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IMPACT OF WEIGHT TRAINING ON SELECTED STRENGTH AND POWER PARAMETERS AMONG PHYSICAL EDUCATION WOMEN

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ABSTRACT

The purpose of the study was to find out the effect of eight weeks of weight training on selected strength and power parameters among university women students. Fifteen women students studying in the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects at random subjects each with age ranging from 18 to 25 years (Mean age 21.6 ± 0.7 months).They were underwent weight training for three alternative days per week for eight weeks. The experimental group was called weight training group (WTG) .In the present study weight training is considered as independent variable and the dependent variables namely leg strength and explosive power in terms of vertical distance were selected. The data were collected prior and immediately after the training programme on Leg strength and explosive power in terms of vertical distance. The leg strength was measured by leg lift dynamometer and explosive power in terms of vertical distance was measured by sargent jump respectively. The collected date of experimental group was statistically analyzed by using mean standard deviation and t-test and present table I and II. The level of significant was fixed at 0.01 level of confidence. The finding of this study showed that there was a significant improvement on leg strength and explosive power in terms of vertical distance in favour of eight weeks of Weight training among physical education women.

KEYWORDS: *Weight training, Leg strength, explosive power in terms of vertical distance.*

INTRODUCTION

Training load means an additional activity of the organism. Training is the introduced by the performer of training exercises and the degree of difficulties which are being over come in the process. Weight training is a doing exercise, using weights or resistance to build the muscle strength and endurance. Dumbbells, Bar Bells, Pulley Machines, Weight Plates and one's own body weight as resistance are the weight training equipments. Strength training is good for general health and good posture and prevention of injuries. Regular weight training practice brings enhance the following items muscular strength, muscular endurance, bone density, body composition and reduce the risk of injuries. Strength is the force that a muscle or group of muscle can exert against a resistance is one maximum effort. Leg strength is the capacity of the lower limb exerts muscular force. Power is the function of force and it can be defined as the rate of performing work (Power = Force x Velocity of work done x Time taken). The ability of the neuro muscular system to overcome resistance with a high speed of contraction is called explosive. Explosive power is the ability of the muscles to exert force quickly and to overcome resistance and to with high speed of contraction.

REVIEWS

Nageswaran .,(2014) conducted enhancement of strength training on strength power endurance and flexibility. The purpose of the current study was to investigate the training effect of 12 weeks of strength

training on strength, explosive power, aerobic endurance and lower back hamstring flexibility of school children. Subjects for these study 40 healthy male school children were randomly assigned in to two equal groups. Group –I underwent strength training for 12 weeks (own body exercise on circuit based strength training). Group –II acted as control group. All the tests were carried out with standardized procedure. The collected date of experimental group pre and post test was statistically analyzed by using t-test for significant improvement and ANCOVA test for significance difference. The level of significant was fixed at 0.05 level of confidence. The experimental group was produced significant changes on selected criterion on variables due to 12 weeks of strength exercise programme of school children.

Ponnulingam and Muthueleckuvan (2009) examined the effect of resistance training on selected strength variables among somato type boys .The study was confined to 30 male physical education students (B.P.E.,)of Annamalai university during the academic year 2008-2009.The number of groups for the study was three health –crater somato type rating was conducted and based on which subjects were classified into ectomorphy, endomorphy and mesomorphy respectively. The number of subject in each group was confined to ten. The duration f experimental period was eight weeks and frequency three days per week. Same type of resistance training was given to three groups. The selected criterion variables such as maximum strength and elastic strength were statistically examined by applying ANCOVA for the data on pre and post tests to nullify initial mean difference. It was found out that resistance training had significant changes on criterion variables among somato type boys.

METHODOLOGY

The purpose of the study was to find out the effect of eight weeks of weight training on selected strength and power parameters among university women students. Fifteen women students studying in the Department of Physical Education and Sports Sciences, Annamalai University were selected as subjects at random subjects each with age ranging from 18 to 25 years (Mean age 21.6 $\pm$ 0.7 months).They were underwent weight training for three alternative days per week for eight weeks. The experimental group was called weight training group (WTG) In every training session the workout lasted for 60 minutes including warming up and warm down exercise. The subjects underwent Weight training programme under strict supervision of the investigator. However individual differences were taken into account which fixing load. The over load principle was applied. Progressively workload was increased in two weeks once.In the present study weight training is considered as independent variable and the dependent variables namely leg strength and explosive power in terms of vertical distance were selected. Weight training exercise consists of back press, split style snatch, bent knee sit-ups, biceps curl, clean and jerk, trunk twist, inclined bench press. The data we recollected prior and immediately after the training programme on Leg strength and explosive power in terms of vertical distance. The leg strength was measured by leg lift dynamometer and explosive power in terms of vertical distance was measured by sargent jump respectively. The collected date of experimental group was statistically analyzed by using mean standard deviation and t-test and present table I and II. The level of significant was fixed at 0.01 level of confidence.

TABLE-I

The mean, standard deviation and t- value of experimental groups on leg strength

S.No	Leg strength	Mean	S.D	S.E	t- Value
1.	Pre test	89.06	2.27	0.63	7.84*
2	Post test	94.00	1.00		

* Significant at 0.01 level of confidence this table value for the significance of 2.58

Table –I reveals the mean, standard deviation, standard error and t- value of pre and post test scores of experimental group. The t- values of the leg strength was significantly improved and it showed the efficiency of weight training. In the value of selected leg strength was greater than the table value of 2.58 and it was found to be statically significant.

TABLE-II

The mean, standard deviation and t- value of experimental groups on explosive power in terms of vertical distance

S.No	Explosive power	Mean	S.D	S.E	t- Value
1.	Pre test	47	1.74	0.28	8.57*
2	Post test	49.4	1.62		

* Significant at 0.01 level of confidence this table value for the significance of 2.58

Table –I reveals the mean, standard deviation, standard error and t- value of pre and post test scores of experimental group. The t- values of the explosive power in terms of vertical distance was significantly altered and it showed the efficiency of weight training. In the value of selected explosive power in terms of vertical distance was greater than the table value of 2.58 and it was found to be statically significant.

Figure I

Comparisons of mean difference on leg strength

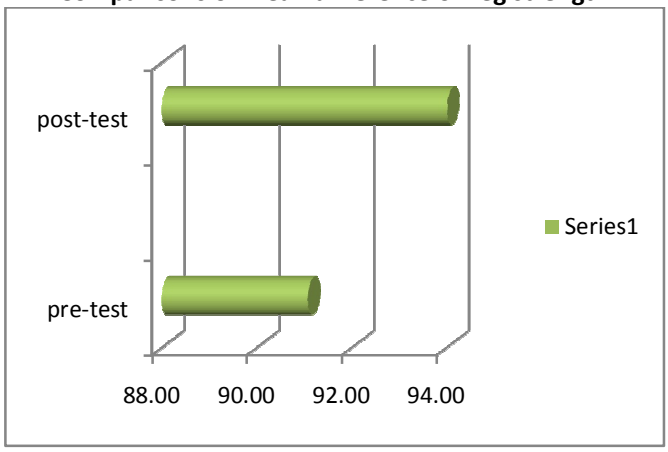
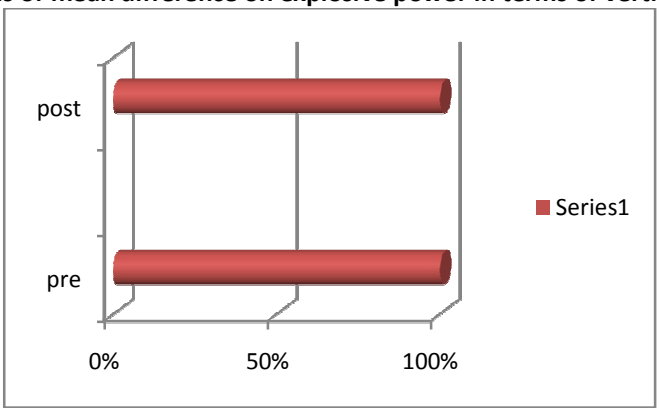


Figure II

Comparisons of mean difference on explosive power in terms of vertical distance



CONCLUSION

It was concluded that the results of the study showed a significant difference exist between pre and post tests weight training group on leg strength and explosive power in terms of vertical distance. Moreover it was concluded that there was a significant improvement on selected criterion variables such as leg

strength and explosive power in terms of vertical distance due to eight weeks of weight training programme among physical education women.

REFERENCES

1. Cattles (1945) V. Good Dictionary of education (London M C Graw Hill Book company Inc)-146.
2. Dr.A.S.Nageswaran(2014).,Enhancement of strength training on strength power endurance and flexibility, Indian journal for research in physical education and sports sciences ,9(1) 3-7.
3. Edward L.Fox and Donald K.Mathews (1981).,The physical basic of physical education and athletes(3 rd Edition) (Sydney W.B.Sannders company) -648.
4. Frank .W. Dick,(1980), Sports training principles (London)Henry kimptones publishers)-176.
5. Gettman, L.R., P.Ward and R.D. Hagan, (1981). "Strength and Endurance Changes through Weight Circuit Training". ***National Strength and Conditioning Association Journal,*** 3(4): 12-14.
6. Jerry, R. Thomas and Jack K. Nelson, (1996), Research methods inphysical education, 3rd ed. (Illionis Human KineticsPublishers) , p. 147.
7. Harrison Clarke, H.,(1976)., Application of Measurement to Health and Physical Education, Prentice Hall Inc., Englewood cliffs, New Jersey), pp. 129-130.
8. Matreyeu., (1981).,Fundamental of sports training progress publishers English Translation of Revised Russian edition-46 .
9. M.Ponnulingam and R.Muthueleckuvan.,(2009)Effect of resistance training on selected strength variables among somato type boys, Journal of physical education and exercise sciences, 4(2) 81-84.
10. Singh,Hardayal,(1991).,Science of sports training New Delhi;D.V.S.publication.