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3. Effect of Concurrent Speed and Agility Training Among Badminton Players

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Abstract:

The purpose of the study was to find out the effect of concurrent speed and agility training among badminton players. To achieve this purpose of the study, forty badminton players in the Department of Physical Education and Sports Sciences, Annamalai University, Tamil Nadu and India were selected as subjects at random.

Their age ranged between eighteen to twenty-two years. The selected subjects were divided into two equal groups of twenty each, namely concurrent speed and agility training group and control group.

The experimental group has undergone twelve weeks of concurrent speed and agility training, whereas the control group maintained their daily routine activities and no special training was given. All the subjects of two groups were tested on selected criterion variables namely speed and agility using standardized tests, namely 50 meters run and T-Drill test at prior to and immediately after the training period.

The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. .05 level of confidence was fixed to test the level of a significance which was considered as an appropriate. The results of the study that there were significant differences among concurrent speed and agility training group and control group. And also, concurrent speed and agility training group showed significant improvement on speed and agility compared to control group.

Keywords:

Concurrent speed and agility training, Speed, Agility.

3.1 Introduction:

The sequential exercise regime is referred to as 'concurrent training'. Different types of training carried out during the same training session or within a few hours of one another. Concurrent training sessions need to be well designed to maximize the beneficial effects of each type of training and to minimize interference.

Concurrent speed and agility training is the two different types of training such as speed and agility given in single training session. Speed and agility are important attributes in many sports, but often in very different ways, each sport having its own particular demands moreover racquet sports are multidirectional, with as much lateral movement as linear.

In addition, different sports have different speed profiles. Racquet sports require very fast off-the-mark acceleration, but maximum speed over a longer sprint (30m to 60m) is less important. Concurrent speed and agility training has undertaken by numerous athletes in various sports in an effort to achieve adaptations specific to both forms of training.

Literature findings to date, investigating the neuromuscular adaptations and performance improvements associated with concurrent strength and endurance training (referred to as concurrent training) have produced inconsistent results.

Some studies have shown that concurrent training inhibits the development of strength and power, but does not affect the development of aerobic fitness when compared to either mode of training alone. Other studies have shown that concurrent training has no inhibitory effect on the development of strength and endurance.

3.1.1 Speed and Agility Adaptions:

Literature findings to speed and agility training regimes represent and induce distinctly different adaptive responses when performed individually. Speed and agility training has been reported the significant results in various sports performances. Straight speed and agility training methods are specific and produce limited transfer to the other. These findings have implications for the design of speed and agility training and testing

protocols. Speed training in addition to the normal workout of agility and lateral speed training suggested that a standardized training program emphasizing acceleration, starting ability, stride rate, speed endurance, and stride length can improve performance in the 40- yard sprint.

The relationship between strength, power, speed, and change of direction performance of female softball players showed that the relationship between speed and change of direction performances were very strongly and significantly correlated. Sprinting performance is heavily dependent on speed of limb movement, one of the biggest single factors contributing to success is physiology. The muscle fibres in the winning sprinter's legs are able to contract faster over the short period of the sprint than those of their less successful counterparts.

3.2 Methodology:

The purpose of this study was to investigate the effect of concurrent speed and agility training among badminton players. To achieve this purpose of the study forty subjects were randomly selected from Dept of Physical Education, Annamalai University, Tamilnadu, India was selected as subject at random and they were divided into two equal groups of twenty subjects each, namely concurrent speed and agility group and control group, GroupI underwent concurrent speed and agility training such as interval running, 50 meters run, Zig-Zag run, Shuttle run, three days

per week for twelve weeks. GroupII acted as control who did not participate any special training program apart from their regular physical education activities.

The following variables namely speed and agility were selected as criterion variables. All the subjects of two groups were tested on selected dependent variables of prior to and immediately after their training programme. The analysis of covariance was used to find out the significant difference, if any between groups. .05 level of confidence was fixed to the level of significance which was considered as an appropriate.

The influence of concurrent Speed and Agility training on the criterion variables were analyzed separately and are presented below. The analysis of covariance on speed of pre and posttests for concurrent speed and agility training group and control group is presented in Table 3.1.

Table 3.1: Analysis of covariance on Speed of pre and post test scores for concurrent speed and agility group and control group.

Test	Concurrent speed and agility Group	Control group		Sum of Squares	Degrees of freedom	Mean of Squares	F
Pre-Mean SD	7.33 0.53998	7.36 0.577	B W	0.4828 12.48	1 38	0.4828 0.328	1.47
Post Mean SD	7.55 0.756	7.17 0.488	B W	6.322 10.232	1 38	6.322 0.27	23.41
Adjusted Post Mean	7.144	7.386	B	5.980	1	5.980	23.73
			W	9.329	37	0.252	

Significant at .05 level of confidence table value of (1, 37) was 4.06.

Table 3.1 shows that the adjusted post-test means of concurrent speed and agility training group and control group are 7.144 and 7.386 respectively. The obtained 'F' ratio of 23.73 for adjusted post-test means is more than the table value of 4.06 for df 1 and 37 of .05 level. The result of the study indicated that there was a significant difference between the concurrent speed and agility training group and control group on speed.

Table 3.2: Analysis of covariance on Agility of pre and post test scores for concurrent speed and agility group and control group.

Test	Concurrent speed and agility Group	Control group		Sum of Squares	Degrees of freedom	Mean of Squares	F
Pre-Mean SD	14.9 1.2564	15.3 1.6416	B W	0.06225 60.0368	1 38	0.06225 1.5799	0.039401
Post Mean SD	14.82 1.2575	14.04 1.2671	B W	16.02755 81.72275	1 38	16.02755 2.150599	7.4526
Adjusted Post Mean	13.9805	15.2873	B	15.9653	1	15.9653	7.986
			W	73.96897	37	1.99916	

Significant at .05 level of confidence table value of (1, 37) was 4.06.

Table 3.2 shows that the adjusted post-test means of concurrent speed and agility training group and control group are 13.9805 and 15.2873 respectively.

The obtained 'F' ratio of 7.986 for adjusted post-test means is more than the table value of 4.06 for df 1 and 37 of .05 level.

The result of the study indicated that there was a significant difference between the concurrent speed and agility training group and control group on agility.

3.3 Conclusion:

- There was a significant difference between concurrent speed and agility group and control group on speed and agility.
- The concurrent speed and agility training group significantly improved the speed and agility when compared with control group.

3.4 References:

1. Young, Warren B., McDowell, Mark H., Scarlett, Bentley J., Specificity of Sprint and Agility Training Methods, Journal of Strength and Conditioning Research, Vol 15., 3, August 2001.
2. Michael Gray, Ed.D. & Jessica A. Saurbeck, B.A. (2011), Speed Training Program for High School Football Players, The Sport Journal, Vol 7., 1, 2004.
3. Sophia Ninphius, Michael R. Mcguigan and Robert U. Newton, Relationship Between Strength, Power, Speed, and Change of Direction Performance of Female Softball Players, Journal of Strength and Conditioning Research, Vol 24(4), 885-895, April 2010.
4. Klaus Wiemann and Gunter Tidow, Relative activity of hip and knee extensors in sprinting implications of training, New Studies in Athletics 1, Vol 10. pp 29-49., March 1995.