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COMPARATIVE EFFECT OF PROGRESSIVE TRAINING WITH AND WITHOUT WEIGHTS ON SELECTED PHYSICAL FITNESS COMPONENTS AND PHYSIOLOGICAL VARIABLES AMONG COASTAL AREA STUDENTS

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Abstract:

Ninety boys in the age group of 15 to 18 K.M.H.S.S, Kottakkal. 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 progressive weights and control group -C. The experimental groups participated in the training programme for a period of 12 weeks. During this period, the control group was let off without any training. The data were collected on selected Physical Fitness variables of upper body muscular strength and flexibility 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 present study have revealed that there was a significant difference among the progressive weight training group, without progressive weight training group.

Introduction

Health and physical fitness have a vital role in the life of man from time immemorial. The marked detestation in the physical fitness of the people may be due to the present automation and sort of mechanized day – to – day life. Modern man leads a lazy life with restricted movements due to new scientific innovations and modern excited world resulting in sending wrong signal to young school children. Very acute stress and strain have considerably affected the heath of the people. The progress of the nation lies in the hand of the young generation who need to be made aware of the need to be healthy and physically fit. What better place than the school platform to start the awareness programme? Hence the study involving school going boys. Progressive resistance exercise is not a new concept. Even Greek mythology gave it recognition in describing the effort of Milo of Crotona to become the strongest man in the world. As the mythology goes, he began lifting a young bull when he was a boy and continued lifting it daily until the bull was fully-grown. Milo developed strength by his progressive resistance exercise to not only to lift the full-grown animal but also to carry it around on his shoulders.

Materials and methods

Determine the comparative effect of progressive training with and without weights on selected physical fitness components 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 upper body muscular strength (Bench press-1RM) and Flexibility(sit and reach test). 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

Results and Discussion

The Analysis of co-variance (ANCOVA) and Scheffe's post-hoc test on the data upper body muscular strength, flexibility of experimental and control have been analyzed and shown in the tables given below.

Computation of Analysis of Covariance of pre-Test,

Test	PWT	PWOT	CT	Source of Variance	df	Sum of square	Mean square	F – ratio
Pre test mean	33.633	32.100	33.100	B/S	2	36.356	18.178	1.864
				W/S	87	848.367	9.751	
Post test mean	36.566	34.700	33.166	B/S	2	173.956	86.978	8.523*
				W/S	87	887.833	10205	
Adjusted Post test Mean	35.920	35.493	33.021	B/S	2	146.992	73.496	45.219*
				W/S	86	139.779	1.625	

Post Test And Adjusted post Test on upper body muscular strength of Three Different Groups (scores in numbers)

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

PWT	PWOT	CT	MD	CI
35.92		33.02	2.9*	0.93
	35.49	33.02	2.47*	
35.92	35.9		0.02	

Table 4: Ordered Scheffe's Post hoc Test Mean Differences On upper body muscular strength among Three Groups

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

Table 10: Ordered Scheffe's Post hoc Test Mean flexibility among Three Groups

Test	PWT	PWOT	CT	Source of Variance	df	Sum of square	Mean square	F – ratio
Pre test mean	30.700	29.4433	28.266	B/S	2	88.867	44.433	1.166
				W/S	87	3315.53	38.110	
Post test mean	32.766	35.866	28.366	B/S	2	852.200	426.100	11.200*
				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	

Table 9: Computation of Analysis of Covariance of pre-Test,
Post Test And Adjusted post Test on flexibility 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

Discussions

Upper body muscular strength

The upper body muscular strength among coastal area students was examined with the Bench press 1RM test. No significant variation was detected in the upper body muscular strength of the students selected for the weight training group -1(33.633) and non weight training group II(32.100_) compare to control group(33.100)during the pre test. In the post test significant improvement was noticed upper body muscular strength of the experimental group 1 showed highly significant improvement in the abdominal muscular endurance(36.566),followed by without weight training group11(34.700) with reference to control(33.166) during post test. The post test was adjusted then similar results were obtained weight training group1 showed highly significant improvement in the upper body muscular strength (35.920), followed by without training 11(35.493) with reference control(33.021)

Conclusions

Hence it was concluded that weight training exercise may improved upper body muscular strength of coastal area students better than the non weight training group. Further concluded that non-weight training group improved flexibility better than the weight taining group of coastal area students.

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(28.1667) and non weight training group II (29.4333) compared to control group (28.2667) 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 (33.0667), followed by weight training group-I (33.0667) with reference to control (28.2667) during post-test. The post- test was adjusted then similar results were obtained non weight training group II showed highly significant improvement in the flexibility (32.261), followed by weight training –I (28.619) with reference control (28.620).training group 11 (11.0513) with reference to control (11.1913) during post test. The post test was adjusted then similar results were obtained weight training group1 showed no significant improvement in agility (11.015), followed by without weight training11 (11.015) with reference control (11.015).

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