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## Effect of skill training with kinematic analysis training on physiological variables of male kabaddi players

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### Abstract

The purpose of the present study was to determine the physiological fitness components of Vo<sub>2</sub> Max, and Breath holding time among inter collegiate Kabaddi players. To achieve the purpose of this study 40 kabaddi players from CMS college of science and commerce, affiliated to Bharathiar University, Coimbatore. Were selected as subjects their age ranged from 18 to 25 years. The subjects were divided into two groups namely Group-I Skill training with kinematic analysis training group and Group-II. Control group The subjects selected by purposive sampling method. The following variables are selected Vo<sub>2</sub> Max, and Breath holding time were assessed for a twelve weeks. All the subjects was tested on selected variables, before and after the treatment. The data were collected on selected criterion variables and they were statistically analyzed by using 't' ratio. All subjects are participated in queens college step test was measured by Vo<sub>2</sub> Max and Breath holding time was measured by Nostril clip method. The selected criterion variables was statistically analyzed by using 't' ratio were used to find out the percentage of Vo<sub>2</sub> Max and Breath holding time among inter collegiate Kabaddi players. The obtained' ratio was 5.83 on Vo<sub>2</sub> Max, 12.07 on Breath holding time among inter-collegiate Kabaddi players. In all the cases 0.05 level of confidence was fixed to test of the significance.

**Keywords:** Vo<sub>2</sub> Max, breath holding time, skill training with kinematic analysis and kabaddi players

### Introduction

A skill refers as the acquisition of the fundamental sports movement is called skill. The skill is the basic essential and fundamental aspects of the game of kabaddi, not only in the game of kabaddi, it is essential for all the game. Most of the human's everyday movements are initially acquired with the help of parents or teacher, while others we gain through trial and error. In sporting situations, many of these basic movements act as foundational skills for more complex actions that may take years to master. The effectiveness of the coach in facilitating the learning of such skilled movements can be enhanced through a more detailed understanding of how athletes learn to execute skills effectively.

Sports biomechanics studies are based on rigid-body models of the skeletal system. Rigid-body mechanics is divided into statics and dynamics statics is the study of objects at rest or in uniform (constant) motion. Dynamics is the study of objects being accelerated by the actions of forces. Most importantly, dynamics is divided into two branches kinematics and kinetics. Kinematics is motion description. In kinematics the motions of objects are usually measured in linear (meters, feet, etc.) or angular (radians, degrees, etc.) terms. Examples of the kinematics of running could be the speed of the athlete, the length of the stride, or the angular velocity of hip extension. Most angular mechanical variables have the adjective "angular" before them. Kinetics is concerned with determining the causes of motion. Examples of kinetic variables in running are the forces between the feet and the ground or the forces of air resistance. Understanding these variables gives the track coach knowledge of the causes of running performance. Kinetic information is often more powerful in improving human motion because the causes of poor performance have been identified. For example, knowing that the timing and size of hip extensor action is weak in the takeoff phase for a long jumper may be more useful in improving performance than knowing that the jump was shorter than expected (Knudson & Morrison (2002) [6]

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**Methodology**

The purpose of study was to compare the selected physiological variables among kabaddi players at intercollegiate level. To achieve the purpose of this study 40 intercollegiate level kabaddi players selected from CMS college of science and commerce affiliated to Bharathiar

university Coimbatore were selected as subjects. Their age ranged from 18 to 25 years Vo2Max, and breath holding time were assessed on 40 inter-collegiate level kabaddi players. Vo2 Max and Breath holding time was measured by Nostril clip method.

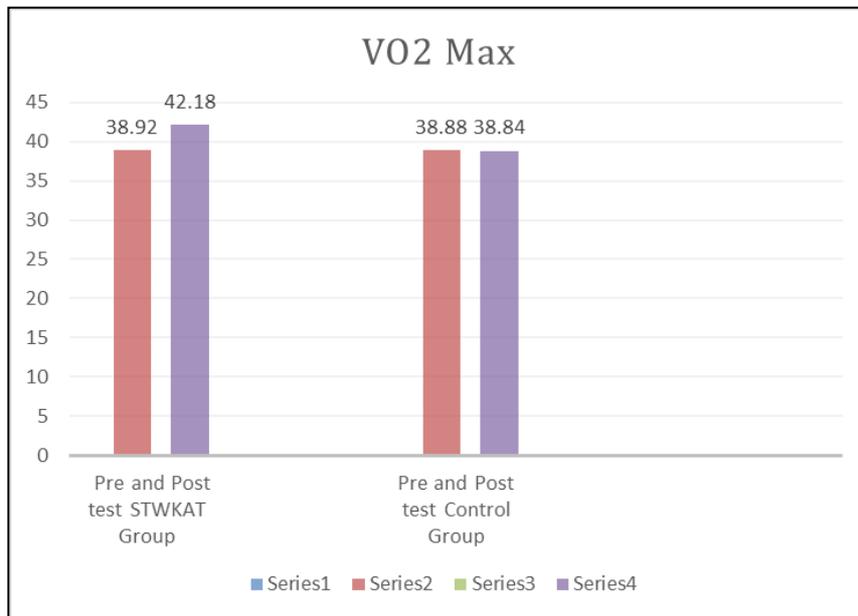
**Table 1:** Computation of 't' ratio of Vo2 max between skill training with kinematic analysis training and control group of Kabaddi Players

| Variables | Group   | Test | Mean  | Standard deviation | Mean difference | "t' ratio |
|-----------|---|------|-------|--------------------|-----------------|-----------|
| Vo2Max    | Skill Training with Kinematic analysis Training group | Pre  | 38.92 | 2.54               | 3.27            | 5.83      |
|           |   | Post | 42.18 | 3.07               |                 |           |
|           | Control Group   | Pre  | 38.88 | 3.20               | 0.04            | 0.04      |
|           |   | Post | 38.84 | 2.64               |                 |           |

\* Table t- ratio at 0.05 level of confidence for 19 df = 2.093

The mean value skill training with kinematic analysis training group among inter collegiate level kabaddi players in pre and post test are 38.92 and 42.18 the corresponding standard deviation are 2.54 and 3.07 respectively. The t-value as per the t-test is 5.83 and these values are greater than the required table value of 2.093 for significance at 0.05 levels for 19 and

1 degrees of freedom. The mean value of Control group pre and post test are 38.88 and 38.84 the corresponding standard deviation are 3.20 and 2.64 respectively. The t- value as per the t- test is -0.04. Since it is lesser than the critical 't' value 2.093, is not significant at 0.05 level of confidence.



**Fig 1:** The mean values of skill training with kinematic analysis group and Control Groups for pre and post test on Vo2 max for intercollegiate level kabaddi players

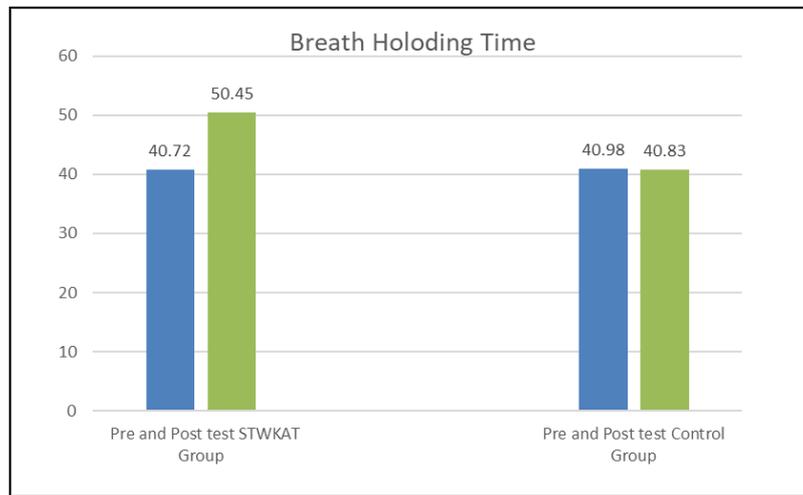
**Table 2:** Computation of 't' ratio of Breath holding time between skill training with kinematic analysis and control group of Kabaddi Players

| Variables           | Group   | Test | Mean  | Standard deviation | Mean difference | "t' ratio |
|---------------------|---|------|-------|--------------------|-----------------|-----------|
| Breath Holding Time | Skill Training with Kinematic analysis Training group | Pre  | 40.72 | 5.17               | 9.72            | 12.07     |
|                     |   | Post | 50.45 | 3.74               |                 |           |
|                     | Control Group   | Pre  | 40.98 | 2.35               | 0.15            | 1.36      |
|                     |   | Post | 40.83 | 2.03               |                 |           |

\* Table t- ratio at 0.05 level of confidence for 19 df = 2.093

The mean value skill training with kinematic analysis group on leg explosive power among kabaddi players in pre and post test are 40.72 and 50.45 the corresponding standard deviation are 5.17 and 3.74 respectively. The t-value as per the t-test is 12.07 and these values are greater than the required table value of 2.093 for significance at 0.05 levels for 19 and 1

degrees of freedom. The mean value of control group pre and post training are 40.98 and 40.83 the corresponding standard deviation are 2.35 and 2.03 respectively. The t- value as per the t- test is 1.36. Since it is lesser than the critical 't' value 2.093, is not significant at 0.05 level of confidence.



**Fig 2:** The mean values of skill training with kinematic analysis group and Control Group of pre and post test on Breath Holding Time of Intercollegiate level kabaddi players

### Discussion and Findings

The results of the study indicates that the Effect of skill training with kinematic analysis training on physiological variables of male kabaddi players. The selected physiological variables are Vo2 Max and Breath holding time for twelve weeks of training had significantly improved the selected physiological variables of Vo2 max and Breath holding time among intercollegiate level kabaddi players.

### Conclusion

Effect of twelve weeks of skill training with kinematic analysis group had shown significant improvement in the selected physiological variables of intercollegiate level kabaddi players. The results reveal that experimental group had shown significant improvement in the selected physiological variables namely Vo2max and breath holding time among intercollegiate level kabaddi players. The results reveal that the experimental group had shown the significant improvement better than the control group of intercollegiate level kabaddi Players. The control group had not shown significant changes in the both selected physiological variables of intercollegiate level kabaddi players.

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