

Effects Of Own Body Exercises And Plyometric Training On Speed Among Kabaddi Players.

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ABSTRACT

The present study examined the effects of own body exercises and plyometric training on selected speed performance among kabaddi players. Sixty male intercollegiate kabaddi players aged 19–22 years were randomly assigned into three equal groups (n=20 each): Experimental Group I (own body exercises), Experimental Group II (plyometric training), and a Control Group. Both experimental groups underwent a 12-week training program, while the control group received no special treatment. Speed was assessed through 50-meter sprint tests before and after the intervention. The pre-test means for speed were 7.04 sec (own body exercises), 7.06 sec (plyometric training), and 7.09 sec (control), with no significant difference ($F=0.40$, $p>0.05$). The post-test means were 6.90 sec, 6.93 sec, and 7.07 sec respectively, revealing a significant difference ($F=5.33$, $p<0.05$). ANCOVA results on adjusted post-test means (6.92, 6.94, 7.05) further confirmed significant group differences ($F=24.79$, $p<0.05$). Post-hoc analysis indicated that both own body exercises and plyometric training significantly improved speed compared to the control ($MD=0.13$ and $MD=0.11$, respectively), but no significant difference was observed between the two experimental groups ($MD=0.01$, $p>0.05$). The findings suggest that both own body exercises and plyometric training are effective in improving sprint speed among kabaddi players, highlighting their applicability in enhancing game-related performance.

Keywords: Kabaddi players, speed, own body exercises, plyometric training and kabaddi players

INTRODUCTION

Plyometric training (PT) is widely used to improve explosive lower-limb power and short-distance sprinting in team-sport athletes. PT emphasizes fast stretch–shortening-cycle actions (vertical, horizontal and unilateral drills) that transfer to acceleration and sprint phases of running, making it a plausible intervention to enhance speed in kabaddi players who frequently perform short sprints and rapid directional actions.

Several randomized trials in young soccer players and similar athletes have shown that relatively short PT programs (4–8 weeks, 2 sessions/week) produce meaningful reductions in 15–30 m sprint times and improvements in explosive measures, supporting the potential of structured PT to improve match-relevant speed in contact team sports such as kabaddi.

Program design matters: comparisons of vertical, horizontal, and combined PT indicate that combined or direction-specific (horizontal emphasis for acceleration) plyometric drills often yield greater sprint and explosive gains than single-mode programs — a finding that supports testing combined PT vs. bodyweight (own-body) exercise programs in kabaddi players.

Modifications to plyometric load (for example, unloaded vs. lightly loaded plyometrics) can differentially affect speed and power outcomes; research from elite youth athletes suggests that both unloaded and modestly loaded plyometrics can improve sprint and power but that prescription (volume, intensity, and progression) must be sport-specific and controlled to maximize transfer and reduce injury risk. This highlights why a controlled comparison with own-body exercises is necessary for kabaddi.

Frequency and total dose of plyometric sessions influence results: work from 2018 shows that weekly frequency, total sessions, and exercise selection (vertical/horizontal/unilateral mix) affect sprint and agility outcomes, which implies that testing a practical, sport-specific PT protocol against an own-body exercise regimen will produce clinically meaningful information for coaches and practitioners working with kabaddi players.

SELECTION OF SUBJECTS

The purpose of the study is to find out the effects of own body exercises and plyometric training on selected speed among kabaddi players.

For these purpose intercollegiate level Kabaddi players who participated at inter-collegiate level competitions were selected. 60 players in the age group of 19 to 22 were randomly selected as subjects for this study. The subjects were randomly selected groups, namely, experimental group I asc own BODY EXERCISES, experimental group II plyometric training exercices and control group consisting of 20 in each.

The subjects were oriented for the purpose of the study and all the subjects volunteered to undergo the treatments as the research would further enhance their abilities and contribute for the training methods.

SELECTION OF THE VARIABLES

Dependent Variables

1. Speed

Independent Variables

1. 12 Weeks Own body weight Exercises
2. 12 Weeks Plyometric exercises

EXPERIMENTAL DESIGN

The study was formulated as a true random group design consisting of a pre-test and post test. The subjects (N=60) were randomly assigned to three equal groups of twenty. The selected subjects were divided into three groups randomly. Experimental Group I was considered as own body weight exercises group, experimental group II was considered as plyometric exercises group and control group was not involved in any special treatment. Pre test was conducted for experimental Groups I and II and the control group on speed. Experimental groups underwent the respective training for 12 weeks. Immediately after the completion of 12 weeks training, all the subjects were measured of their post test scores on the selected criterion variables. The difference between the initial and final scores was considered the effect of respective treatments. To find out statistical significance of the results obtained, the data were subjected to statistical treatment using ANCOVA. In all cases 0.05 level was fixed to test the significance of the study.

COMPUTATION OF ANALYSIS OF COVARIANCE AND POST**HOC TEST****RESULTS ON SPEED**

The statistical analysis comparing the initial and final means of Speed due to Own body exercises and Plyometric training among Kabaddi players is presented in Table I

Table I**COMPUTATION OF ANALYSIS OF COVARIANCE OF SPEED**

	OWN BODY EXERCISE S	PLYOMETRI C TRAINING	CONTRO L GROUP	SOURCE OF VARIANC E	SUM OF SQUARE S	df	MEAN SQUARE	OBTAIN E D F
Pre Test Mean	7.04	7.06	7.09	Between	0.03	2	0.01	0.40
				Within	1.81	87	0.03	
Post Test Mean	6.90	6.93	7.07	Between	0.34	2	0.17	5.33*
				Within	1.80	87	0.03	
Adjusted Post Test Mean	6.92	6.94	7.05	Between	0.19	2	0.09	24.79*
				Within	0.21	86	0.00	
Mean Diff	-0.13	-0.12	-0.01					

Table F-ratio at 0.05 level of confidence for 2 and 87 (df) =3.10, 2 and 86 (df) =3.10.

*Significant

As shown in Table I, the obtained pre test means on Speed on Own body exercises group was 7.04, Plyometric training group was 7.06 was and control group was 7.09. The obtained pre test F value was 0.40 and the required table F value was 3.10, which proved that there was no significant difference among initial scores of the subjects.

The obtained post test means on Speed on Own body exercises group was 6.90, Plyometric training group was 6.93 was and control group was 7.07. The obtained post test F value was 5.33 and the required table F value was 3.10, which proved that there was significant difference among post test scores of the subjects.

Taking into consideration of the pre test means and post test means adjusted post test means were determined and analysis of covariance was done and the obtained F value 24.79 was greater than the

required value of 3.10 and hence it was accepted that there was significant differences among the treated groups.

Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

Table II

Scheffe's Confidence Interval Test Scores on Speed

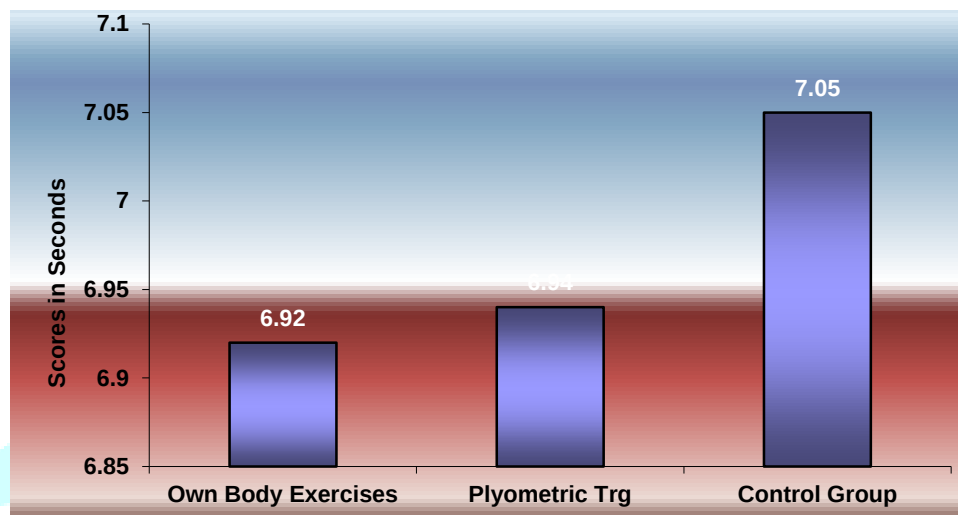
MEANS				Required C I
Own body exercises Group	Plyometric training Group	Control Group	Mean Difference	
6.92	6.94		0.01	0.05
6.92		7.05	0.13*	0.05
	6.94	7.05	0.11*	0.05

* Significant

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Own body exercises group and control group (MD: 0.13). There was significant difference between Plyometric training group and control group (MD: 0.11). There was significant difference between treatment groups, namely, Own body exercises group and Plyometric training group. (MD: 0.01).

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure I.

Figure I
BAR DIAGRAM ON ORDERED ADJUSTED MEANS ON SPEED



DISCUSSIONS ON FINDINGS ON SPEED

The effect of Own body exercises and Plyometric training on Speed is presented in Table I. The analysis of covariance proved that there was significant difference between the experimental group and control group as the obtained F value 24.79 was greater than the required table F value to be significant at 0.05 level.

Since significant F value was obtained, the results were further subjected to post hoc analysis and the results presented in Table II proved that there was significant difference between Own body exercises group and control group (MD: 0.13) and Plyometric training group and control group (MD: -0.11). Comparing between the treatment groups, it was found that there was no significant difference between Own body exercises and Plyometric training group among Kabaddi players.

Thus, it was found that Own body exercises and plyometrics training were significantly better than control group in reducing Speed time and thereby improve speed of the Kabaddi players.

CONCLUSIONS

1. It was concluded that 12 weeks own body weight exercises and plyometric training significantly improved bio motor ability, such as, speed among Kabaddi players compared to control group. Comparisons between the treatment groups proved that there was no significant difference on speed.

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