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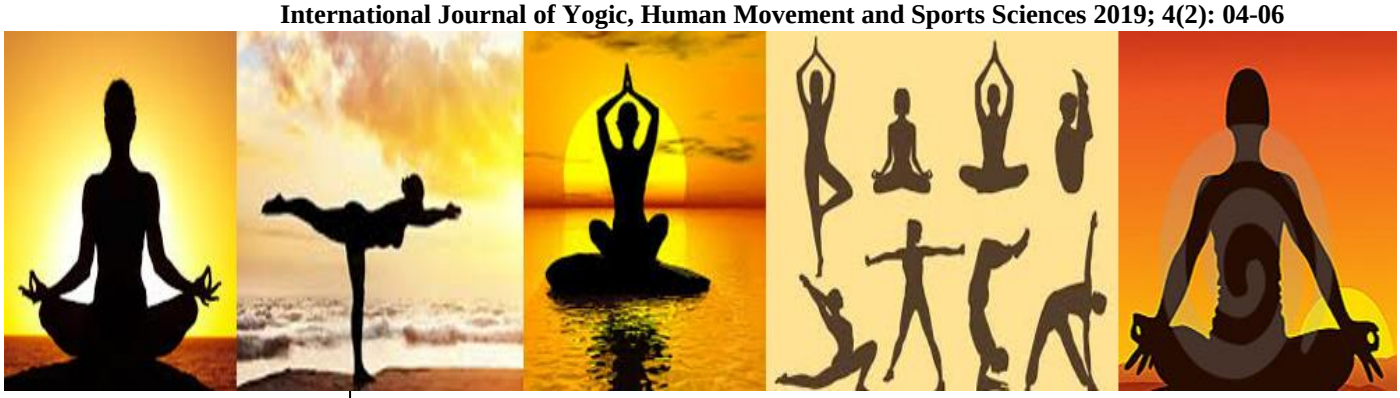

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Combined effects of core strength and SAQ training on selected physical and coordinative ability variables among male short distance runners

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Abstract
Balaji. V (2018) conducted a study to find out the effect of combined core strength and SAQ training on selected physical and coordinative ability variables among male short distance runners. For this purpose of the study 40 subjects were randomly selected from Ramakrishna Mission Vidyalaya High School, Coimbatore, and Tamil Nadu. The selected subjects were divided in two equal groups of 20 each and named as group A and group B. Group A (combined core strength and SAQ training group) n=20, and group B was control group n=20. The data was collected before and after 14 weeks of training program. The collected data was analysed by applying dependent 't' test. The level of significance was fixed 0.05 level. The findings of the study strongly indicated that there was a significant difference in post test on selected physical and coordinative ability variables due to 14 weeks of combined core strength and SAQ training program. And there was no significant difference between pre test and post test in control group on selected physical and coordinative ability variables.

Keywords: Core strength training, SAQ training, explosive strength and complex reaction ability

Introduction

Core strength training: Creating an unstable environment in sports-specific training is highly important to properly develop the core strength of an athlete, but at the same time this philosophy continues to be neglected. Core training can be used to enhance the periodisation of training cycles and assist athletes over strength training plateaus. There is no doubt that training in an unstable environment has more sports-specificity than training stable environments. This helps athletes prepare to meet the demands that are often in the unique circumstances of their sport such as unpredictable situations or plays, interaction with teammates, counteraction to opponents, read and react situations, or body contact. Activities such as throwing a foot ball rely on the legs, torso, and upper body muscles all working together and contracting in the correct sequence. However, it is still common to see strength training programmes that attempt to develop the body with a highly segmented approach, by isolating specific muscle groups. This is even done with the body sitting stationary on a machine while moving one isolated body part through a controlled range of motion. This type of training has so little relation to sport that it can often leave a hard training athlete very ill prepared for his/her sport. Core training is a highly effective approach to improve performance, reduce the risk of injury, improve balance, and build a strong back and abdomen stabilise movement. (P. J. Sebastian, 2013)

SAQ (speed, agility and quickness training): Speed, agility and quickness training became a very popular way to train athletes with continually increasing need to promote athletic ability; this type of training has proven to enhance the practical field abilities of particular in a wide variety of sports. It is practiced in addition to conventional resistance training in the gym and serve to assist in the transfer of gained in the gym to performance in the arena of play. Nearly every sport requires fast movement either the arms or legs and SAQ (speed agility and quickness) training can improve skill precisely in these areas. Hence all athletes can benefit when speed, agility and quickness training is integrated in to their training program. (Beaudette & Brown, 2015) [4].

Methodology

For this study 40 male short distance runners were randomly selected from Ramakrishna Mission Vidyalaya high school, Periyanaickenpalayam, Coimbatore, Tamilnadu. The selected subjects were divided in to 2 equal groups. One was combined core strength and SAQ training group and another one was control group. The following criterion variables were selected for the study such as physical variable (explosive strength) and coordinative ability variable (complex reaction ability). The training period was 14 weeks, one and half hour in evening session. For the pre and post-test randomized controlled group design was followed for this study. The data was analyzed by the use of paired't' test. The level of confidence was fixed 0.05.

Table 1: Computation of 't' ratio between pre and post test scores of experimental group and control group on explosive strength

	Test	Mean	SD	DM	SD Mean Error	't'
Experimental Group	Pre-Test	1.53	0.16	0.23	0.019	11.95
	Post-Test	1.76	0.13			
Control Group	Pre-Test	1.54	0.17	0.01	0.036	0.109
	Post-Test	1.53	0.16			

Level of significance 0.05, with df 19 table value is 2.09.

Table 1 showing the pre test and post mean values of experimental group and control group. In pre test there was no significance difference between experimental group and control group in explosive strength. In post test there is a significant difference between experimental group and control group explosive strength due to 14 weeks of combined core strength and SAQ training program.

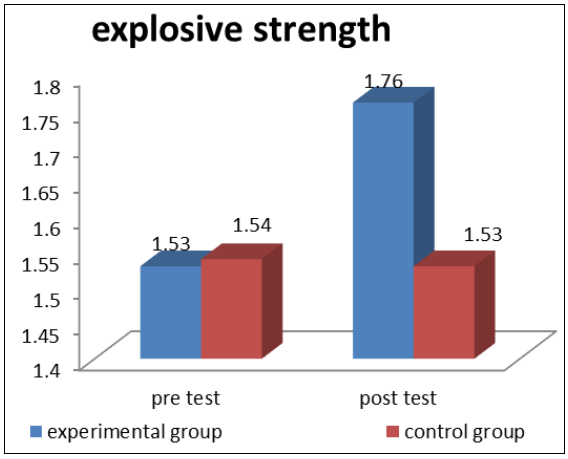

Fig 1: Bar diagram the mean values of experimental group and control on core strength

Table 2: Computation of 't' ratio between pre and post test scores of experimental group and control group on complex reaction ability

	Test	Mean	Sd	Dm	Sd Mean Error	'T'
Experimental Group	Pre-Test	132.6	8.76	8.7	0.913	9.49
	Post-Test	123.9	7.99			
Control Group	Pre-Test	132.4	8.20	0.9	1.39	0.65
	Post-Test	131.5	8.18			

Level of significance 0.05, with df 19 table value is 2.09

Table 2 showing the pre test and post mean values of experimental group and control group. In pre test there was no significance difference between experimental group and control group in complex reaction ability. In post test there is a significant difference between experimental group and control group complex reaction ability due to 14 weeks of combined core strength and SAQ training program.

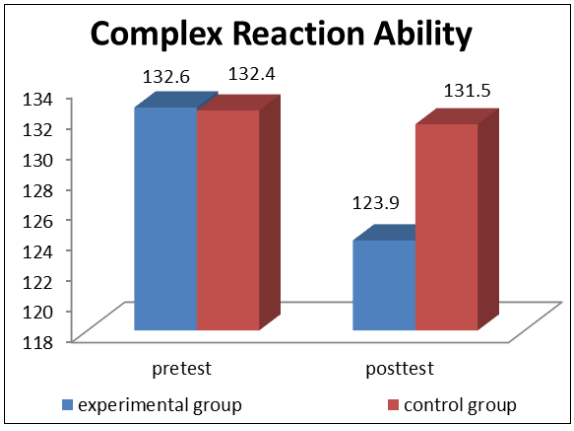

Fig 2: Bar diagram the mean values of experimental group and control on complex reaction ability

Conclusion

The combined core strength and SAQ training group had shown significant improvement in all selected physical, coordinative ability and body composition variables (core strength, complex reaction ability and muscle mass percentage) variables among male short distance runners.

The control group had not shown any significant changes on selected body composition variables (body fat percentage, muscle mass percentage) variables among male short distance runners.

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