



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (ISRA): 5.38  
IJPESH 2016; 3(5): 244-246  
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www.kheljournal.com  
Received: 11-07-2016  
Accepted: 12-08-2016

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## The effect of eight weeks resistance training on the fitness variables of university level male badminton players

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### Abstract

A total of thirty female (N=30) university level male Badminton players ranging between 18-28 years of age were taken as subjects for the purpose of the study. The subjects were randomly selected and training was conducted at ACS College, Jamner. The subjects were further divided into two groups i.e. Group -A (N=15) as experimental group and Group-B (N=15) as control group. The following fitness variables were selected for the purpose of the study: Flexibility test (sit and reach test), strength test (vertical jump test), speed test (50m dash test), agility (shuttle run test), cardio-vascular fitness test (cooper 12 minute run-walk test). To compare the mean difference between the data, t test was computed with the help of SPSS Software and level of significance chosen was 0.05. Result shows that resistance training (Experimental group) have significant effect on the fitness of university level male Badminton players.

**Keywords:** Resistance training, fitness, female, basketball players

### 1. Introduction

Resistance training programme can improve measures of strength and power in adults. In children and adolescents, it is well-established that training-induced gains in strength and power are indeed possible following participation in a resistance training programme. Resistance training during a training cycle should be structured to allow maximal efficacy and physical improvement. Since young athletes are often encouraged to perform static stretching prior to resistance exercise. Resistance training has been used extensively to increase fitness and sport performance. It has been demonstrated to augment maximum strength, power and jumping ability. It is well known that a variety of resistance training programs can stimulate and increase in one repetition maximum strength. It is important to ascertain the most efficacious method for enhancing fitness performance in children and adolescents. This information would be useful to physical educators, sport coaches and health care providers. William conducted a study aimed to identify the effect of a training programme of muscles fitness and power fitness on the growth rates of physical qualities and basic skills of Badminton on a sample of 17 players under the age of 17 years old. The author used the experimental method where the most important results were that the proposed training programme led to the development of the muscles fitness and power fitness and improvement of the basic skills of Badminton.

### 2. Procedure and Method

For the purpose of the study a total of thirty female (N=30) university level male Badminton players ranging between 18-28 years of age, were taken as subjects. The subjects were randomly selected and training was conducted at ACS College, Jamner.

The subjects were further divided into two groups i.e. Group-A (N=15) as experimental group and Group-B (N=15) as control group. Measurements for variables were taken at the beginning (pretest) and at the end of experimental training period after eight weeks (post-test). During data collection period, the subjects were not allowed to participate in any competition except daily training schedule. The following variables were selected for the purpose of the study: Flexibility Test (Sit and Reach Test, 1952), Strength Test (Vertical Jump Test, 1921), Speed Test (50m dash test, 1977), Agility (Shuttle Run Test, 198), Cardio-vascular Fitness Test

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(Cooper 12 minute Run-Walk Test, 1968). To compare the mean difference between pre-test and post-test, 't' test was computed with the help of SPSS Software and level of significance chosen was 0.05.

**3. Data Analysis and Results**

For the variables, the statistical analysis revealed a significant differences between the pre-test and post-test of experimental group regarding vertical jump, 50 m dash, shuttle run and cooper 12 min run walk of male Badminton players.

There were significant differences found in the fitness level of Badminton players before and after resistance training. This

means that the resistance training positively affected the fitness level of the Badminton players.

Table 1 showed the mean values ( $\pm$  SD) and t-values of sit and reach, vertical jump, 50 m dash, shuttle run, cooper 12 minute run walk of university level male Badminton players.

The pre-test and post-test mean values ( $\pm$  SD) of experimental group on Sit and Reach as  $2.05 \pm .644$  and  $2.08 \pm .802$ , vertical jump as  $8.52 \pm .76$  and  $9.23 \pm .76$ , 50 m dash as  $8.96 \pm .43$  and  $8.66 \pm .38$ , shuttle run as  $11.89 \pm .50$  and  $11.64 \pm .45$ , cooper 12 minute run walk test as  $1857.33 \pm 181.95$  and  $2012.66 \pm 198.69$ .

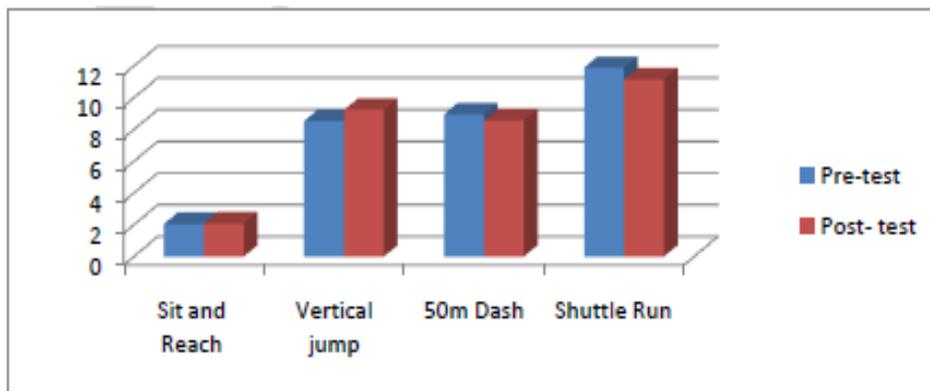
**Table 1:** Mean Values ( $\pm$  SD) and 't' Values of Sit and Reach, Vertical Jump, 50 M Dash, Shuttle Run, Cooper Run Walk of university level male Badminton players

Variable	Experimental Group (N=15)		t'	Control Group (N=15)		t'
	Pre- test Mean $\pm$ SD	Post - test Mean $\pm$ SD		Pre- test Mean $\pm$ SD	Post - test Mean $\pm$ SD	
Sit and Reach	2.05 $\pm$ .64	2.086 $\pm$ .80	0.12	1.94 $\pm$ .96	2.08 $\pm$ .94	.403
Vertical jump	8.52 $\pm$ .76	9.23 $\pm$ .76	2.46*	6.18 $\pm$ 1.08	6.32 $\pm$ 1.01	.367
50m Dash	8.96 $\pm$ .43	8.57 $\pm$ .38	2.62*	8.85 $\pm$ .25	8.61 $\pm$ .38	1.22
Shuttle Run	11.89 $\pm$ .50	11.15 $\pm$ .45	3.56*	11.92 $\pm$ .47	11.59 $\pm$ .44	1.97
Cooper 12 minute run walk	1857.33 $\pm$ 181.95	2012.66 $\pm$ 198.69	2.23*	1806.67 $\pm$ 153.56	1820.67 $\pm$ 191.74	.221

t' Value= 2.04 \*Significant at .05 level

Analysis of data revealed significant differences between pre-test and post-test of experimental group, since the computed values of 't' on vertical jump (2.46), 50 m dash (2.62), shuttle run (3.56), cooper12 minute run walk test (2.23).It is evident from Table 1 that pre-test and post-test mean values ( $\pm$  SD) of control group on sit and reach as 1.94 ( $\pm$  .962) and 2.08 ( $\pm$  .941), vertical jump as 6.18 ( $\pm$  1.086) and 6.32 ( $\pm$  1.01), 50 m dash as 8.85 ( $\pm$  .25) and 8.61 ( $\pm$  .38), shuttle run as 11.92 ( $\pm$

.47) and 11.59 ( $\pm$  .444), cooper 12 minute run walk test as 1806.67 ( $\pm$ 153.56) and 1820.67 ( $\pm$  191.74). analysis of data revealed no significant differences between pretest and posttest of control group, since the computed values of 't' on sit and reach (.403),vertical jump (.367), 50 m dash (1.22), shuttle run (1.97), cooper 12 minute run walk test (.221). The graphical representations of control group and experimental group have been shown in figure 1 to 2 respectively.



**Fig 1:** Mean Differences of Pre-Test and Post-Test Measurements of Experimental Group

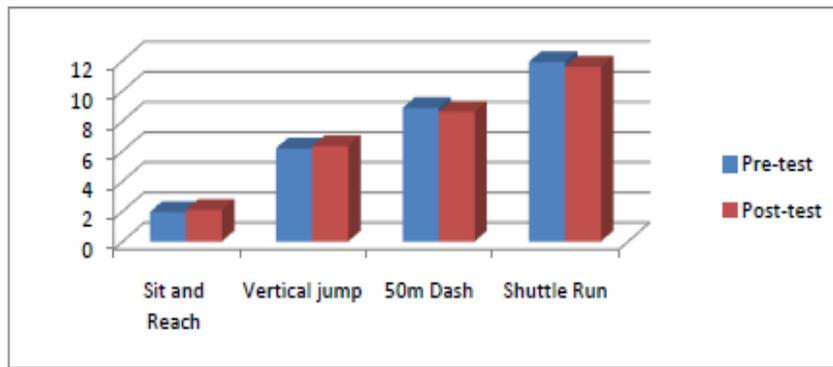


Fig 2: Mean Differences of Pre-Test and Post-Test Measurements of Control Group

#### 4. Conclusion

From the above analysis, it revealed that there were significant differences on the fitness level of university level male Badminton players for resistance training group. But in experimental group, the training positively affected the fitness level of university level male Badminton players. Finally, it is concluded that resistance training group (experimental group) have significant effect on fitness level of university level male Badminton players.

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