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EFFECTS OF ELASTIC STRENGTH TRAINING ON REPEATED SPRINT ABILITY OF SPRINTERS

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Abstract:

The term 'training' is widely used in sports. There is, however, some disagreement among sports coaches and sports scientists regarding the precise which means of this word. The present study was to check the effects of elastic strength training (EST) on repeated sprint abilities of sprinters. A total twenty (20) male sprinters of the sprinters of the department of physical education of Lovely Professional University, were randomly selected for the study. The pre-test and post-test were taken to find out the appropriate outcome. To find out the effect of the EST training on repeated abilities, elastic strength exercises have applied to the group of experimental in comparison to the control group. The results indicated that there was an insignificant difference of pre-test values of repeated sprint ability between the experimental group and control group. It has been found that there was a significant difference of post-test values of repeated sprint ability between the experimental group and control group. In case of experimental group significant difference was found between pre-test and post-test values of repeated sprint ability. This indicates that elastic strength training is helping in improving the repeated sprint ability of sprinters.

Keywords: Elastic strength training, Repeated sprint ability and Sprinters

Introduction:

Ever since sports began, athletes have been trying to induce the foremost out of their coaching. However, it was not until the previous couple of decades, that levels of sport performance have exhibited a spectacular increase. Records that once were imaginary will currently be regular. At the same time, the amount of coaching of recent competitors was significantly over that utilized in the past.

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This would not be possible while not the coincident evolution in coaching methodology. The necessity of superior performances in competition has impelled coaches to introduce more and more effective and complicated coaching ways (Fleck, 1999).

The term 'Training' is widely used in sports. There is, however, some disagreement among sports coaches and sports scientists regarding the precise which means of this word. Some experts, exceptionally belonging to sports drugs, understand sports training as "basically doing physical exercises". Several terms such as; strength coaching, interval training, technical and tactical coaching are used in coaching, and these trainings replicate this line of thinking (Fleck, 1999). Training is a systematic athletic activity of long length, progressively and singly hierarchical aiming at modeling the human physiology and functions to meet tightened tasks. (Marimuthu, 2004). Rose (1992) stated that a coaching individual is in a higher state of condition than the one that follows an inactive life. When 2 persons, one's trained and another is untrained, of approximately constant build are acting constant quantity of moderate muscular work, evidence indicates that the trained individual has a lower element consumption, lower pulse rate, larger stroke volume per heartbeat; less is the blood pressures and rate. The heart becomes additional economical and is in a position to flow into more blood whereas beating less oft.

Elastic strength training is a capability to beat resistance with high speed. It is the mix of strength and speed. There are three-types: start strength, strength speed (power) and speed strength. Start strength is the ability to develop maximal muscle force throughout the beginning section of the movement. e.g., sprint start, weight lifting. Repeated sprint ability (RSA) is one necessary part of competitive play in most fields and court-based sports e.g. basketball, tennis, soccer etc. In this study, the researcher wants to the study the effects of elastic strength training on repeated sprint ability of sprinters.

Methodology

Twenty male sprinters between the age group of 18-25 years of Lovely Professional University were selected as subjects, who had participated at least in the inter college level competition. The subjects were randomly divided into two groups as the experimental group (N1=10) and a control group (N2=10). The training program of 8-weeks for elastic strength training was given to the experimental group for 8 weeks of one session in the evening two hours for six days in a week. The data on repeated

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sprint ability by administrating 30 Meters run were collected. The pre- and post-test data were gathered on chosen variable before and following the training program.

Result

Analysis of data is related to the effect of elastic strength training on repeated sprint ability on sprinters

Table-I: Comparison of pre-test mean scores between experimental and control group on the variable repeated sprint ability among the sprinters

	Variable 1
Mean	4.502381
Variance	0.075517
Observations	10
Pooled Variance	0.052044
Hypothesized Mean Difference	0
Df	18
t Stat	-0.39851

The above table-I depict that the obtained t-value (.39) is less than the tabulated value (2.11) at the .05 level of confidence. It indicates that there was an insignificant difference of pre-test values of repeated sprint ability between the experimental group and control group.

Table-II: Comparison of post-test mean scores between experimental and control group on the variable repeated sprint ability among the sprinters

	Variable 1
Mean	4.135556
Variance	0.037378
Observations	10
Pooled Variance	0.035148
Hypothesized Mean Difference	0
Df	18
t Stat	-4.62302

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The above table-II depicts that the obtained t-value (4.62) is greater than the tabulated value (2.11) at the .05 level of confidence. This show that significant differences of post-test values of repeated sprint ability between the experimental group and control group was established. This is because of the elastic strength training given to the experimental group.

Table-III: Comparison of pre-test and post-test mean scores among experimental group on the variable repeated sprint ability

	Variable 1
Mean	4.502381
Variance	0.075517
Observations	9
Pearson Correlation	0.676344
Hypothesized Mean Difference	0
Df	8
t Stat	5.432979

The above table-III depicts that the calculated t-value (5.43) is greater than the tabulated value (1.85) at the .05 level of confidence. It indicates that there was a significant difference between pre-test and post-test values of repeated sprint ability of the experimental group. This shows that there was a significant effect of elastic strength training on the repeated sprint ability of the sprinters.

Discussion

The purpose of the investigation was to discover the impacts of elastic strength through training on repeated sprint ability on sprinter. After imparting 8 weeks training and subsequent collection of data, It was revealed that significant difference pervade between the experimental and control group on the post-

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test value of repeated sprint ability, where the insignificant difference were exist in pre-test value between them. However, there was also exists a significant difference between pre-test and post-test value of repeated sprint ability of the experimental group. It indicated that systematic elastic strength training has significant improvement in the repeated sprint ability. The findings are in line with the study conducted by Delextrat, A. (2015), he suggests that local basketball players ought to take an interest in fitness programes that emphasis on the improvement of repeated sprint ability. Ahmaidi et al. (2010) conducted a study to gage the impacts of speed/accessibility (S/A) arranging with run between time prepare (SIT) on quickening and repeated sprint limit (RSA) in all around arranged male handball players. In all, around arranged handball players, 4 weeks of SIT are obligated to moderate influence, irregular continuation restrict just, while S/A readiness is at risk to improve stimulating and repeated sprint execution. Ermanno, R. et al (2009) studied the repeated-sprint capacity in expert and beginner soccer players. This investigation analyzed the repeated sprint ability (RSA) physiological responses to an organized, high-power, unpredictable running test (HIT), maximal oxygen take-up (VO2 max), and oxygen take-up (VO2) in male soccer players (capable (N = 12) and beginner (N = 11)) of different playing guidelines.

Conclusion

There was an insignificant difference of pre-test values of repeated sprint ability between the experimental group and control group. It has been found that there was a significant difference of post-test values of repeated sprint ability between the experimental group and control group. In case of experimental group significant difference was found between pre-test and post-test values of repeated sprint ability. This indicates that elastic strength training is helping in improving the repeated sprint ability of sprinters.

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