



## EFFECTS OF INTERMITTENT AND STRENGTH TRAINING ON THE DEVELOPMENT OF AGILITY AND EXPLOSIVE STRENGTH OF INTER-COLLEGIATE MALE KABADDI PLAYERS

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### ABSTRACT

The study was to find analysis and effects of intermittent and strength training on the development of agility and explosive strength of inter collegiate male kabaddi players. 45 inter collegiate male players were selected as subjects. Every one of the subjects took regular practice. The players age was ranged between 17 and 25 years. From Mysore division Forty five male kabaddi players were selected and randomly divided into 3 equal groups. The three groups were nominated as experimental group 1 underwent (intermittent training -ITG, experimental groups 2 underwent (Strength training-STG and one group act as a control group-CG. Twelve weeks specific training programme for Experimental groups and there is no specific training for control group. 0.05 Level of confidence was stable to obtain 't' value which was considered to be acceptable for the level of significance for the purpose of the study. The ANCOVA was used to discover the mean difference amongst the agility and explosive strength groups. The outcomes of the study discovered a significant group test interface ( $p < 0.05$ ). Continuation analyses specified that though group modifications in physical variables occurred amongst the three groups of the pre-test. Experimental groups were significantly improved performance compared to control group in post-test of physical variables. The conclusions of the current study propose that intermittent training enriched the physical variables on agility and explosive strength of the Inter collegiate male Kabaddi players.

**KEYWORDS:** ITG – Intermittent training group, STG – Strength training group, CG – Controlled Group, Agility, explosive strength.

### INTRODUCTION

In the year 1918 Kabaddi attained national status. Further popularity and national platform was given by the pioneer state Maharashtra. In 1918 regular rules were formulated but the same has been printed in 1923, with the same rules and regulations All India tournament was conducted every year. Kabaddi has not turned back since at that time and throughout the year numerous tournaments are conducted all over the country. In 1936 Berlin Olympics Kabaddi received its first Inter-National exposure, established by Hanuman Vyayam Prasarak Mandal, Amaravathi, and Maharashtra. Kabaddi game was accommodated in Indian Olympic Games held at Calcutta in 1938, in 1950 (AIKF) was formed. Senior National Championship was started in the year 1952 successively for the upgradation of the game. In

1972 Amateur Kabaddi Federation of India was formed and affiliated to IOA with a vision to promote kabaddi in India and adjoining countries of Asia. For Junior and Sub- Junior boys and girls National level kabaddi championships started after forming AKFI. In 1982 IX Asian games kabaddi was introduced as a demonstration game held at Delhi, India. In 1984 Kabaddi was incorporated in the South Asian Federation games held at Dhaka, Bangladesh. In 1990 the game was included in the XI Asian Games held at Beijing and India won the Gold Medal. In 1993 VI SAF Games was held at Dhaka, Bangladesh, for the first time in the Inter National Kabaddi scenario, Pakistan defeated India in finals. India hosted and was organized the second Asian championship at Jaipur, Rajasthan. For the first time in this championship Malaysia and Japan

participated. In 1990 Kabaddi was incorporated into main disciplines at XI Asian Games held at Beijing, China. In the history of kabaddi it was a milestone to bring kabaddi in the Asian platform. India created a history in Asian Games by emerging champions for five consecutive years in Indian sports.

**OBJECTIVES OF THE STUDY**

To find out whether the intermittent and strength training will effect on the development of agility and explosive strength of the Inter collegiate male kabaddi players.

**STATEMENT OF THE PROBLEM**

To find out the intermittent and strength training on the development of agility and explosive strength of the Inter collegiate male kabaddi players.

**HYPOTHESES**

1. It was hypothesized that the intermittent training would significantly improve the agility of the Inter collegiate male kabaddi players.
2. It was hypothesized that the intermittent training would significantly improve the explosive

strength of the Inter collegiate male kabaddi players.

**METHODOLOGY**

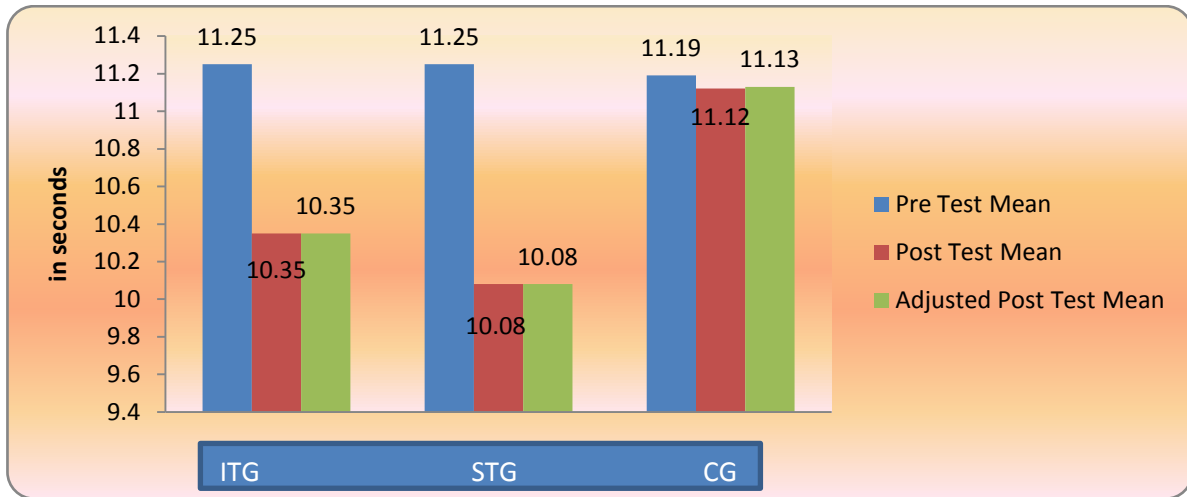
To find out the effects of intermittent and strength training on the development of agility and explosive strength of inter collegiate male kabaddi players. For the present study Forty five inter collegiate male kabaddi players were selected. All the players were took regular kabaddi practice. The players age was ranges between 17 to 25 years. Randomly Players were distributed into three equal groups. Three groups were allotted as Intermittent training for experiment group -I, Strength training for experimental group -2 and control group (no training) for experimental group -3. For a period of twelve weeks Experimental groups underwent specific training programme and the control group doesn't practice any specific training programme. The level of significance 0.05 was fixed to obtain 't' value, which is to be acceptable for the determination of the study. Physical variables of agility and explosive strength mean difference was determined by the ANCOVA statistical technique.

**TABLE I  
COMPUTATION OF ANOVA OF INTERMITTENT, STRENGTH TRAINING AND CONTROL GROUPS ON AGILITY**

	ITG	STG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
<b>Pre Test Means</b>	11.25	11.25	11.19	BG	0.03	2	0.06	0.93
				WG	10.52	42	0.25	
<b>Post-Test Means</b>	10.35	10.08	11.12	BG	8.70	2	4.35	12.53*
				WG	14.58	42	0.34	
<b>Adjusted Post-Test Means</b>	10.35	10.08	11.13	BG	8.85	2	4.42	12.70*
				WG	14.28	41	0.34	

Careful analysis of table - I shows scores of pre-test means 11.25, 11.25 and 11.19 for the intermittent, strength training and control groups respectively. The attained F-ratio for the pre-test was 0.93 and F-ratio was 3.21. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. The post-test means were 10.35, 10.08 and 11.12 respectively for intermittent, strength training and control groups. The resultant of F-ratio for the post-test was 12.53 and the F table value was 3.21. Henceforth the post test mean

F-ratio level of confidence for the degree of freedom 2 and 42 was significant at 0.05. The modified post-test means of intermittent, strength training and control groups were 10.35, 10.08 and 11.13 respectively. The attained F-ratio for the modified post test means was 12.70 and the F table value was 3.22. Hence the modified post-test mean F-ratio level of confidence for the degree of freedom 2 and 41 was significant at 0.05. Mean difference of the intermittent, strength training and control groups on agility was given in Figure I.



**FIGURE I**  
SHOWS THE MEAN VALUES OF INTERMITTENT, STRENGTH TRAINING AND CONTROL GROUPS ON AGILITY.

**TABLE II**  
SCHEFEE’S POST HOC TEST OF INTERMITTENT TRAINING, STRENGTH AND CONTROL GROUPS ON AGILITY

ITG	STG	CG	Mean Difference	CI Value
10.35	10.08	----	0.27	0.53
10.35	----	11.13	0.78*	0.53
----	10.08	11.13	1.05*	0.53

\* Significant at 0.05 level

The adjusted means on agility and difference between the means of the intermittent training, strength training and control group were shown in Table 2. The mean differences of ITG and CG, STG and CG were 0.78 and 1.05 respectively was greater

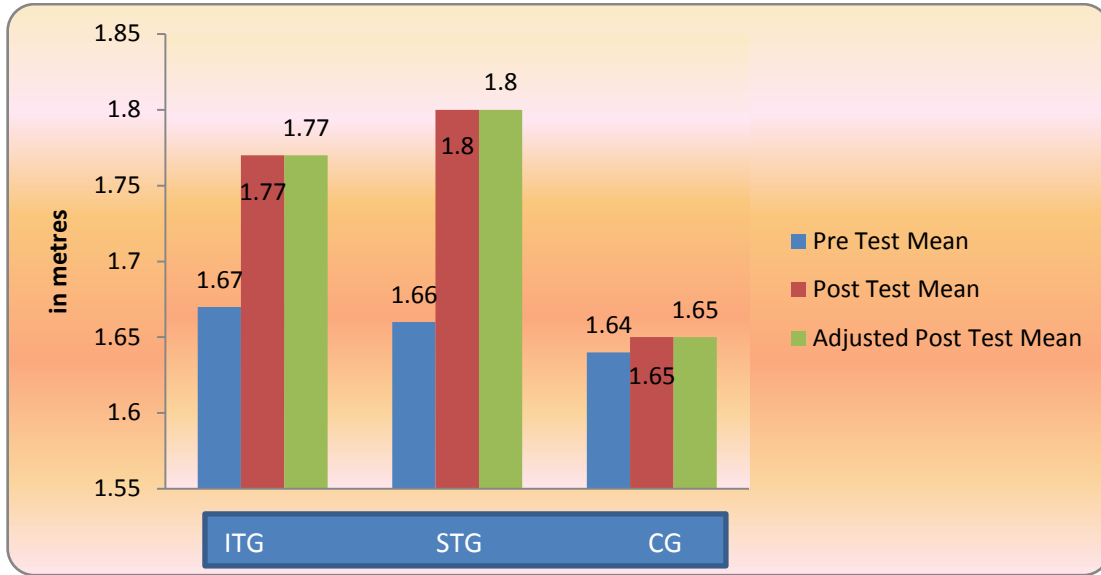
than the CI value 0.53. Hence significant difference will exists. The mean difference between ITG and STG was 0.27 lesser than the CI value 0.53. Hence there exists no significant difference.

**TABLE III**  
COMPUTATION OF ANCOVA OF INTERMITTENT, STRENGTH TRAINING AND CONTROL GROUPS ON EXPLOSIVE STRENGTH

	ITG	STG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
<b>Pre-Test Means</b>	1.67	1.66	1.64	BG	0.006	2	0.003	0.22
				WG	0.57	42	0.01	
<b>Post-Test Means</b>	1.77	1.80	1.65	BG	0.20	2	0.10	19.50*
				WG	0.22	42	0.005	
<b>Adjusted Post-Test Means</b>	1.77	1.80	1.65	BG	0.19	2	0.09	20.35*
				WG	0.19	41	0.005	

The scores of pre-test means of the intermittent, strength training and control groups were 1.67, 1.66 and 1.64 respectively as shown in table - IV. F-ratio for the pre-test was 0.22 and the table F-ratio was 3.21. Therefore, the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. The post-test means were 1.77, 1.80 and 1.65 respectively for intermittent, strength training and control groups. The resultant of F-ratio for the post-test was 19.50 and the F table value was 3.21. Hence the post-test mean F-

ratio level of confidence for the degree of freedom 2 and 42 was significant at 0.05. The modified post-test means of intermittent, strength training and control groups were 1.77, 1.80 and 1.65 respectively. The obtained F-ratio for the modified post-test means was 20.35 and the table F-ratio was 3.22. Hence the modified post-test mean F-ratio level of confidence for the degree of freedom 2 and 41 was significant at 0.05. Mean difference of the intermittent, strength training and control groups on explosive strength was given in Figure II.



**FIGURE II**  
SHOWS THE MEAN VALUES OF INTERMITTENT, STRENGTH TRAINING AND CONTROL GROUPS ON EXPLOSIVE STRENGTH

**TABLE IV**  
THE SCHEFEE’S POST HOC TEST OF INTERMITTENT, STRENGTH TRAINING AND AS ON EXPLOSIVE STRENGTH

ITG	STG	CG	Mean Difference	CI Value
1.77	1.80	-----	0.03	0.08
1.77	-----	1.65	0.12	0.08
-----	1.80	1.65	0.15	0.08

\*Significant at 0.05 level

Table- IV indicates the adjusted post - test mean values on explosive strength and difference between the value of intermittent training, strength training and control group. The difference between the adjusted post - test mean values of Intermittent, strength training and control group were 0.03, 0.12 and 0.15 respectively. The obtained mean values were designed by the study showed significant improvements.

The mean differences of ITG and CG, STG and CG were 0.12 and 0.15 respectively was greater than the CI value 0.08. Hence significant difference will exists.

The mean difference between ITG and STG was 0.03 lesser than the CI value 0.08. Hence there is no significant difference.

### Conclusion

1. It was concluded that the physical variable of agility and explosive strength of inter collegiate male kabaddi player can be significantly improved by intermittent training
2. It was concluded that the physical variable of agility and explosive strength of inter collegiate male Kabaddi players have significantly improved by strength training.
3. It was concluded that the strength training significantly improved the physical variable of agility and explosive strength better than the intermittent of inter collegiate male kabaddi player.

### Reference

1. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of Selected Yogic Exercises on Cardiovascular Endurance and Lung Capacity of Secondary School Children, IJESC, 6, 6 PP. 7286-7289.
2. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of selected yogic exercises on selected physiological variable of secondary school children., International Journal of Physical Education, Sports and Health, 4-114.
3. S.Suthakar and Dr.A.Pushparajan, Effects of Silambam and Karate with Yogic Training on Agility and Arm Explosive Power of Collegiate Male Students., International Journal of Innovative Research and Development|| ISSN 2278-0211.
4. R.Ashok Kumar & Dr.S.Suthakar, K.M.Ashokkumar, 2016. An Effective Approach through Strength, Endurance and Skill Training Program Combinations on Muscular Strength and Endurance and Explosive Power of Male Basketball Players., International Journal of Innovative Research and Development., 5,4,218-220.
5. R. Ashok Kumar K. Babu , S. Suthakar, 2016. Effects of Volleyball Specific Resistance Training and Skill Training Packages on the Development of Leg Explosive Power and Speed on the Higher Secondary Level School Boys,2016/3, international journal of innovative research and development, 5, 4,231-235.
6. Dr.S.Suthakar Venkata chalapathi G, 2016. Analysis of physical growth on specific fitness training among tribal and non-tribal school boys, 2016/10/27, International Journal of Physical Education, Sports and Health3,6, 137-142.
7. Satheesh B. and Dr.S. Suthakar. 2016.A Study on the selected motor fitness variables among the bicycle beneficiaries and non beneficiaries of the secondary school children, 2016/10, Indian Streams Research Journal6,9,1-4.
8. M Sankar, S Suthakar, 2016. Influence Of Isolated And Combined Circuit And Fartlek Trainings On Selected Endurance Parameters Among College Men Students, 2016/9/15, International Education and Research Journal, 2,9.
9. Satheesh B and Dr.S. Suthakar, 2016. Comparative study of the psychological well-being and self-confidence between the bicycle beneficiaries and non beneficiaries of the secondary school children,2016/8/27, International Journal of Physical Education, Sports and Health, 3,5, 495-497.
10. Dr.S.Suthakar M. Sankar, 2016. Influence of the Isolated and Combined Circuit and Fartlek Trainings on the Selected Strength Parameters among the College Men Students, 2016/8, International Journal of Recent Research and Applied Studies, 3, 8(16), 70-74.