"Effect of hill training on speed, agility and endurance"

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Abstract

The study in hand was an attempt to investigate the effects of hill training on physical fitness components (agility, endurance and speed). For this purpose 40 students from university of Kashmir have been randomly selected as subjects for the study. The age of the subjects ranged between 18 to 28 years. The data on these variables was collected by using 50 yard dash test for speed, semo agility test for agility and 12 minutes run walk test for endurance. To find out the effect of hill training on speed, agility and endurance among students t test as a statistical tool was used to find out the significant difference between pre test and post test score of subjects' .the level of significance was set at 0.05. The results revealed that hill training has a significant effect on agility, speed and endurance.

KEYWORDS: - hill training, speed, endurance and agility.

INTRODUCTION: - Physical fitness is a state of well-being that comprises skill and health-related components. Fitness is a condition in which an individual has sufficient energy to avoid fatigue and enjoy life. It is necessary for elderly people to maintain and improve their physical fitness in order to satisfy healthy, high quality of daily life (Tanaka et al., 2004). Skill-related physical fitness refers to an individual's athletic ability in sports such as tennis and encompasses skill-related attributes like dynamic balance, power, speed and agility; the health-related aspect is a measure of cardiovascular endurance, muscle strength, endurance and flexibility and body composition (Hopkins & Walker, 1988

In hill running, the athlete is using their body weight as a resistance to push against, so the driving muscles from which their leg power is derived have to work harder. The technique to aim for is a "bouncy" style where the athlete has a good knee lift and maximum range of movement in the ankle. They should aim to drive hard, pushing upwards with their toes, flexing their ankle as much as possible, landing on the front part of the foot and then letting the heel come down below the level of the toes as the weight is taken. This stretches the calf muscles upwards and downwards as much as possible and applies resistance which overtime will improve their power and elasticity. The athlete should look straight ahead, as they run (not at their feet) and ensure their neck, shoulders and arms are free of tension. Many experts believe that the "bouncy" action is more important than the speed at which the athlete runs up the hills.

Methodology:-the aim of this study was to investigate the effect of hill training on speed, agility and endurance. 40 female students, from university of Kashmir have been selected as subjects for the study. 20 students were kept in control group and 20 students received experimental treatment (hill training) for eight weeks. T test was used as a Statistical tool to know the effect of hill training. The level of significance was set at 0.05. Speed and agility were used as variables for the study. 50 yard dash test was used to measure the speed and semo agility test for agility

Findings :-

Shows statistical comparison of Speed between pre-test and post-test of Experimental group is as under:

Group	Mean	SD	T-ratio
Pre-test	**7.43**	**1.32**	**0.07**
Post-test	**7.40**	**1.32**	

- Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

Figure 1

Figure showing the Mean difference of Experimental group in pre and post test on Speed

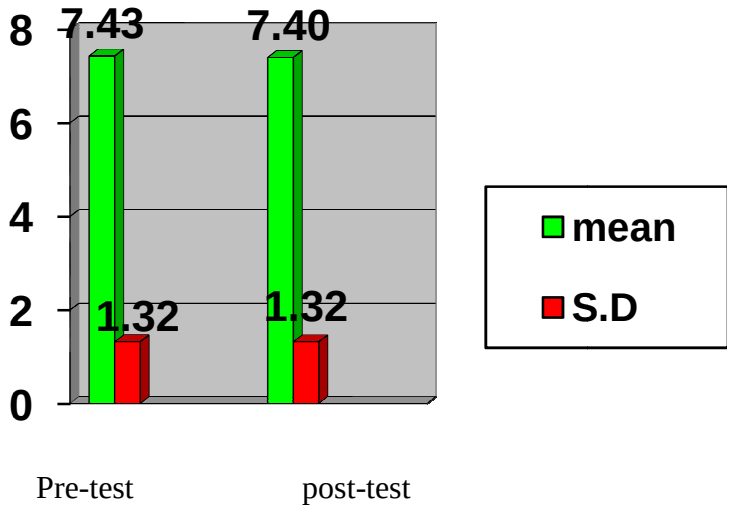


Table 2

Shows statistical comparison of Speed between pre-test and post-test of Control group :

Group	Mean	SD	T-ratio
Pre-test	8.45	2.32	

Post-test	8.31	2.15	2

- N = 20 Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

Figure showing the Mean difference of Control group students in pre and post test on Speed

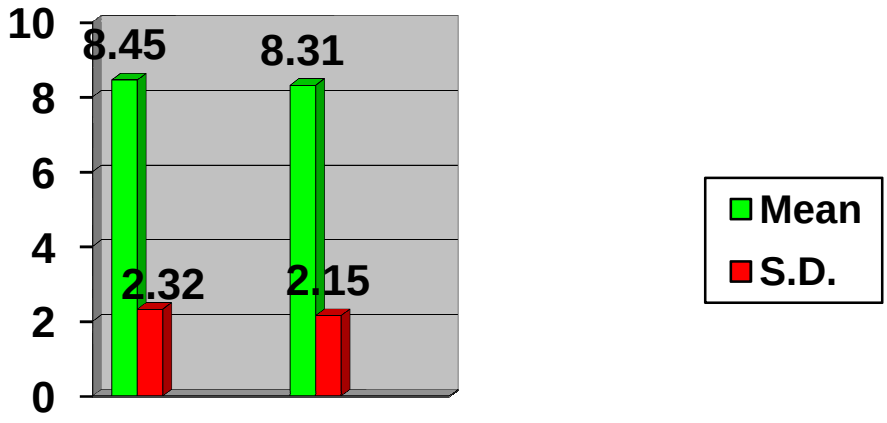


Table 3

Shows statistical comparison of Agility between pre-test and post-test of Experimental group is as under:

Group	Mean	SD	T-ratio
Pre-test	**12.78**	**1.20**	**0.51**
Post-test	**12.59**	**1.22**	

- N = 20 Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

Figure 3
Figure showing the Mean difference of Experimental group in pre and post test on Agility

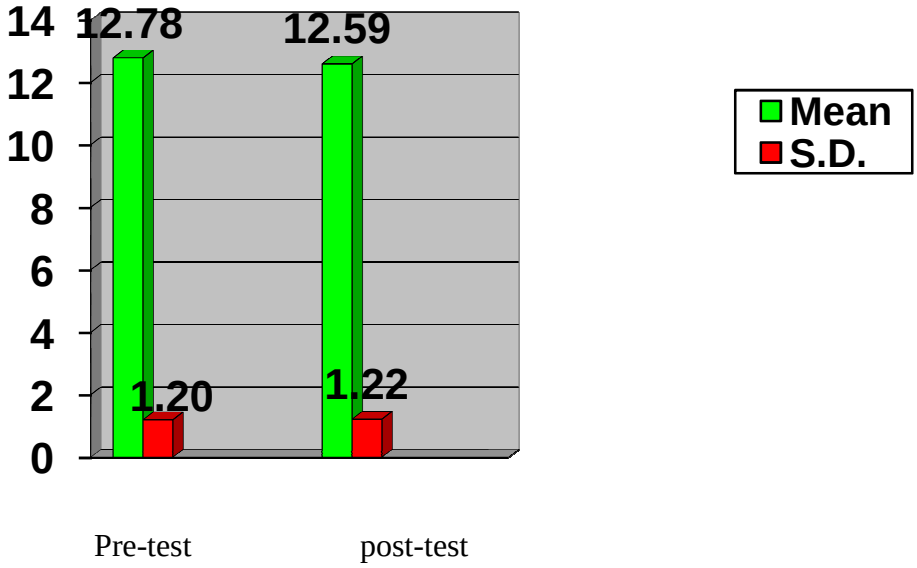


Table 4

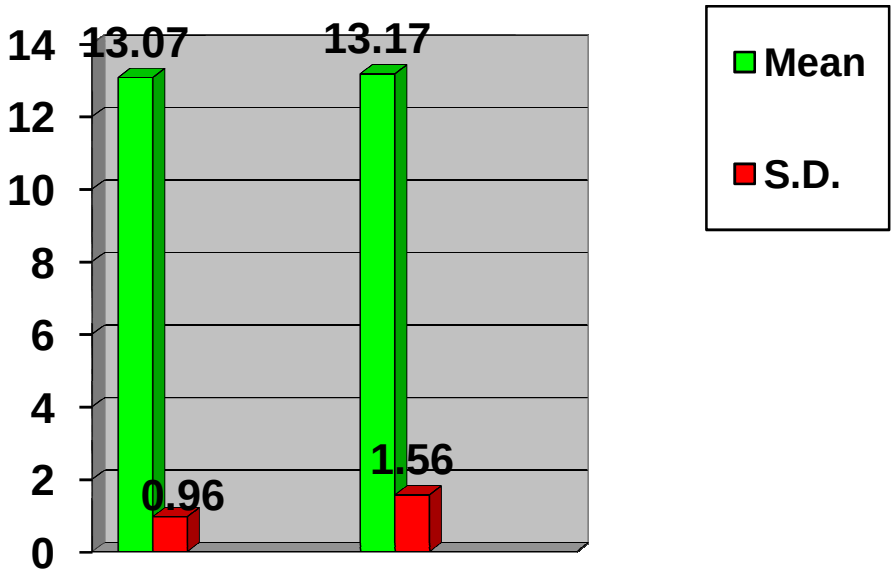
Shows statistical comparison of Agility between pre-test and post-test of Control group is as under:

Group	Mean	SD	T-ratio
Pre-test	**13.07**	**0.96**	**0.25**
Post-test	**13.17**	**1.56**	

- N = 20 Level of Significance=0.05
- Tabulated 't'0.05(18)=2.02

Figure 4

Figure showing the Mean difference of Control group students in pre and post test on agility



Discussion of findings:- It was observed that there was a significant improvement in the agility and speed of the experimental group by hill training programme. It was also found the there was no significant improvement in agility, speed and endurance of the control group which did not have the hill training programme. Within the limitations of the study and from the findings of the analysis of the data, hill training may be considered as a vital part of the physical education programme in all schools/ colleges, to improve the Cardio vascular efficiency of the students.

In other words, these findings indicate that using the hill training method led to same noticeable improvement in the performance of all participants. These findings are in agreement with those of the studies of Alam et al. (2012), Taskin (2009), Jood Allah (2009), Hamoudat (2008), and Al-Wadayan (2001), which indicated that the hill training method has an effective impact on the development and improvement of the physical fitness components, and creating a functional adaptation in their respiratory and circulatory systems.

References :-

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