



IMPACT OF SUSPENSION TRAINING ON PHYSICAL FITNESS VARIABLES OF SCHOOL BOYS

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Abstract:

Suspension Training has a place in practically every type of training program. It can be used to develop core strength, mobility, joint strength and integrity, and basic and foundational strength, as well as to target specific strength goals. It can serve as a stand-alone training program or be used with another training program. Whatever the goals, suspension training can help an individual achieve success and improve training outcomes. This study was designed to impact of suspension training on physical fitness variables of school boys. To achieve the purpose of the study 30 school boys were selected from Government Higher Secondary School, Anthiyur. Their age ranged between 15 and 16 years and they were divided into two equal groups consists of 15 each. Group I underwent the suspension training and Group II acted as control group. The training was given to the group I for 3 days per week for the period of 12 weeks. The group II was not given any sort of training except their routine work. The data were collected from the subjects was statistically analyzed with dependent 't' test to find out significant improvement if any at 0.05 level of confidence. The results speculated that the abdominal strength and cardio vascular endurance of school boys improved significantly due to the suspension training with the limitations.

Key Words: Suspension Training, Abdominal Strength and Cardio Vascular Endurance.

Introduction:

Suspension training combines a variety of movements through which the user can improve coordination, power, strength, core stability, endurance and flexibility in a single exercise routine. Suspension training is characterized as cardio and resistance training combined, which is often seen in circuit training. A usual circuit training is divided by stations, in every station the person has to perform a different exercise. The resting period between station is minimum (a few seconds). The idea of suspension training is very simple, exercises are carried out using body weight and two straps. While performing exercises with a suspension training, many exercises can be done, allowing the user to work in his/her flexibility, balance, strength and mobility without risking an injury. By using progressive overload, suspension training allows the improvement of proprioception and strength. (Gidu et al., 2017)

It is generally well accepted that performing resistance training on a regular basis can help maintain and improve health, fitness, and quality of life. However, people often encounter obstacles to resistance training, such as time, space, equipment, and cost. Suspension Training offers a unique approach to resistance training that requires only one portable piece of equipment, and it can be done almost anywhere. In addition, Suspension Training exercises can be used to address a wide range of fitness needs such as enhancing and maintaining general fitness, improving sport performance, and as a rehabilitation or injury prevention tool. This mode of training can be used as a stand-alone exercise regime or be integrated it into a more traditional training program to add variety and prevent staleness and boredom. Additionally, Suspension Training is popular among those who are traveling or who do not have access to a training facility because of its versatility and portability. Based on this, it is no wonder this form of training has become so popular. By using a single-point anchor, Suspension Training allows users to take advantage of some basic principles of physics, including Newton's law of gravitation. Using force vectors, centre of gravity, and pendulum. Creating resistance or force requires changing the direction of the force.

The Suspension Trainer TM has a single-point anchor with straps, handles, and foot cradles that are perpendicular to the floor when it is allowed to hang, as a result of the object's centre of gravity. When a person grabs the handles, mass increases (due to the person's body mass), resulting in a change in the object's centre of gravity. Changing the angle of the straps on the Suspension Trainer changes the application, or direction of the force on the musculoskeletal system, thereby increasing the force of pull, or resistance placed on the body. The result of these forces, or force vectors, and the centre of gravity being pulled away creates gravitational potential energy. A single-point anchor system creates a pendulum, converting gravitational potential energy and kinetic energy into work, or resistance.

Materials and Methods:

Purpose of the study was to find out the impact of suspension training on physical fitness variables of school boys. To achieve the purpose of the study 30 school boys were selected from Government Higher Secondary School, Anthiyur. Their age ranged between 15 and 16 years and they were divided into two equal groups consists of 15 each. The selected variables namely, Abdominal strength was measured by Partial curl up test and Cardio vascular endurance was measured by 600 meters run/walk test. Group I underwent the suspension training and Group II acted as control group. The training was given to the group I for 3 days per week for the period of 12 weeks. The group II was not given any sort of training except their routine work. All the subjects involved in this study were carefully monitored throughout the training program, none of the reported with tear and muscle soreness. The data were collected from the subjects was statistically analyzed with dependent ‘t’ test to find out significant improvement if any at 0.05 level of confidence.

Results and Discussion:

Table 1: Analysis of ‘t’ Ratio for Abdominal Strength and Cardio Vascular Endurance

Variables	Group	Test	Mean	SD	SEM	T Ratio
Abdominal Strength	Experimental Group	Pre test	23.53	1.18	0.28	10.80*
		Post test	26.60	1.45		
	Control Group	Pre test	23.53	1.18	0.17	1.14
		Post test	23.73	1.38		
Cardio Vascular Endurance	Experimental Group	Pre test	1.44	0.46	0.09	20.54*
		Post test	1.25	0.47		
	Control Group	Pre test	1.24	0.45	0.07	1.55
		Post test	1.25	0.48		

(Significance at 0.05 level of confidence for df of 14 is 2.14)

Table 1 shows that the pre test mean values of experimental group and control group 23.53, 1.44 and 23.53, 1.24 respectively and the post test mean values are 26.60, 1.25 and 23.73, 1.25 respectively. The obtained dependent t-test, t value on abdominal strength and cardio vascular endurance of experimental group are 10.80 and 20.54 respectively. The table value required for significant difference with degrees of freedom 14 at 0.05 level of confidence is 2.14. The obtained ‘t’ test value of experimental group was greater than the table value. The results clearly indicated that the abdominal strength and cardio vascular endurance of the experimental group improved due to the suspension training on school boys.

Figure 1: Bar Diagram of Experimental and Control Group on Abdominal Strength

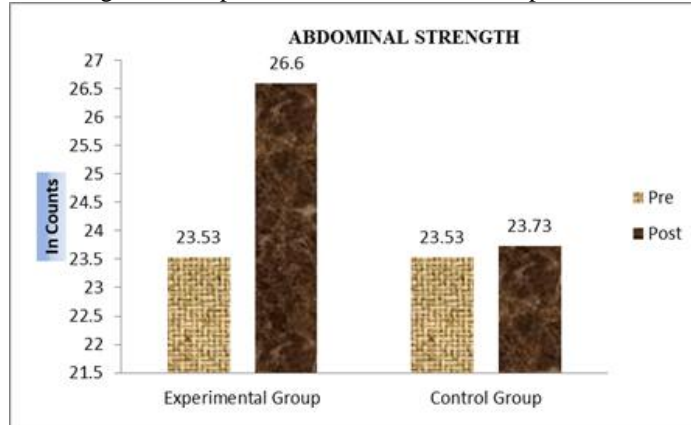
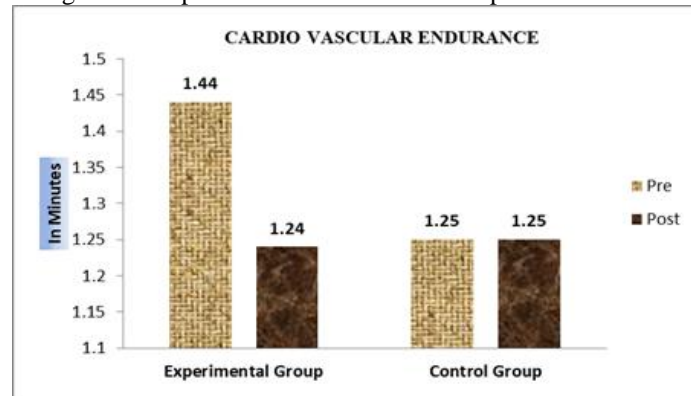


Figure 2: Bar Diagram of Experimental and Control Group on Cardio Vascular Endurance



The result of the study on selected variables namely abdominal strength and cardio vascular endurance indicates experimental group (Suspension training group) caused significant improvement after the suspension training. Based on the mean value, the experimental group was found in better increasing on Merlose et al.,2015, Byrne et al.,2014, Janot et al., 2013 and Snarr et al., 2013) when compared to the control group.

Conclusion:

Based on the findings and within the limitations imposed by the experimental conditions following conclusion were drawn. Suspension training was develop core strength, mobility, joint strength and integrity, and basic and foundational strength, as well as to target specific strength goals. (Dolati, 2017) Suspension training can help an individual achieve success and improve training outcomes. So suspension training program should develop the abdominal strength and cardio vascular endurance. The results of the study suspension training group had significant improvement abdominal strength and cardio vascular endurance when compared to the control group.

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