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Isolated effect of anaerobic training and super circuit training on stride length among college men students

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Abstract
The purpose of present study was to find out isolated effect of anaerobic training and super circuit training on stride length among college men students. To achieve the purpose of this study, the investigator proposed to select forty-five men students from Acharya Nagarjuna University affiliated colleges as subjects with the age group of 18 to 23years. The selected subjects (N=45) will be classified into three equal groups of fifteen each (n=15). Group-I will undergo anaerobic training, group-II will undergo the super circuit training and group-III will act as control. Prior to and after the training period the subjects were tested for, stride length. stride length was assessed by 50 meters run with video analysis. The statistical tool were used for the present study is Analysis of covariance (ANCOVA). If obtained 'F' ratio is significant, Scheffe's test used as a post hoc test to find out the differences among the groups. The result of the study was a significant altered on stride length after twelve weeks of anaerobic training and super circuit training. However the different was favour of experimental groups. There was significant difference was occurred between anaerobic training and super circuit training group after twelve weeks of anaerobic training and super circuit training.

Keywords: Anaerobic training, Super circuit training and stride length

Introduction
Training improves the functioning of the circulation, the respiratory and the muscular systems. While practice is largely aimed at improving the control of nervous system, different training methods have been commonly used to improve physical fitness and its related standards of performance of the players. (Singh, 1991)
Anaerobic means 'without oxygen'. During anaerobic work, involving maximum effort, the body is working so hard that the demands for oxygen exceed the rate of supply and the muscles have to rely on the stored recoveries of fuel. In this case waste product accumulate, the chief one being lactic acid. The muscles, being starved of oxygen, take the bodies into a state known as oxygen debt. The body's stored fuel soon runs out and activity ceases with pain.
A super circuit training would be designed for sports persons looking to improve their performance in a particular sport. A running circuit might include leg and core strengthening exercisers interspersed among half-mile race pace runs on the treadmill, kickboxing circuits alternating core, shoulder and gluteus strength-moves with punching and kicking segments, and football circuits alternating agility drills with weight training.
Stride length is measured as the distance taken from toe to toe. The average stride length was calculated by dividing the 50 meters by the number of strides taken to cover 50 meters.

Statement of the problem
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Methodology
The purpose of present study was to find out isolated effect of anaerobic training and super circuit training on stride length among college men students. To achieve the purpose of this study, the investigator proposed to select forty-five men students from Acharya Nagarjuna University affiliated colleges as subjects with the age group of 18 to 23years.

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Analysis of data

The data collected prior to and after the experimental periods stride length on anaerobic training, super circuit training and control group were analyzed and presented in the following table –I

Table 1: Analysis of covariance on stride length of anaerobic training, super circuit training and control groups

	Anaerobic training group	Super circuit training group	Control Group	SOV	SS	DF	MS	'F' - ratio
Pre- test Mean S.D.	1.5913 0.3441	1.5907 0.4044	1.6140 0.2746	B: W:	.005 .050	2 42	.003 .001	2.222
Post-test Mean S.D.	1.6700 0.3606	1.6513 0.4853	1.6133 0.3016	B: W:	.025 .064	2 42	.013 .002	8.221*
Adjusted Post-test Mean	1.677	1.658	1.600	B: W:	.044 024	2 41	.022 0.11	37.743*

Significant at .05 level of confidence

* (The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.22 and 3.23 respectively.)

Table – 1 shows that the pre-test means on stride length of anaerobic training, super circuit training and control groups were 1.5913 ± 0.3441, 1.5907 ± 0.4044 and 1.6140 ±0.2746. The obtained 'F' - ratio value of 2.222 on stride length was less than the required table value of 3.22 for significant with df 2 and 42 at 0.05 level of significance.

The post-test mean values of stride length for anaerobic training, super circuit training and control groups were 1.6700 ± 0.3606, 1.6513 ± 0.4835 and 1.6133 ± 0.3016 respectively. The obtained 'F' - ratio value of 8.221 was significant than the required table value of 3.22.

The adjusted post-test mean value of anaerobic training, super circuit training and control groups were 1.677, 1.658 and 1.600. The obtained 'F' - ratio value of 37.743 for adjusted post-test was significant than the required table value of 3.23 for significance with df 2 and 41.

The above statistical analysis indicates that there was a significant improvement in stride length after the training period. Further to figure out which of the training methods has a critical improvement, Scheffé S test was applied. The significance of the following test is displayed in table - II.

Table 2: Scheffẽ *s* test for the difference between the adjusted post-test mean of stride length

Adjusted Post-test Mean on Stride length				
Anaerobic training group	Super circuit training group	Control Group	Mean Difference	Confidence interval at .05 level
1.677	1.658	--	0.019	0.056
1.677	--	1.600	0.077*	0.056
--	1.658	1.600	0.058*	0.056

*Significant at 0.05 level of significance.

Table - 2 displayed that the adjusted post-test mean difference in stride length between anaerobic training group and control group and super circuit training group and control group were 0.077 and 0.058 which were significant at 0.05 level of significance. But the adjusted post-test mean difference in stride length between anaerobic training and super circuit training group was 0.019, which was insignificant at .05 level of significance. It could be noted that from the after effect of the test that the anaerobic training and super circuit training have significant improvement in speed after their respective training programs.

The adjusted post-test mean values on stride length of anaerobic training, super circuit training and control groups are graphically represented in figure - 1.
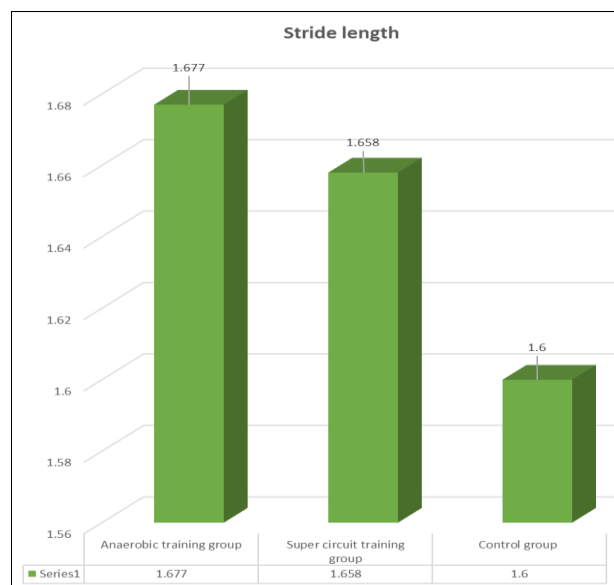

Fig 1: Adjusted post-test mean values on stride length of aerobic exercises, super circuit training and control groups

Conclusions

From the analysis of the data, the following conclusions were drawn.

The conclusion of the study indicated that there was enormous improvement in stride length for the training groups in contrast with the control group. In addition, the results of the tests shows that there was significant difference between anaerobic training group and control group and super circuit training group and control groups. Moreover, the current test's outcome shows that there was no significant difference which was found between anaerobic training group and super circuit training group on stride length.

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