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Effect of resistance and agility training on performance of hockey players

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Abstract
The present study was an attempt to evaluate the degree of motor fitness variables between boy's hockey players Karnataka (Sanganabasava residential school). To carry out this study, the selected subjects were of age groups ranged from 12 to 16 years. The subjects were randomly divided in to three groups and each group consisted of 20 subjects. Group-I underwent isolated resistance training. Group-II agility training and Group III act as control group was not given any special treatment. The study was conducted 8 weeks training schedule. Agility was selected as a dependent variable and it was tested through 10 meters shuttle run test. pre test-post test –random group –research design was followed in this study.

Keywords: Effect of resistance and agility training on performance of hockey players

1. Introduction
Sports are integral part of the system of education. Training is a system of process in which female hockey players improve their. Fitness to meet the demands of their sports. Training uses both general and specific exercises to develop the female hockey players for their sports. Resistance training refers to the training that uses some kind of resistance to the contraction of a muscular force. In this training the effort is normally performed more efficiently operating the female hockey players. People participating in speed or power event like hockey, football and basketball are very familiar with this of energy production.

2. Methodology
To achieve the purpose of the present study, 40 Boys hockey players were selected form Karnataka school (Sanganabasava Residential School).who had participated in the state level tournaments. They were selected at random as subjects. All the subjects were residents of Karnataka state and they had similar academic work and regular activities. In accordance with the requirements of their school curriculum. The selected subjects were of age groups ranged from 12 to 16 years. The subjects were randomly divided in to three group and each group consisted of 20 subjects. Group-I underwent isolated resistance training. Group-II agility training and Group III act as control group was not given any special treatment. The study was conducted 8 weeks training schedule. Agility was selected as a dependent variable and it was tested through 10 meters shuttle run test. pre test-post test –random group-research design was followed in this study.
To find out the significant effects of anaerobic training on selected agility. Analysis of covariance (ANCOVA) was computed (Clark and Clarke, 1972) for the data collected aerobic, anaerobic, combined and control groups during present and posttest separately for each variable. further to state, since three groups were involved, when ever the F ratio was significant, scheffes post hockey test was used determine which of the paired mean differed significance 0.05 was fixed.

3. Results and Discussion
The statistical analysis comparing the initial and final means of agility due to effect of resistance training and selected physical fitness variable namely, agility among school students in women hockey players is presented in Table I

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Table 1: computation of analysis of covariance of agility

	Resistance Training	Agility Training	Control	Source of variance	Sum of squares	Df	Mean squares	Obtained F
Pre Test Mean	13.05	12.9	12.9	Between	0.36	3	0.12	1.68
				Within	5.45	76	0.07	
Post Test Mean	12.89	12.76	12.9	Between	0.53	3	0.18	2.86
				Within	4.73	76		

Table f- ratio at 0.05 level of confidence for 3 and 76 (df) =2.73 and 75(df) 2.73.*significant

As shown in table I, obtained F ratio of 1.68 on pre teas means of the group is not significant at 0.05 levels. This shows that there is no significant difference among the means among the means of the means of the groups at initial stage and hence the random assignment of the group is successful. The obtained F ratio on post test means is2.86, and is significant at 0.05 level, being greater than the required F value of 2.73 to be significant at 0.05 level.

Taking in to consideration the pre test means post test means, adjusted post test means are determined and analysis of covariance is done and the obtained F value 17.75 is greater than the required value of 2.73 and hence it is accepted. This shows that there are significant differences among the adjusted means on the school girl's hockey players. Since significant improvements were recorded, the results were subjected to post hockey analysis using scheffes confidence interval test. The results are presented in Table II.

Table 2: Schaffer's Confidence Interval Test Score on Agility

Resistance training	agility training	Control group	Mean DIFF
12.83	12.77		0.16
12.83		12.96	0.13
	12.77	12.96	0.29

Significant at 0.05 level.

The post hoc analysis of obtained adjusted means prove that (I) there are significant difference between resistance training and agility training groups (2) resistance and control group (3)agility and control group and. it is (I) there was no significant deference between resistance and agility group. The ordered adjusted means are presented through bar diagram for better understanding of the results of this study in figure I.

3.1 Bar Diagram on Ordered Adjusted Means of Agility
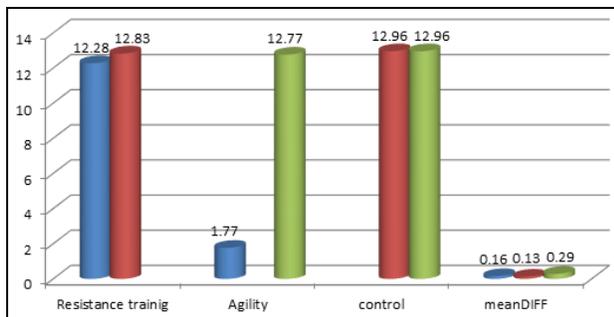
4. Discussions on Findings

As shows in table I, the obtained F value on score of pre test means (1.68) is less than the required F value, which proves that the random assignment of the subjects were successful and their scores in agility before the training were equal and there were no significant differences. Taking in to consideration the pre test means and post test means, adjusted post test means

are determined and analysis of covariance is done and the obtained F value 17.75 is greater than the required value of 2.73 and hence it is accepted. This shows that the interventional programmers significantly improve agility of the school boys hockey players. The post hoc analysis of obtained ordered adjusted means prove that there are significant differences between (I) resistance group and control group (2) agility group and control group. Comparing between the treatment groups, it is found that (I) there are significant differences between resistance group and agility group. Thus it is proved that while resistance group and agility group improve agility of the school boys hockey players. Compared to control group, agility group is better than improving agility of the school boys hockey players and the differences are significant at 0.05 levels.

Bames schilling and favlo (2007) found large magnitude of difference on jumping and agility performance among different categories of athletes and agility covers 34% of the variance of performance. Under the twelve weeks resistance and agility training the subjects were induced to exert more energy and training themselves. The findings proved that the twelve weeks resistance and agility training had significant influence in improving agility of the Boys hockey players.

5. Conclusion

It is concluded that effects of resistance and agility training significantly improve the agility performance of the school boy's hockey players. The agility training would be better than resistance training group and control group agility performance of school girl's hockey players.

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