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Investigating The Impact Of Varied Intensities In Skill-Based Circuit Training On The Speed And Aerobic Capacity Of Inter-Collegiate Male Hockey Players.

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ABSTRACT:
Aim-The principal objective of this study was to figure out Impact of low and focused energy of expertise put together high-intensity exercise with respect to speed and aerobic capacity between University male hockey players. Technique - To accomplish the motivation behind the review
Methodology- The review was planned as a genuine irregular gathering configuration, comprising of a pre-test and post test. 45 school men Hockey players going through degree course in lovely professional university were chosen as players aimlessly and their age was between 18 to 21 years. Trial Plan - The review was formed as pre and post-test arbitrary gathering plan, in which 45 subjects were separated into three equivalent gatherings. Exploratory Gathering I (N=15; LISBCT) played out the Low-power expertise based aerobics. The Exploratory Gathering II (N=15,HIBCT bunch) performed Extreme focus expertise based aerobics. Control bunch (N=15; CG) went through no particular preparation program except for there rehearsed the customary everyday practice. Measurable Method – The examination of covariance was utilized to break down the massive contrasts, if any among the gatherings. Three gatherings were analyzed, and at whatever point they acquired 'F' proportion for changed present test was tracked down on be huge, the Scheffe's test to figure out the matched mean contrasts, if any. The 0.05 level was fixed as the degree of importance to test the 'F' proportion got by the examination of covariance, which was viewed as suitable.
Result – The consequence of the review demonstrates because of preparing on leg unstable power and speed have been improved essentially.

KEYWORDS: Skill based training , aerobic , speed , ANACOVA

INTRODUCTION:

The development of a sports person to achieve high level of performance is always a many sided phenomenon in the sense that depends such as physical fitness, anthropometric measurements, physiological efficiency of various organs, psychological adjustments, socio-economic status along with technical and tactical mastering of the skills. In order to achieve in a particular sports, player must possess all the above qualities which are required for the top-level performance. The ratio of the required qualities may differ from game to game depends upon the demands. The performances are increasing day by day due to many scientific researches and new technological innovations..
Speed - Speed is the capacity of the individual to perform successive movements of the same pattern at a fast rate. (Barrow and McGee, 1974)

METHODOLOGY:

SELECTION OF SUBJECTS:

A genuine irregular gathering plan with a pre-and post-test was utilized in the review. The subjects (N = 45) were with no obvious end goal in mind allotted to three identical social events of men of fifteen each. Control bunch, exploratory gathering II, and gathering I were doled out to the gatherings. Pretest was driven for all of the subjects on speed , The preliminary bundle partook in their different low and focused energy Practices for a period of 12 weeks. Following 12 weeks of cooperation in the separate medicines, the posttest was directed to the previously mentioned subordinate factors. From Monday through Saturday, the work on preparing program ran from 6:00 a.m. Onwards.

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EXPERIMENTAL DESIGN:
This exploratory review was directed to just two trial gatherings and one benchmark group of 15 subjects each. For this reason Gathering I went through , Low-power expertise based aerobics Gathering II went through Focused energy ability based high-intensity exercise and Gathering III went about as control bunch.

TRAINING PROGRAM
PROGRAMS
EXPERIMENTAL GROUP - I
HOCKEY SKILL BASED DRILL PRACTICE

ACTIVITIES	**DURATION**
Warm Up	10 minutes
Passing Drills	15 minutes
Game passing and supporting play	
Development of Long Passes	
Passing and the development of position	
Passing Games	
Dribbling Drills	15 minutes
Taking on a dependent	
Creating space to lose marker	
Playing against tight marking dependent	
Shooting Drills	15 minutes
Shooting	
Shots from Angle	
Quick Shooting	
The art of goal scoring	
Active Recovery	
Cool down	10 minutes

Intensity = Maximal effort
Repetitions = Single
Sets = Single
Rest = 3 minutes in between passing, dribbling and shooting
Frequency = 3 days/wk, alternate days
Duration = 12 weeks

EXPERIMENTAL GROUP - II
HOCKEY SKILL BASED DRILL PRACTICE COMBINED WITH AEROBIC TRAINING

Activities	**Duration**
Warm Up	20 minutes
Passing Drills	8 minutes
Game passing and supporting play	
Development of Long Passes	
Passing and the development of position	
Passing Games	
Dribbling Drills	8 minutes

Taking on a dependent	
Creating space to lose marker	
Playing against tight marking dependent	
Shooting Drills	
Shooting	
Shots from Angle	8 minutes
Quick Shooting	
The art of goal scoring	
Active Recovery	
Cool down	10 minutes

AEROBIC TRAINING

Weeks	Exercises	Intensity	Repetitions
1-3 weeks	Slow continuous run – 4 KM	50%THR <140bpm	Single
4-6 weeks	Slow continuous run – 3 KM	60%THR <150bpm	Single
7-9 weeks	Slow continuous run – 2 KM	70%THR <170bpm	Single
10-12 weeks	Slow continuous run – 1 KM	80%THR <180bpm	Single

STATISTICAL TECHNIQUE

Analysis of covariance (ANCOVA) statistical technique was used to test the significant difference among the three groups. If the adjusted post-test results were significant, Scheffe's post hoc test was used to determine the paired mean significant difference.

In Table I (a), the descriptive analysis reveals the means, standard deviation, percentage of improvement, mean differences, and 't' ratio of the collected data on speed among experimental and control groups.

Table – I (a) Descriptive Analysis of the data on Speed of Experimental and Control Groups

Training	Pre-test		Post-test		M.D	% of changes	't' ratio
	Mean	S.D.	Mean	S.D.			
LICT(SBD)	7.50	0.46	7.37	0.45	0.13	1.73%	11.37*
HICT(SBD)	7.39	0.41	7.07	0.38	0.32	4.33%	5.42*
SBDP	7.61	0.47	7.53	0.47	0.08	1.05%	5.94*
CG	7.72	0.38	7.73	0.38	0.01	0.12%	0.53

According to the data, the low intensity circuit training with skill based drills group reduced speed by 1.73%, the high intensity circuit training with skill based drills group by 4.33%, skill based drills practices group by 1.05% and the control group by 0.12%.

Figure I shows the percentage of changes in speed for low intensity circuit training with skill based drills, high intensity circuit training with skill based drills and skill based drills practices and the control group.

Figure – I Pie Diagram showing the Percentage of Changes on Speed of Experimental and Control groups

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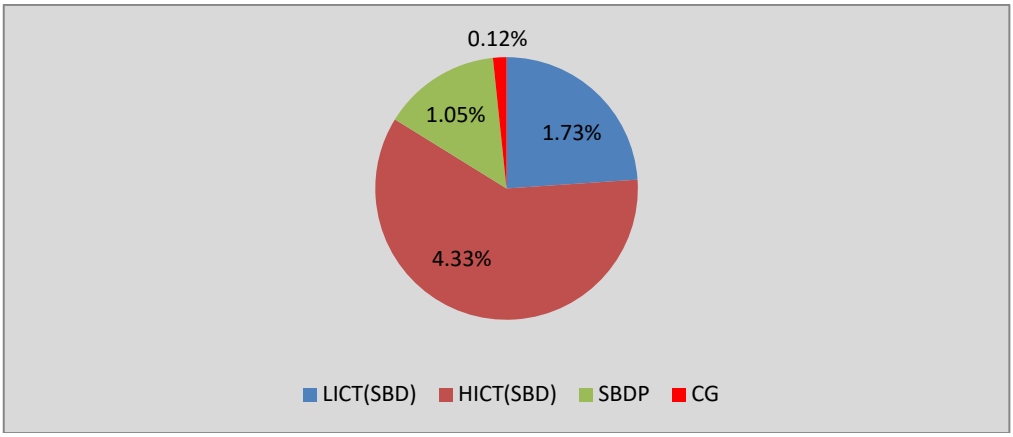

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The data on speed obtained from the experimental and control groups was statistically analyzed using ANCOVA, and the results are shown in Table I (b).

Table – I (b) Analysis of Covariance on Speed of Experimental and Control groups

	LICT (SBD)	HICT (SBD)	SBDP	CG	SOV	SOS	df	M.S	f-ratio
Adjusted Post-test Mean	7.42	7.22	7.48	7.57	BG	1.20	3	0.40	21.70*
					WG	1.38	75	0.01	

***Significant at 0.05 level of confidence.**

The corrected post-test mean values for low intensity circuit training with skill based drills, high intensity circuit training with skill based drills and skill based drills practices and the control group on speed are 7.42, 7.22, 7.48 and 7.57 respectively. The calculated 'F' ratio for adjusted post-test score of 21.70 was greater than the required table value of 2.73 for df 3 and 75 for significant at 0.05 level of confidence on speed. It demonstrated that there are differences in speed between the adjusted post-test means of low intensity circuit training with skill based drills, high intensity circuit training with skill based drills, skill based drills practices and the control group.
Since the 'F' value in the adjusted post-test means was determined to be significant, Scheffe's test was used to evaluate the paired mean of speed difference, and the findings are shown in Table I (c).

Table – I (c) Scheffe's Post hoc Test for the differences among Adjusted Post-test Paired Means of Experimental and Control groups on Speed

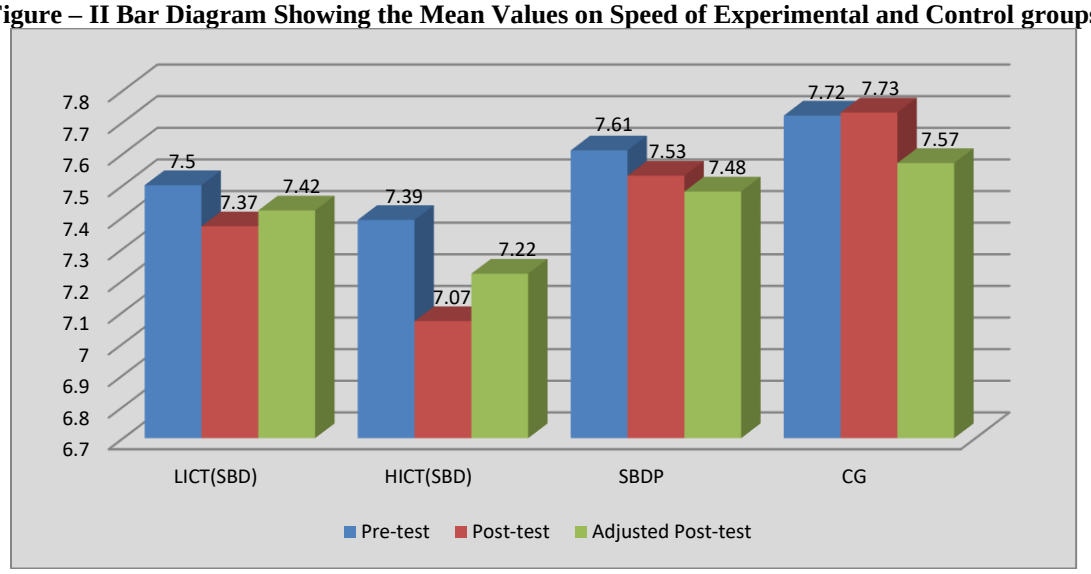
LICT(SBD)	HICT(SBD)	SBDP	CG	M.D	C.I
7.42	7.22	-	-	0.20*	0.09
7.42	-	7.48	-	0.06	
7.42	-	-	7.57	0.15*	
-	7.22	7.48	-	0.26*	
-	7.22	-	7.57	0.35*	
-	-	7.48	7.57	0.09*	

***Significant at 0.05 level**

As a result, it is concluded that the influence of low intensity circuit training with skill based drills, high intensity circuit training with skill based drills and skill based drills practices considerably enhanced speed among intercollegiate male hockey players. It was also determined that high intensity circuit training with skill based drills was superior than low intensity circuit training with skill based drills and skill based drills practices in terms of reducing speed among intercollegiate male hockey players.

Figure II depicts the pre-test, post-test, and corrected post-test mean values of the experimental and control groups on speed

Figure – II Bar Diagram Showing the Mean Values on Speed of Experimental and Control groups



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Analysis of Aerobic Capacity

In Table II (a), shows the descriptive analysis of the collected data on aerobic capacity among experimental and control groups, including averages, standard deviation, percentage of improvement, mean differences, and 't' ratio.

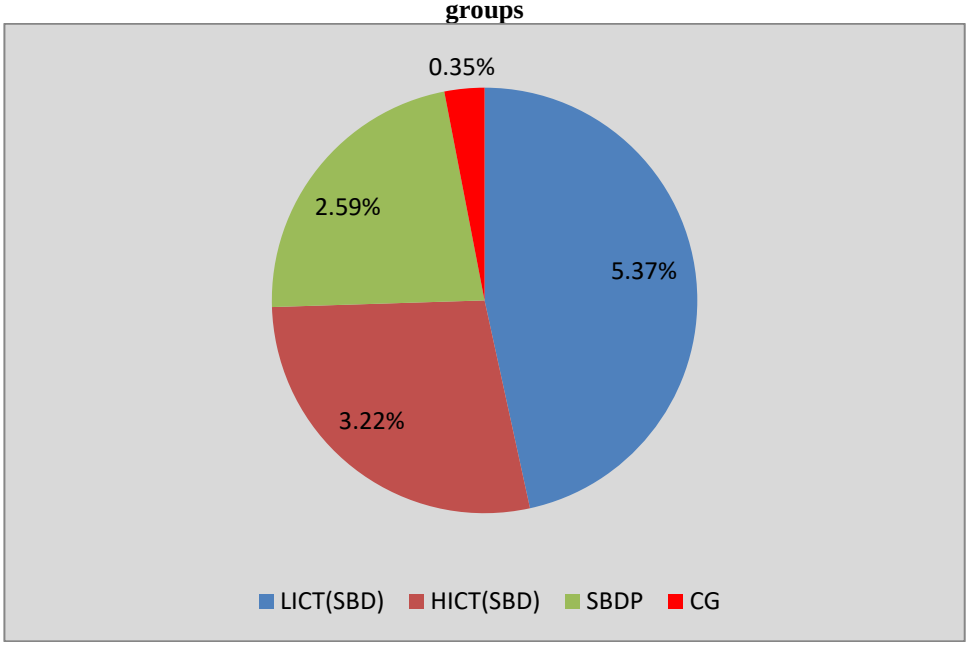
Table – II (a) Descriptive Analysis of the data on Aerobic Capacity of Experimental and Control Groups

Training	Pre-test		Post-test		M.D	% of changes	't' ratio
	Mean	S.D.	Mean	S.D.			
LICT(SBD)	84.65	5.19	89.20	5.30	4.55	5.37%	21.54*
HICT(SBD)	85.20	6.09	87.95	6.05	2.75	3.22%	17.16*
SBDP	84.80	6.10	86.60	6.08	2.20	2.59%	11.56*
CG	85.65	5.92	85.35	6.14	0.30	0.35%	1.83

According to the data, the low intensity circuit training with skill based drills group increased aerobic capacity by 5.37%, the high intensity circuit training with skill based drills group by 3.22%, skill based drills practices group by 2.59% and the control group by 0.35%.

Figure II shows the percentage of changes in aerobic capacity for low intensity circuit training with skill based drills, high intensity circuit training with skill based drills and skill based drills practices and the control group.

Figure – II Pie Diagram showing the Percentage of Changes on Aerobic Capacity of Experimental and Control groups



The data on aerobic capacity gathered from the experimental and control groups was statistically analyzed using ANCOVA, and the results are shown in Table IV (p).

Table – II (a) Analysis of Covariance on Aerobic Capacity of Experimental and Control groups

	LICT (SBD)	HICT (SBD)	SBDP	CG	SOV	SOS	df	M.S	f-ratio
Adjusted Post-test Mean	89.62	87.82	86.87	84.77	**BG**	244.15	3	81.38	132.46*
					WG	46.08	75	0.61	

Significant at 0.05 level of confidence.

Since the 'F' value in the adjusted post-test means was determined to be significant, Scheffe's test was used to evaluate the paired mean of aerobic capacity difference, and the findings are shown in Table II (a).

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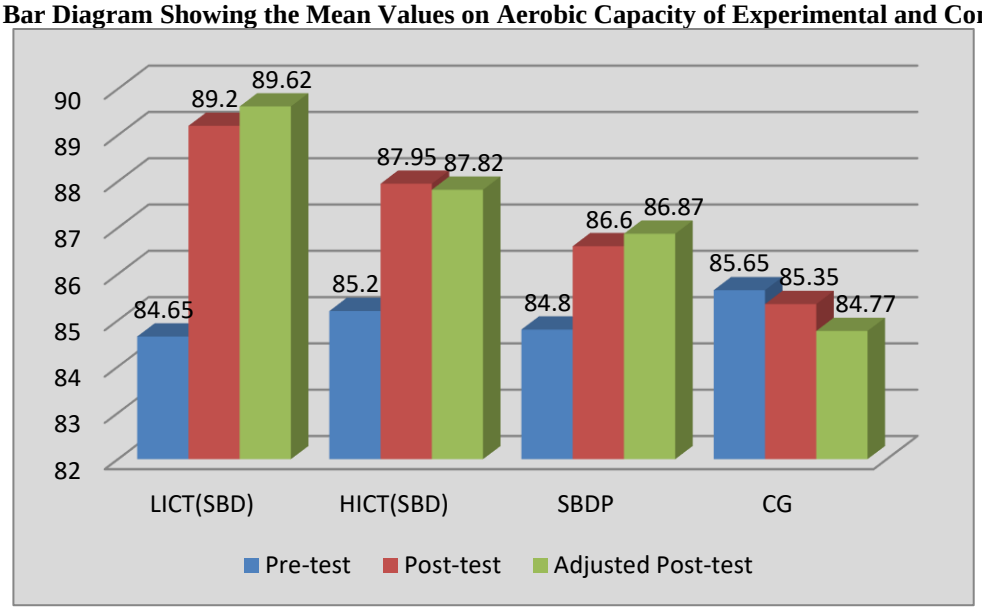
Table – II (b) Scheffe's Post hoc Test for the differences among Adjusted Post-test Paired Means of Experimental and Control groups on Aerobic Capacity

LICT(SBD)	HICT(SBD)	SBDP	CG	M.D	C.I
89.62	87.82	-	-	1.80*	0.70
89.62	-	86.87	-	2.75*	
89.62	-	-	84.77	4.85*	
-	87.82	86.87	-	0.95*	
-	87.82	-	84.77	3.05*	
-	-	86.87	84.77	2.10*	

**Significant at 0.05 level*

As a result, it is concluded that the influence of low intensity circuit training with skill based drills, high intensity circuit training with skill based drills and skill based drills practices considerably enhanced aerobic capacity among intercollegiate male hockey players. It was also determined that low intensity circuit training with skill based drills was superior than high intensity circuit training with skill based drills and skill based drills practices in terms of increasing aerobic capacity among intercollegiate male hockey players.
Figure II depicts the pre-test, post-test, and corrected post-test mean values of the experimental and control groups for aerobic capacity.

Figure – II Bar Diagram Showing the Mean Values on Aerobic Capacity of Experimental and Control groups



Conclusions

Based on the results obtained and by analyzing the data collected on the dependent variables for the study, the following conclusions were drawn\

1. The anaerobic training group had shown significant improvement on speed, among intercollegiate men Hockey players.
2. The aerobic skill based training group had shown significant improvement on aerobic capacity among intercollegiate men Hockey players.

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