

## Effect of Interval Training On Selected Physical Fitness Variables among Coastal Area Kabaddi Players

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### ABSTRACT

The Study's Goal Was To Determine The Influence Of Interval Training On Specified Physical Fitness Variables In Coastal Area Kabaddi Players. Forty (N=40) Kabaddi Players From The Chennai Costal Area Were Chosen At Random As Subjects For This Study. The Subjects Ranged In Age From 16 To 18 Years. The Subjects Were Separated Into Two Groups: Experimental And Control. Each Group Had Twenty (N=20) Subjects. For Twelve Weeks On Three Different Days, The Experimental Group Received Interval Training. The Control Group Did Not Participate In Any Activities Other Than Their Normal Routine. The Standardised Test Was Used To Examine The Selected Criteria Factors Such As Speed, Agility And Cardiovascular Endurance. For This Investigation, A Random Group Experimental Design Was Adopted. The Before And Post Test Results Were Obtained Prior To And Immediately Following The Eight Weeks Of Training. The Dependent "T" Test Were Used To Statistically Examine The Data. In All Cases, Level Of Significances Was Set At 0.05. The Study Found That Twelve Weeks Of Interval Training Improved The Speed, Agility And Cardiovascular Endurance Oc Costal Area Kabaddi Players Significantly.

**Keywords:** *Interval Training, Speed, Agility And Cardiovascular Endurance*

### Introduction

Interval Training Has Been Around In Some Form Or Another For A Long Time. Woldemar Gerschler, A Notable German Coach, Is Credited By Humphreys And Halman With Formalising A Disciplined Technique Of Interval Training In The 1930s. Interval Training Alternates Brief To Moderate Periods Of Effort With Brief To Moderate Periods Of Rest Or Reduced Activity. The Notion Is Founded On Physiological Concepts. Athletes May Execute A Significantly Greater Volume Of Work By Splitting The Overall Labour Into Short, Intense Bursts With Rest, Or Reduced Activity, Intervals Interspersed Between Consecutive Work Bouts, According To Research. Work And Rest Intervals Are Normally Equal And Might Range From A Few Seconds To Five

Minutes Or More. Aerobic Interval Training Involves Repeated Short Runs Or Swims At Just Below Race Pace, With Very Brief Rest Intervals Of Five To 15 Seconds. This Type Of Interval Training Requires Oxygen Uptakes Of Approximately 65 To 75 Percent Of Vo2 Max And Heart Rates To This Type Of An Aerobic Interval Training Workout. Anaerobic Interval Training Requires Training At An Intensity Which Exceeds Race Pace, But With Even Shorter Work Intervals And Rest Intervals Of Two Minutes. Heart Rate And Oxygen Uptake During These Anaerobic Intervals Are Similar To Those Observed In The Aerobic – Anaerobic Intervals, But The Blood Lactate Responses Are Much Higher. Aerobic Interval Training Builds A Strong Aerobic Base, Aerobic – Anaerobic

Interval Training Develops Speed And A Sense Of Race Pace, And Anaerobic Interval Training Develops Leg Strength, Increases Muscle Buffering Capacity, And Increases The Ability To Clear Lactate From The Muscles, (Balasingh Et Al., 2018).

### 1.1 Statement Of The Problem

The Goal Of The Study Was To Determine The Effect Of Interval Training On Speed, Agility And Cardiovascular Endurance Of Costal Area Kabaddi Players.

### 1.2 Objectives Of The Study

1. To Assess The Effect Of Interval Training On Speed, Agility And Cardiovascular Endurance Of Costal Area Kabaddi Players.
2. To Find Out The Differences Between Experimental And Control Groups On Speed, Agility And Cardiovascular Endurance Of Costal Area Kabaddi Players.

## 2. Materials And Methods

Forty Costal Area Kabaddi Players (N=40) Were Chosen At Random From The Chennai, Tamilnadu. The Subjects Were Separated Into Two Equal Groups Of Twenty (N=20) Each, With Group I Acting As The Experimental Group And Group Ii

Acting As The Control. The Participants Were Between The Ages Of 16 And 18. Speed, Agility And Cardiovascular Endurance Were Chosen As The Criterion Variables. The 50-Meter Dash Was Used To Determine Speed, While The Shuttle Run Test Was Used To Determine Agility And 12 Minutes Cooper Test Was Used To Measure Cardiovascular Endurance Of The Kabaddi Players.

### 2.1 Training Intervention

During The Training Period, The Experimental Group Did Interval Training Three Days Per Week For A Total Of Twelve Weeks. The Duration Of Each Training Session Ranged From 45 Minutes To An Hour, Including Warm-Up And Cool-Down Time. All Of The Subjects In This Study Were Closely Observed Throughout The Training Programme To Ensure That They Did Not Sustain Any Injuries. Throughout The Training Programme, They Were Asked About Their Health. There Were No Injuries Reported By Any Of Them. Muscle Soreness, On The Other Hand, Emerged Early In The Workout Programme And Gradually Subsidised. Table-1 Shows The Training Programmes For The Experimental Groups.

**Table 1 Interval Training Programme**

Work Out	Duration (In Minutes)
Warm Up At 5-Mph Pace	5
Jog At 6-Mph Pace	1
Jog At 5.5-Mph Pace	2
Jog At 6.2-Mph Pace	1
Jog At 5.3-Mph Pace	2
Jog At 6-Mph Pace	1
Jog At 5.5-Mph Pace	2
Jog At 6.2-Mph Pace	1
Jog At 5.3-Mph Pace	2
Jog At 6-Mph Pace	1
Jog At 5.5-Mph Pace	2
Jog At 6.2-Mph Pace	1
Jog At 5.3-Mph Pace	2
Jog At 6-Mph Pace	1
Jog At 5.5-Mph Pace	2

Jog At 6.2-Mph Pace	1
Jog At 5.3-Mph Pace	2
Cool Down	5
<b>Total Workout Time:</b>	<b>34</b>

\*Maximum Heart Rate =  $60 \pm 15\%$

\*Total Workout Time Was Increased  
5% In Every Two Week.

## 2.2 Statistical Analysis

All Test Variables Using Spss Were Derived Using Descriptive Statistics (20). Changes In Speed,

Agility And Cardiovascular Endurance Between The Groups Were Evaluated With The Paired Sample “T” Test. The Level Of Significance Was Set At 0.05 To Examine Its Importance.

## 3. Results And Discussions

**Table 1: Descriptive Statistics, ‘T’ Value And ‘P’ Value On Of Experimental And Control Groups**

Variables	Group	Pre	Post	‘T’ Value	P-Value
Speed	Experimental	08.61	08.54	3.18*	0.00
	Control	08.64	08.66	0.42	0.32
Agility	Experimental	11.20	11.15	4.26*	0.00
	Control	11.23	11.22	0.84	0.64
Cardiovascular Endurance	Experimental	1442.2	1884.4	5.23*	0.01
	Control	1423.33	1390.23	0.34	0.43

\*Significant At 0.05 Level.

The Pretest Mean Value For Speed In The Experimental Group Was 8.61, Whereas The Posttest Mean Value Was 8.54. The Control Group Pretest Mean Value For Speed Was 8.64, And The Posttest Mean Value Was 8.66. After Twelve Weeks Of Interval Training The T-Value Of 3.18\* In The Experimental Group Showed A Substantial ( $P < 0.05$ ) Improvement On Speed. The T-Value For The Control Group (0.42), Was Not Significant ( $P > 0.05$ ).

The Pretest Mean Value For Agility In The Experimental Group Was 11.20, Whereas The Posttest Mean Value Was 11.15. The Control Group Pretest Mean Value For Agility Was 11.23, And The Posttest Mean Value Was 11.22. After Twelve Weeks Of Interval Training The T-Value Of 4.26\* In The Experimental Group Showed A Substantial ( $P < 0.05$ ) Improvement On Agility. The T-Value For The Control Group (0.84), Was Not Significant ( $P > 0.05$ ).

The Pretest Mean Value For Cardiovascular Endurance In The Experimental Group Was 1442.2,

Whereas The Posttest Mean Value Was 1884.4. The Control Group Pretest Mean Value For Cardiovascular Endurance Was 1423.33, And The Posttest Mean Value Was 1390.23. After Twelve Weeks Of Interval Training The T-Value Of 5.23\* In The Experimental Group Showed A Substantial ( $P < 0.05$ ) Improvement On Cardiovascular Endurance. The T-Value For The Control Group (0.34), Was Not Significant ( $P > 0.05$ ).

### 3.1 Discussion On Findings

On The Basis Of The Result It Was Conducted That The Effect Of Interval Training Improved Speed, Agility And Cardiovascular Endurance Of Costal Area Kabaddi Players.

The Findings Revealed That Twelve Weeks Of Interval Raining Had A Substantial Influence On Speed And Agility. Interval Training Causes Various Physiological Changes, Including Enhanced Cardiovascular Efficiency (The Ability To Transport Oxygen To Working Muscles) And Tolerance To Lactic Acid Build-Up. These Modifications Result In

Increased Performance, Speed, Agility, And Endurance (Velmurugan, 2016). Interval Training Most Likely Improved Speed And Agility By Influencing Muscle Length, Force, Muscle Temperature, Strength, And Flexibility. The Interval May Have Boosted The Speed Of Message Flow From Muscle To Nerve Centre And Vice Versa, Resulting In Higher Speed Test Results (Silva Et Al., 2017). When Athletes Respond Or React As A Result Of Improved Coordination Between The Cns Signal And Proprioceptive Feedback, Neural Changes Normally Occur. We Couldn't Figure Out Whether The Neurological Alterations Were Produced By Synchronised Firing Of Motor Neurons Or By Increased Facilitation Of Neural Signals To The Spinal Cord. As A Result, More Research Is Needed To Determine Brain Changes Caused By Interval Training And How They Affect Speed And Agility (Farjin Et Al., 2018).

The Findings Revealed That Twelve Weeks Of Interval Training Had A Substantial Influence On Cardiovascular Endurance. This Could Be Due To That, Exercises Enhanced Performance Usually Accompanies

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- The Physiological Adaptation Elicitate By Training. The Physiological Changes Are Increase In The Heart Size, Increases In The Plasma Volume, Increases In The Stroke Volume, Increases In The Oxygen Extraction And Also Cardiac Output Increases. This Is The Reason Is To Improve The Cardiorespiratory Level Of Costal Area Kabaddi Players (Zoran Et Al., 2015).
- It Was Found That Systematically Structured Interval Training Should Be Included In All Disciplines' Training Programmes In Order To Obtain Peak Performance.

#### 4. Conclusions

1. In Conclusion, It Was Shown That Twelve Weeks Of Interval Training Increased The Speed Of Costal Area Kabaddi Players.
2. In Conclusion, Twelve Weeks Of Interval Training Increased The Agility Of Costal Area Kabaddi Players.
3. Finally, It Was Shown That Twelve Weeks Of Interval Training Improved The Cardiovascular Endurance Of Costal Area Kabaddi Players.

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