", Sports Publication 1991
- **James A. Germar**, "The Effect of Weight Training and Plyometric Training on the Vertical jump, standing long jump and forty meters sprint". Dissertation Abstracts International 47.8 (Feb. 1987).
- **Bangsbo, J. (1994)** Physiological demands of soccer. In: Science and Football (Soccer). Ed: Ekblom, B. London: Blackwell Scientific. 43-59.
- **Bovas J and Pradeep C (2014)** Academic Sports Scholars, Nov 1, 2014, <http://www.academia.edu/9958330>
- **Chang Hwa Joo**, "The effects of short-term detraining on exercise performance in soccer players", J Exerc Rehabil. 2016 Feb; 12(1): 54-59.
- **Christou, M. et al, (2006)**, "Effects of Resistance Training on the Physical Capacities of Adolescent Soccer Players", J Strength Cond Res, 20:4, November. 783-791
- **Varaprasada Rao Kagitha and P.P.S. Paul Kumar**, "Effect of Complex Training with Yogic Practices on Selected Motor Fitness Variables and Playing Ability Among Kabaddi Men Players", ijhssi, Vol 2 Issue 10 October. 2013 PP.10-14
- **White, J.E., et. al., (1988)** Pre-season fitness profiles of professional soccer players. In: Science and Football. Eds: Reilly, T., Lees, A., Davids, K. and Murphy, W.J. London E. & F.N. Spon. 164-171.
- **Wisloff, U. et al, (2004)**, "Strong Correlation of Maximal Squat Strength with Sprint Performance and Vertical Jump Height in Elite Soccer Players", Br J Sports Med, 38, 285-8.