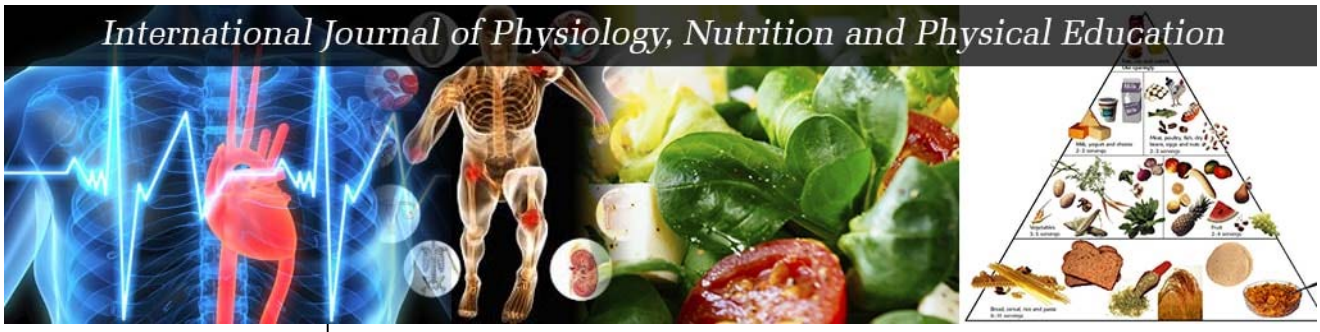

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Effect of strength training on selected physiological variables of obese adolescent girls

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Abstract
The purpose of the study was to find out the effect of Strength training on selected physiological variables among obese adolescent girls. To achieve the purpose of this study fifteen students from Secondary School, Vijayapura. Erode were randomly selected as subjects. They were clinically confirmed cases of obesity and their age ranged between 13 and 17 years. The selected subjects were made to undergo Strength training for the period of 6 weeks. The subjects were free to withdraw their consent in case of feeling any discomfort during the period of their participation, but there was no dropout during the study. The following physiological variables such as resting pulse rate and vital capacity were selected as dependent variables. The selected physiological were tested with standardized tests. The pre-test data were collected before the training programme and the post-test data were collected after the training programme. In both the cases the data were collected in a single day at the same time. Through this study the authors have found out that the selected Strength training improve the selected physiological variables such as resting pulse rate in 8.5% and vital capacity in 19.5% Hence the authors can recommend the Strength training to all the obese adolescent girls for improving the selected physiological variables among them.

Keywords: Strength Training, Obese, Adolescent Girls, Physiological

Introduction
Strength training is a type of physical exercise specializing in the use of resistance to induce muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles. Strength training is typically associated with the production of lactate, which is a limiting factor of exercise performance. Regular endurance exercise leads to adaptations in skeletal muscle which can prevent lactate levels from rising during strength training.

Over the past three decades, the number of young people who are obese has nearly tripled. For the children in the 6-11 age group the statistic for obesity (not overweight) should be 19.6%; for ages 12-19, the statistic for obesity (not overweight) should be 18.1 %; (National Center for Health Statistics, 2010). The consequences of childhood overweight and obesity are serious. Being overweight or obese increases the risk for heart problems, high blood pressure, and other medical problems, and the psychological impact of being overweight can be devastating. Obesity during childhood and adolescence has been associated with higher rates of sickness and death in adulthood, even when adult weight is considered (Must, Jaques, Dallal, Bajema & Dietz, 1992). Strength training is the fitness sport that combines the health and figure benefits of jogging with the fun of dancing. Strength training is a fun way to get fit. It combines fat burning Strength training, muscle building exercises and stretching into routines that are performed according to music.

Strength training is centralare bodybuilding, weightlifting, powerlifting, strongman, Highland games, shotput, discus throw, and javelin throw. Many other sports use strength training as part of their training regimen, notably tennis, American football, wrestling, track and field, rowing, lacrosse, basketball, pole dancing, hockey, professional wrestling, rugby union, rugby league, and soccer. Strength training for other sports and physical activities is becoming increasingly popular.

Methodology

The study under investigation was intended to find out the effect of Strength training on selected physiological variables among obese adolescent girls. It was hypothesized that there might be significant improvement on the selected physiological variables among obese adolescent girls due to the effect of Strength training. To achieve the purpose of this study fifteen students from Secondary School, Vijayapura. Erode were randomly selected as subjects. They were clinically confirmed cases of obesity and their ages ranged between 13 and 17 years. The selected subjects were made to undergo Strength training for the period of 6 weeks. The subjects were free to withdraw their consent in case of feeling any discomfort during the period of their participation, but there was no dropout during the study. The following physiological variables such as resting pulse rate and vital capacity, and Triglycerides were selected as dependent variables. The selected physiological variables were tested with standardized tests. The pre-test data were collected before the training programed and the post-test data were collected after the training programed. In both the cases the data were collected in a single day at the same time.

Results

The collected data were statistically analyzed with dependent 't' test to find out the significant difference between the pre and post-tests.

Table 1: Table shows the computation of 't' test between pre and post-test means of the following variables:

Variables	Pre-test		Post-test		't'	Table Value
	Mean	SD	Mean	SD		
Resting Pulse Rate	75.33	7.20	68.93	3.26	3.472*	2.09
Vital Capacity	3.00	0.50	4.29	0.68	6.057*	2.09

The above table shows the obtained 't' ratios for pre and post-test mean difference in the selected variable of resting Pulse rate (3.472), Vital capacity (6.057). The obtained ratios, when compared with the table value of 2.09 of the degrees of freedom (1.19), was found to be statistically significant at 0.05 level of confidence. It was observed that the means gained and losses made from pre to post-test were significantly improved the motor fitness and performance variables.

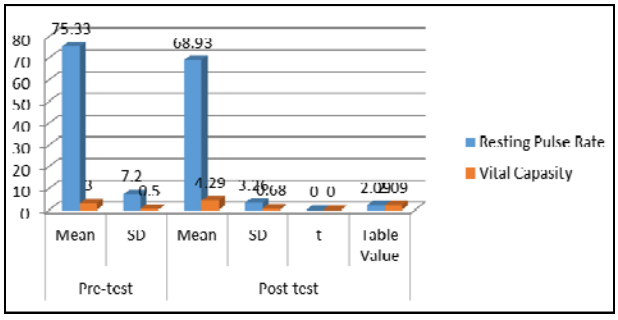

Fig 1: Graphical representation showing the mean value of pre and post-tests on selected variables

Discussion on Findings

Results of the study shows that the selected Physiological variables such as resting pulse rate, vital capacity and triglycerides were improved due to the effect of the Strength training.

Conclusion

Through this study it is found out that the selected Strength training improve the selected physiological variables such as resting pulse rate in 8.5%, and vital capacity in 19.5%. Hence the Strength training can be recommended to all the obese adolescent girls for improving the selected physiological variables among them.

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