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COMPARATIVE EFFECT OF PROGRESSIVE TRAINING WITH AND WITHOUT WEIGHTS ON SELECTED PARAMETERS AMONG COASTAL AREA STUDENTS

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Abstract:

Ninety boys in the age group of 15 to 18 years of K.M.H.S.S Kottakkal School, Kerala were selected at random and were divided randomly into three equal groups namely Progressive training group –A with weights, Progressive training group –B without weights and control group -C. The experimental groups participated in the training programme for a period of 15 weeks. During this period, the control group was let off without any training. The data were collected on selected Physical Fitness variables of Flexibility and maximal heart rate respectively before training (pre-test) as well as after 12 weeks of training (post-test). Analysis of covariance was used to analyze the data. The results of the study clearly indicated that experimental group without weights (B) showed significant improvement in flexibility, maximal heart rate and control group made no progress at all.

1. Introduction

Progressive weight training refers to the exercise phase of the activity where weight, in the form of barbells and dumbbells, is used to condition and alter the size of various segments of the body. This is undoubtedly, the most popular phase. Here the under developed individual strives for average or about average size in terms of muscular bulk and body weight and size, the athletes strives for increased strength and condition to become a better performer in chosen sports. Weight training is a use of resistance other than the weight of the body to develop specific areas of the body. Generally, it is used to develop muscular strength and power it also develops muscular endurance, elasticity and

coordination. As its designation implies progressive resistance exercises (PRE), it consists of gradually increasing resistance against which a given muscle must work as the strength of the muscle improves in order to progressively maintain a high level of incremented tension. The principles of overload in muscle conditioning are systematically applied. In overloading, the individuals exercise is increased in intensity or is extended for a longer time than normally. However researchers all over the world have toiled to find out the comparative effect of exercises with and going with-out weights school on adolescent. This inquisitiveness led the researcher to embark on a study on his students hailing from predominant coastal areas in Kerala state in southern India.

2. Methodology

The methodology for the study was to determine the comparative effect of progressive training with and without weights on selected parameters among students from coastal area. The subjects for the study were selected from the students of Kunhali-Marakkar higher-secondary school, Calicut. The 90 subjects aged between fifteen to eighteen years were randomly assigned to three groups of thirty each, experimental groups A and B while group C acted as the control group .All the students were tested with dependent variables ie. Flexibility (sit and reach test) and maximal heart rate (Tread mill) The experimental treatment of twelve weeks of progressive weight training were given to experimental group A while training without weights were assigned to group B and control group was let off freely. A pilot study was conducted before the experimentation. The pre and post tests for all groups were collected and resultant were analysed

3. Analysis of the study

The Analysis of co-variance (ANCOVA) and Scheffe's post-hoc test on the data flexibility and maximal heart rate of experimental and control have been analyzed and shown in the tables given below.

Test	PWT	PWOT	СТ	Source of Variance	df	Sum of square	Mean square	F – ratio
Pre test	30.700	29.4433	28.266	B/S	2	88.867	44.433	1.166
mean				W/S	87	3315.53	38.110	
Post test	32.766	35.866	28.366	B/S	2	852.200	426.100	11.200*
mean				W/S	87	3309.80	38.044	
Adjusted Post test Mean	31.558	35.899	29.543	B/S	2	631.774	315.887	217.982*
				W/S	86	124.626	1.449	

Computation of Analysis of Covariance of pre-Test,

Post Test And Adjusted post Test on Flexibility of Three Different Groups (scores in centimeters)

Table F ratio at 0.05 level of confidence for 2 and 87(df) = 3.05,2 and 87(df) = 3.05

PWT	PWOT	СТ	MD	CI
31.55		29.541	2.01*	
	35.89	29.54	6.35*	0.88
31.55	35.89		4.34*	

Table 2: Ordered Scheffe's Post hoc Test Mean Differnces On Flexibility among Three Groups

Test	PWT	PWOT	СТ	Source of Variance	df	Sum of square	Mean square	F – ratio
Pre test	150.400	149.566	7150.133	B/S	2	10.867	5.433	.058
mean				W/S	87	8174.033	93.954	
Post test	143.233	145.200	150.033	B/S	2	734.689	367.344	4.287
mean				W/S	87	7455.133	85.691	
Adjusted Post test Mean	142.906 14	145.617	149.944	B/S	2	756.073	378.037	34.923
				W/S	86	930.944	10.825	

Table3: Computation of Analysis of Covariance of pre-Test,

Post Test And Adjusted post Test on maximal heart rate of Three Different Groups (scores in seconds)

Table F ratio at 0.05 level of confidence for 2 and 87(df) = 3.05,2 and 87(df) = 3.05

PWT	PWOT	СТ	MD	CI
142.90		149.94	7.04*	
	145.61	149.94	4.33*	2.39
142.90	145.61		2.71*	

Table4: Ordered Scheffe's Post hoc Test Mean Differnces On maximal heart rate among Three Group

4. Discussions

4.1. Flexibility

The flexibility among coastal area students was examined with the sit and reach test. No significant variation was detected in the flexibility of the students selected for the weight training group -I(30.700) and non weight training group II (294.433) compared to control group (28.266) during the pre test. In the post- test significant improvement was noticed in flexibility of the experimental group II. Non weight training group II showed highly significant improvement in the flexibility (32.766), followed by weight training group-I (35.866) with reference to control (28.366) during post-test. The posttest was adjusted then similar results were obtained non weight training group II showed highly significant improvement in the flexibility (31.558), followed by weight training -I (35.899) with reference control (29.543).

4.2. Maximal Heart rate

The maximal heart rate among coastal area boy's students was examined with tread mill test. No significant variation was detected in the maximal heart rate of the students selected for the weight training group -I(150.400) and non weight training group II (149.566) compared to control group (715.133) during the pre test. In the posttest significant improvement was noticed in maximal heart rate of the experimental group II. Non weight training group II showed highly significant improvement in the maximal heart rate (143.233), followed by weight training group-I (145.200) with reference to control (150.033) during posttest. The post- test was adjusted then similar results were obtained non weight training showed highly significant group II improvement in the maximal heart rate (142.906), followed by weight training 145.617 with reference control (149.944).

5. Conclusions

Hence it was concluded that non weight training exercise improved flexibility and maximal heart rate better than the weight training exercise of coastal area students.

6. References

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