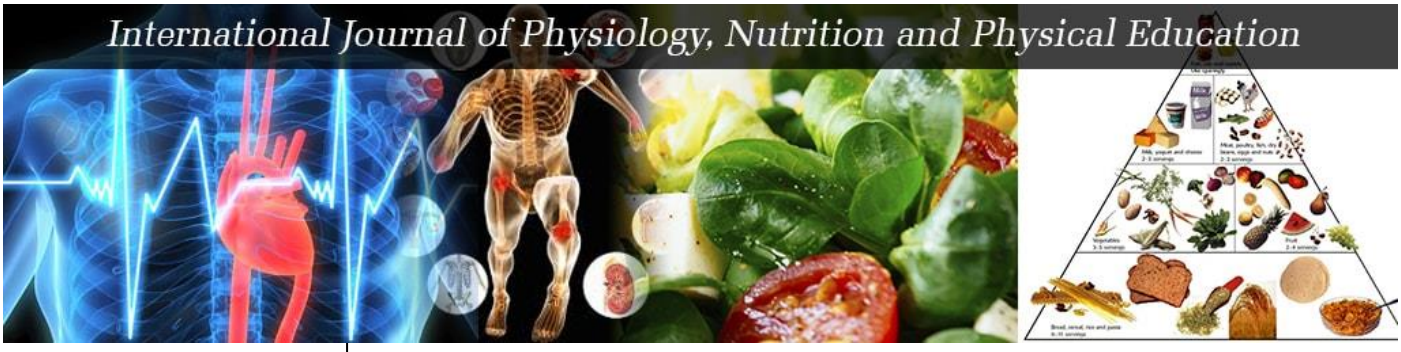

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Effect of strength training on selected physical variables of kabaddi players

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Abstract
The purpose of the present investigation was to find out the effect of strength training on selected physical variables of kabaddi players. To achieve the purpose of the study, thirty male inter collegiate kabaddi players were randomly selected as subject from Shri Govind Guru University Godhra. Their age ranged from 17-21 years old. The subjects were randomly divided into Strength Training (n=15) and a control group (n=15). Then the subjects voluntarily consented to participate in the study. All tests were carried out before (pre-test) and after the training period (post-test). Strength training Group-I were gone for strength training exercises for three days in a week (Monday, Wednesday, Friday) for total six weeks. Group- II acted as control. They did not participate in any specific training on equivalence with experimental group. The selected physical variables are Speed (50 yard run), Agility performance (10mts. × 4 shuttle run test) and Muscular Endurance (Sit-up test). To find the mean difference of pre and post treatment ANOVA was applied. The results of this study highlights the potential of using strength training to improve Speed, Agility and muscular endurance, particularly in male inter collegiate Kabaddi players.

Keywords: Strength training, speed, agility, muscular endurance

Introduction
Game is as old as human culture and it has accomplished as abnormal following in the modem time, it has now become a vital piece of instructive procedure and social exercises, many take an interest in sports fortune, experience wellbeing, physical wellness and money related benefits enjoyed a high level of extremity. Proof of physical exercises, games, sports, exercise, move and all that May be found in archeological essentials, writing and ability from the soonest times to the most current occasions. Kabaddi is a physical game that began in early India. It's likewise one of conventional games in Iran, played by a large number of individuals in urban communities and towns. The sport of Kabaddi requires numerous aptitudes, which are usually educated at different degrees of preparing programs. In Kabaddi, the capacity to produce maximal quality levels in the most limited timeframe (solid power) has been considered as fundamental to acquire high game execution levels (Dey *et al.*, 1993) [2]. Dangerous quality, speed and deftness are capacity that makes a significant commitment to productive development in different game and sports during playing out any strategy. Weight preparing is a typical sort of solidarity preparing for building up the quality and size of the skeletal muscles. We reason that appropriately modified Weight preparing could be useful for kabaddi players in their physical wellness execution. To locate the mean contrast of pre and post treatment t – test was applied. The degree of certainty was set at.05 level.

Materials and Methods
Selection of the Subject
To achieve these purpose, 30 male inter collegiate kabaddi playerswere selected as a subjects form Shri Govind Guru University Godhra. Their age ranged from 17-21years old.

Selection of the variable
1. Speed - Sprint performance (50 yard dash)
2. Agility - Agility performance (10mts. × 4 shuttle run test)

3. Muscular endurance (Sit-up test).

Experimental Design

The subjects were randomlydivided into two equal groups of 15 subjects each and assigned to strength training group-I (STG), and control group (CG). All tests were carried out before (pre-test) and after the training period (post-test). Strength training Group-I were gone for weight training exercises for three days in a week (Monday, Wednesday, Friday).The duration of training session in the six weeks was between 60 to 75 minutes approximately, including warming up and cool down. Group- II acted as control. They did not participate in any specific training on equivalence with experimental group.

Statistical Methods

The data were compiled and analysis was using SPSS version 20. To find the mean difference of pre and post treatment ANOVA was applied. The level of confidence was set at 0.05 level.

Results and Discussion

Table 1: Computation of analysis of covariance of speed

	STG	CG	SS	SV	DF	MS	F	Sig.
Pre-test Mean	6.97	6.95	0.00	B	1	0.00	0.02	0.887
S. D	0.54	0.47	7.23	W	28	0.26		
Post-test Mean	6.51	6.91	1.18	B	1	1.18	4.79*	0.03
S. D	0.54	0.45	6.92	W	28	0.25		
Adj. post-test Mean	6.50	6.92	1.34	B	1	1.34	85.59	0.00
			0.42	W	27	0.02		

*Significance of value at P=0.05 (1,28 – 4.21 and 1,27 – 4.20)

Table –1 shows the analyzed data on speed. The pre-test, post-test and adjusted post-test means of the speed were (6.97 and 6.95), (6.51 and 6.91) and (6.50 and 6.92) for the strength training group and control group, respectively. The obtain 'F' ratio for pre-test 0.02, post-test 4.79 and adjusted post-test 85.59. The obtain 'F' ratio of post-test and adjusted post-test were 4.79 and 85.59. The table value was 4.21 and 4.20 at 0.05 level of significance for the degree of freedom (1,28 and 1,27). Therefore, it is proved that strength training group has been better than the control group.

Table 2: Computation of analysis of covariance of agility

	STG	CG	SS	SV	DF	MS	F	Sig.
Pre-test Mean	9.40	9.35	0.02	B	1	0.02	2.72	0.60
S. D	1.33	0.39	2.42	W	28	0.09		
Post-test Mean	8.98	9.28	0.64	B	1	0.64	4.56*	0.04
S. D	0.33	0.42	3.95	W	28	1.41		
Adj. post-test Mean	8.96	9.31	0.92	B	1	0.92	18.63	0.00
			1.33	W	27	0.05		

*Significance of value at P=0.05 (1,28 – 4.21 and 1,27 – 4.20)

Table-2 indicates the analyzed data on agility. The pre-test, post-test and adjusted post-test means of the agility were (9.40 and 9.35), (8.98 and 9.28) and (8.96 and 9.31) for the strength training group and control group, respectively. The obtain 'F' ratio for pre-test 2.72, post-test 4.56 and adjusted post-test 18.63. The obtain 'F' ratio of post-test and adjusted post-test were 4.56 and 18.63. The table value was 4.21 and 4.20 at 0.05 level of significance for the degree of freedom (1,28 and 1,27). Therefore, it is proved that strength training group has been better than the control group.

Table 3: Computation of analysis of covariance of muscular endurance

	STG	CG	SS	SV	DF	MS	F	Sig.
Pre-test Mean	24.27	24.67	1.20	1	B	1.20	0.28	0.60
S. D	2.57	2.45	122.27	28	W	4.37		
Post-test Mean	27.20	25.07	34.13	1	B	34.13	10.70*	0.00
S. D	2.11	1.39	89.33	28	W	3.19		
Adj. post-test Mean	27.35	24.92	43.96	1	B	43.96	57.03*	0.00
			20.81	27	W	0.77		

*Significance of value at P=0.05 (1,28 – 4.21 and 1,27 – 4.20)

Table-3 indicate the analyzed data on muscular endurance. The pre-test, post-test and adjusted post-test means of the agility were (24.27 and 24.67), (27.20 and 25.07) and (27.35 and 24.92) for the strength training group and control group, respectively. The obtain 'F' ratio for pre-test 0.28, post-test 10.70 and adjusted post-test 57.03. The obtain 'F' ratio of post-test and adjusted post-test were 10.70 and 57.03. The table value was 4.21 and 4.20 at 0.05 level of significance for the degree of freedom (1,28 and 1,27). Therefore, it is proved that strength training group has been better than the control group.

Conclusion

Within the limitation of the study, the following conclusions were drawn:

- The speed, agility and muscular endurance were significantly improved due to the influence of effect of strength training of inter college men kabaddi players.
- Strength training significantly improved the speed, agility and muscular endurance greater then that of control group of inter college men kabaddi players.

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