

EFFECT OF QUICKNESS TRAINING ON SKILL RELATED PHYSICAL FITNESS VARIABLES AMONG HOCKEY PLAYERS

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ABSTRACT

Quickness is a key determinant of athletic performance, enabling players to respond effectively to decisive situations during competition. The purpose of this study was to investigate the efficacy of quickness training **with equipment** on selected performance variables among hockey players. Forty amateur male hockey players aged 18–25 years were randomly assigned to experimental group and control group. The experimental group underwent quickness training using specialized equipment, while the control group for a period of six weeks (three sessions per week). A pretest–posttest experimental design was employed. Fitness variables assessed included 20-meter sprint time, and Illinois agility test performance. Both groups demonstrated significant improvements from pretest to posttest in all selected performance measures. However, between-group comparison using an independent *t*-test revealed that the experimental group showed significantly greater improvement than the control group. The findings of this study indicate that quickness training is an effective method for enhancing selected fitness variables in hockey players.

Keywords: Preseason Training, Maximal Speed, Explosive Movements, Specialized Training Equipment

INTRODUCTION

Modern field hockey is a high-intensity, intermittent sport that demands a combination of speed, agility, explosive power, and rapid decision-making. Among these attributes, **quickness** plays a vital role in determining performance during match situations such as sudden accelerations, rapid changes of direction, ball interception, and defensive recovery. The ability to react and move efficiently in minimal time often distinguishes successful players from their counterparts, especially in competitive environments.

Quickness can be defined as the capacity to accelerate, decelerate, and change direction rapidly in response to external stimuli. It is closely associated with neuromuscular coordination, reaction time, and explosive strength. In hockey, players are frequently required to perform short sprints, evasive movements, and agile maneuvers under time pressure, making quickness a critical performance variable. Therefore, training programs that specifically target quickness may contribute significantly to improved on-field performance.

Recent advances in sports training have emphasized the use of **specialized training equipment** such as agility ladders, cones, hurdles, resistance bands, and reaction devices to enhance quickness-related abilities. Such equipment-based training is designed to stimulate the neuromuscular system, improve

motor unit recruitment, and enhance movement efficiency. Although several studies have examined speed and agility training independently, limited research has focused on the combined effect of structured quickness training using equipment on performance variables among hockey players.

Given the growing importance of scientifically designed preseason training programs, it is essential to evaluate the effectiveness of quickness training interventions in improving key performance indicators such as sprinting speed and agility. Therefore, the present study was undertaken to examine the **effect of quickness training with equipment on selected performance variables among hockey players**, with the aim of providing practical insights for coaches, trainers, and physical education professionals.

METHODOLOGY

The Methodology for the present investigation is on the effect of Quickness training on performance related component in speed and agility of hockey players. The purpose of study 40 male hockey students. Their age ranges between 18 to 25 years .the subjects were randomly assigned into two groups, namely experimental group **quickness** training and control group. In order to make sure the full cooperation from the subjects, the scholar had a meeting with them and explained the purpose of the research. It was made clear by explanation in order to ascertain that there was no uncertainty among the players regarding the effort, which they had to put in for the successful completion of this study. Experimental group I participated for a period of 6 weeks **quickness** training and control group have no any specific training. The subjects were tested on selected criterion variable of **Speed and agility** before the training and after 6 weeks of training.

TRAINING PROCEDURE

The experimental group participated in a structured **quickness training programme with equipment**, designed to enhance speed and agility-related movements. The training included drills using **agility ladders, cones, mini hurdles, and reaction-based movement patterns**. Each training session lasted approximately **45–60 minutes**, including warm-up and cool-down periods. The intensity and complexity of drills were progressively increased over the training period.

RESULTS AND ANALYSIS

The influence of independent variables on each of the criterion variables is analyzed and presented below. The training period was limited to Six weeks. The dependent variables selected for this study was skill related variable of speed and agility. The data obtained from the experimental groups before and after the experimental period were statistically organized with dependent ‘t’-test and Analysis of covariance (ANCOVA). Whenever the ‘F’ ratio for adjusted post-test means was found to be outstanding performance study. The Scheffe’s Post hoc test was organised to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases.

Tab: 1: ANALYSIS OF COVARIANCE AMONG QUICKNESS TRAINING GROUP I AND CONTROL GROUP ON SPEED

	Experimental Group	Control Group	Source of Variance	Sum of square	df	Mean square	F-value
Pre test Mean	8.12	8.26	Between	0.07	1	0.04	0.34
			Within	6.98	28	0.12	
Post test Mean	7.73	8.29	Between	2.15	1	1.98	15.40*
			Within	5.89	28	0.13	
Adjusted	7.42	8.25	Between	1.54	1	1.85	71.46*

post mean			Within	1.04	27	0.03	
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TABLE – 2 ANALYSIS OF COVARIANCE AMONG QUICKNESS TRAINING GROUP I AND CONTROL GROUP ON AGLITY

	Experimental Group	Control Group	Source of Variance	Sum of square	df	Mean square	F-value
Pre test Mean	16.03	15.53	Between	0.08	1	0.003	0.19
			Within	7.86	28	0.002	
Post test Mean	15.69	14.60	Between	26.15	1	0.003	27.40*
			Within	17.96	28	0.002	
Adjusted post mean	15.53	14.81	Between	11.95	1	0.003	47.48*
			Within	4.61	27	0.001	

FIGURE – 1 THE ADJUSTED POST TEST MEAN VALUES OF QUICKNESS TRAINING GROUP I AND CONTROL GROUP ON SPEED

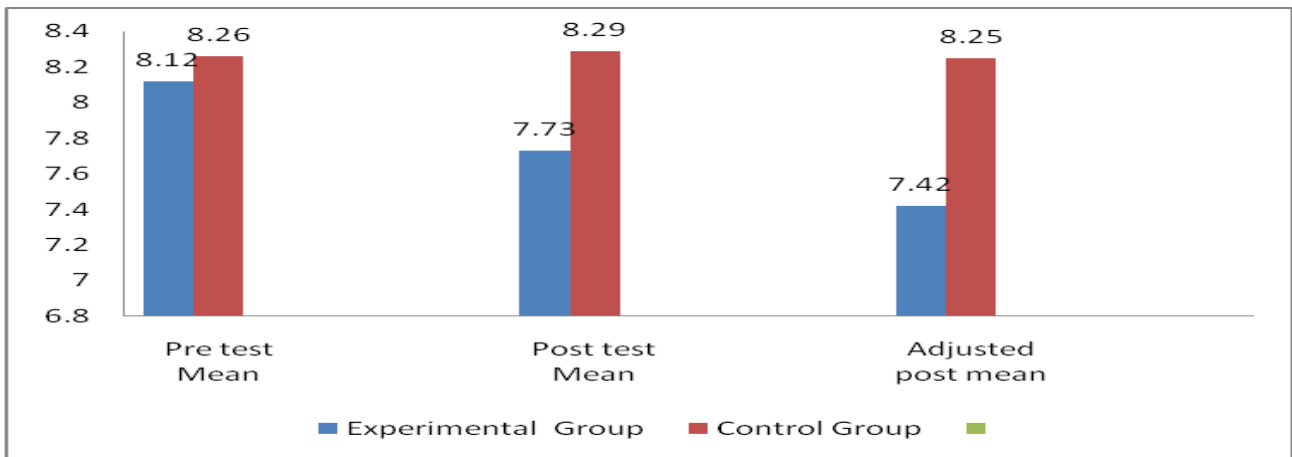
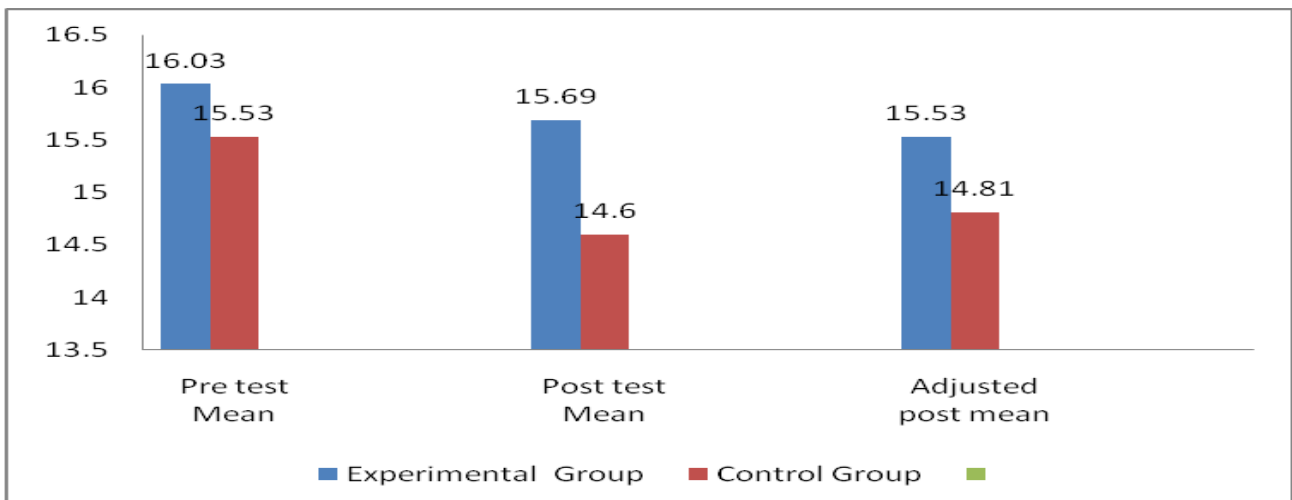


FIGURE – 2 THE ADJUSTED POST TEST MEAN VALUES OF QUICKNESS TRAINING GROUP I AND CONTROL GROUP ON AGLITY



CONCLUSION

The findings of the study showed that there was a statistically significant improvement in the skill related fitness variable of speed and agility as compared to control group. The results of the study shows that the experimental group-I that had undergone sprint **quickness training** group, improved skill related variable in speed and agility of hockey players.

RECOMMENDATIONS

It is recommended that coaches and physical educators in the game of hockey should give due to include Quickness training in their training schedules. In the physical exercise, while designing the training programme the effect of varied training modalities is explained on positively on Skill related physical fitness variables of hockey players, the physical education teachers and coaches can prefer this type of training so as to achieve aim in time.

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