



Effect Of Game Specific Training With And Without Psychomotor Skills Training On Agility And Vital Capacity Among Male Kabaddi Players

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Abstract

The purpose of the study was to find out the effect of game specific training with and without psychomotor skills training on agility and vital capacity. Forty five male kabaddi players aged between 19 and 25 years were selected for the study. They were divided into three equal groups, each group consisting of fifteen subjects in which three experimental groups and one control group, in which the group I (n=15) underwent game specific training with psychomotor skill training, group II (n = 15) underwent game specific training for three days (alternative days) per week for twelve weeks and group III, acted as control, which did not participate in any training apart from their regular kabaddi game practice. The subjects were tested on selected criterion variable as agility and vital capacity at prior to and immediately after the training period. For testing the agility was assessed by administering shuttle run and vital capacity was measured by using expirograph, The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups and control group on selected criterion variable separately. Since there were three groups involved in the present study, the Scheffé S test was used as post-hoc test. The selected criterion variables such as agility and vital capacity was improved significantly for all the training groups when compared with the control group. The game specific training group have significantly improved vital capacity than the game specific training group with psychomotor training group but not in agility.

Key Words: game specific training, psychomotor training, agility, vital capacity.

INTRODUCTION

Physical training is one of the most crucial aspects of a sportsman's life. Our daily lives are fed and enhanced when we engage in physical activity and embrace lifetime active, healthy lifestyles. These days, active living, wellbeing, and fitness are all popular subjects. Movement was the foundation of human evolution, and muscular motion was essential to the development of the human species. Primitive physical activity must have been primarily a survival strategy.

The term "training" refers to the act of improving a person's resources and the use of instruction and direction to maximise a specific talent. Training refers to a certain cycle of repeated exercise and activity that includes learning and acclimatisation. Training enhances one's ability, efficiency, capacity, and performance [Klafs and Arnheim, (1989)].

Sports training's main goal is to put different body systems under vital capacity in order to promote positive adaptation and improve athletic performance. In order to accomplish this goal, athletes and coaches employ a variety of training concepts, such as overload, specificity, and progression, which are arranged according to a process known as periodization. Applying these principles entails adjusting a number of program design variables, such as exercise selection, training activity/exercise sequence, training intensity (load and repetition), rest intervals between sets and activities/exercises, and training frequency and volume to provide stimulus and recovery periods. When these variables are successfully balanced, positive adaptation results [Takken et al., (2003)].

Sports training is a scientifically based strategy to athletic growth that allows players to generate remarkable and record-breaking athletic performances by methodically developing mental and physical efficiency, capability, and drive. Physical training is a critical component of high-performance training. Physical training is to increase an athlete's physiological capacity and improve their biomotor skills [Harre, (1982)].

The sport itself is the most sport-specific training that can be done. As specialized as it gets, sports-specific abilities are practiced for the sport. For instance, there are no kabaddi-specific workouts that can be done in the weight room other than skating on the ice when playing ice kabaddi. Shooting the puck is no different. Not only do certain sports require distinct talents, but each sport also requires certain physical abilities. Sport-specific abilities (shooting a basketball, kho-kho, throwing a baseball, etc.) require sports training, and particular performance enhancements (foot agility, strength, power, etc.) require physical preparation.

It appears necessary to assess the competitors' psychomotor capabilities in addition to their fundamental somatic characteristics [Gorostiaga, et al., (2005); Massuça, and Fragoso, (2011); and Justin, et al., (2013)], motor skills [Hoff, and Almåsbaek, (1995); and Grigore, et al., (2012)], and sports seniority [Kida, Oda, and Matsumura, (2005); and Nakamoto, and Mori, (2008)]. The skills that assist a competitor win a sporting event include the ability to anticipate the opponent's and the ball's movements, selective attention, response selection, perceptual agility, and a high degree of motor and sensory fitness [Kioumourtoglou, et al., (2012); and Paul, Garg, and Sandhu, (2012)]. Players with strong eye-hand coordination and the capacity to gather visual information about an approaching item

are able to respond to outside stimuli more quickly and modify their motions to fit the circumstances on the court.

Methods

The goal of this study was to determine how game specific training with and without psychomotor skill training, affected agility and vital capacity. 45 male kabaddi players who were enrolled at Dhanalakshmi Colleges, Perambalur, those who were represented in inter-collegiate tournaments, for the academic year 2023–2024 were chosen as subjects to fulfil the goal. They were divided into three equal groups of fifteen each and further divided as two experimental groups and one control group, in which the group I (n=15) underwent game specific training with psychomotor skills training, group II (n = 15) underwent game specific training for three days (alternative days) per week for twelve weeks, and group III (n=15) acted as control which did not participate in any special training apart from the regular curricular activities.

There will be changes to motor fitness and psychological variables and systems with every training regimen. After consulting with the specialists, the researchers decided to use the following variables as criteria: 1. agility, and 2. Vital capacity.

Analysis of the Data

The differences, if any, between the corrected post test means on several criteria variables were examined independently using analysis of covariance. The Scheffé S test was used as a post-hoc test if the adjusted post test mean's "F" ratio was shown to be significant. To evaluate the "F" ratio discovered using analysis of covariance, the level of significance was set at .05 level of confidence.

Table – I
Analysis of Covariance and 'F' ratio for Agility and Vital capacity of Sports Specific Training with and without Psychomotor Training Groups, and Control Group

Variable Name	Group Name	Exp. Group - I	Exp. Group - II	Control Group	'F' Ratio
Agility (in Seconds)	Pre-test Mean $\pm$ S.D.	11.97 $\pm$ 0.44	11.99 $\pm$ 0.39	11.98 $\pm$ 0.32	0.022
	Post-test Mean $\pm$ S.D.	11.95 $\pm$ 0.44	11.92 $\pm$ 0.39	11.99 $\pm$ 0.32	0.101
	Adj. Post-test Mean	11.936	11.935	11.987	77.36*
Vital capacity (in Points)	Pre-test Mean $\pm$ S.D.	4.18 $\pm$ 0.06	4.15 $\pm$ 0.07	4.17 $\pm$ 0.12	0.392
	Post-test Mean $\pm$ S.D.	4.33 $\pm$ 0.07	4.37 $\pm$ 0.09	4.17 $\pm$ 0.107	19.40*
	Adj. Post-test Mean	4.315	4.371	4.162	159.49*

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.21 and 3.23 respectively).

Table – I shows that the agility pre- and post-test "F" ratio value of 0.022 and 0.101 was less than the necessary table value of 3.21 for significant with df 2 and 42 at 0.05 level of confidence. For the adjusted post-test mean 'F' ratio value of 77.36 was greater than the necessary table value of 3.24 for significant. The vital capacity pre-test values 'F' ratio was 0.392 which was insignificant. For

post-test and adjusted post-test mean 'F' ratio values of vital capacity were 19.40 and 159.49 was greater than the necessary table value of 3.24 for significant. Further, to find out which training group has significant improvement on selected criterion variables, Scheffe S post-hoc test was applied and presented in table – II.

Table - II

Scheffé S Test for the Difference Between the Adjusted Post-Test Mean of Agility and Vital capacity

Exp. Group - I	Exp. Group - II	Control Group	Mean Difference	Confidence Interval at 0.05 level
Adjusted Post-test Mean for Agility				
11.936		11.987	0.051*	0.012
11.936	11.935		0.001	0.012
	11.935	11.987	0.052*	0.012
Adjusted Post-test Mean for Vital Capacity				
4.315		4.162	0.154*	0.031
4.315	4.371		0.056*	0.031
	4.371	4.162	0.209*	0.031

* Significant at 0.05 level of confidence.

Results

The corrected post-test mean differences in agility between experimental groups I and II and the control group were 0.051 and 0.052, respectively, and were significant at the .05 level of confidence. However, a mean difference of 0.001 was discovered between experimental groups I and II. This difference was not statistically significant. The results of the study indicate that agility is significantly increased by game specific training with and without psychomotor skills training.

The corrected post-test mean differences in vital capacity between experimental groups I and II, experimental group I and control group, experimental group II and the control group were 0.154, 0.056 and 0.209, respectively, and were significant at the 0.05 level of confidence. The results of the study indicate that vital capacity is significantly increased by game specific training with and without psychomotor skills training.

Conclusions

It was found that the agility of the game specific training with and without psychomotor skills training groups have significantly improved when compared with the control group. Subramanian, Panbilnathan and Sivakumar, (2019) found that there was a significant improvement in agility among male kabaddi players. Razia, (2015) also found that the specific training was a better tool to improve the agility among women players of various games. Patnaik, et al., (2024) found that the specific training effect on agility was positive among male kabaddi players. Pawar, and Borkar, (2018) found that women semi-professional kabaddi players have improved agility after the ladder training. But the result of the study also shown that there was no significant difference was found between the training group.

There was a significant improvement was occurred in vital capacity for both the training group when compared with the control group. In which, the game specific training without psychomotor

skills training group have better vital capacity than the game specific training with psychomotor skills training group and control group. Sarojini and Kavithashri, (2022) found that the skill specific training with battle rope training have improved the vital capacity. Bovas, (2020) found that the circuit and interval training have significant improvement in vital capacity among male kabaddi players. Rathod and Pawar, (2019) found that the ladder training has improved the vital capacity among male kabaddi players.

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