E-ISSN: 2707-7020
P-ISSN: 2707-7012
JSSN 2020; 1(2): 18-21
Received: 22-05-2020
Accepted: 28-06-2020

N Alauthen Basha
Research Scholar, Department of Physical Education, Kongunadu Arts and Science College, Coimbatore, Tamil Nadu, India

Dr. PK Kavithashri
Director of Physical Education Kongunadu Arts and Science College, Coimbatore, Tamil Nadu, India

Corresponding Author:
N Alauthen Basha
Research Scholar, Department of Physical Education, Kongunadu Arts and Science College, Coimbatore, Tamil Nadu, India

Effect of strengthening training and resistance training on selected physical physiological and skill related variables among volleyball players

N Alauthen Basha and Dr. PK Kavithashri

Abstract
Today sports and physical activity are the mainstream than any other era in recent time. Sports and physical activity serve as a fundamental part in the social and social working of every person. In the previous couple of decades sports and physical activities have increased enormous ubiquity everywhere the universe. Sports and physical activity is for the most perceived benefits as exercises which are situated in physical physicality or physical expertise, the fame of the sports and physical activities is as yet expanding at a quick pace and this glad pattern is prone to proceed further. The Norwegian confederation of sports and physical activities, characterized sports as "sports and physical activities exercises as a recreational character where the individual endeavours of the members decide the outcome" (SportAccord). The study was designed and aimed to find out the effect of strengthening Training and resistance training on selected physical physiological and skill related variables among men volleyball players. For this study restricted 60 youth men volleyball players, they were divided into 3 equal groups each 20 from Coimbatore and there age group 14-18. The training programmes consist of various strengthening and resistance training which were exposed only on experimental group. The training was applied for 12 weeks training for 3days per week on 90-180 minutes in evening section. Numerical data, physical, psychological and skills related variables were collected from three different groups of subjects. Subject data was recorded in Microsoft Word and then was transferred to IBM SPSS. All statistical analysis the IBM SPSS (Statistical Package for Social Sciences) version 22 was used. A one way ANCOVA (analysis of covariance) group 12 weeks prior and post-training to the intervention of the time was used to compare means on strengthening and resistance training on selected physical, physiological and skill related variables. ANCOVA (analysis of covariance) was significant scheffe's post hoc was applied. Investigation results showed that through by strengthening training may be decrease Speed performance timing in the field of sports and games particularly for volleyball players. This investigation discloses that there was a supportive improvement of physiological variables of resting heart rate. The performance has been accrued because of influence of strengthening training to resistance training on youth men volleyball players. Based on the finding from the present investigation it was concluded that the spiking performance was melded through the influence of strengthening training and resistance training. Apparent effects were found in the present investigation. And it was concluded that the spiking timing were ablated with the effects of strengthening and resistance training for youth men football players. For improving better spiking capacity strengthening training were exposed better result when comparing resistance training among youth men volleyball players. Since the study exposes the significant optimistic improvement on the selected variables the training may be conducted to the grass root level players or athletes.

Keywords: Speed, resting heart rate and spiking

Introduction
Today sports and physical activity are the mainstream than any other era in recent time. Sports and physical activity serve as a fundamental part in the social and social working of every person. In the previous couple of decades sports and physical activities have increased enormous ubiquity everywhere the universe. Sports and physical activity is for the most perceived benefits as exercises which are situated in physical physicality or physical expertise, the fame of the sports and physical activities is as yet expanding at a quick pace and this glad pattern is prone to proceed further. The Norwegian confederation of sports and physical activities, characterized sports as "sports and physical activities exercises as a recreational character where the individual endeavours of the members decide the outcome" (SportAccord).

Selection of the Subject: For this study restricted 60 youth men volleyball players, they were divided into 3 equal groups each 20 from Coimbatore and there age group 14-18.

Methodology: The training programmes consist of various strengthening and resistance training which were exposed only on experimental group. The training was applied for 12 weeks training for 3days per week on 90-180 minutes in evening section. Numerical data, physical, psychological and skills related variables were collected from three different groups of subjects. Subject data was recorded in Microsoft Word and then was transferred to IBM SPSS. All statistical analysis the IBM SPSS (Statistical Package for Social Sciences) version 22 was used. A one way ANCOVA (analysis of covariance) group 12 weeks prior and post-training to the intervention of the time was used to compare means on strengthening and resistance training on selected physical, physiological and skill related variables. ANCOVA (analysis of covariance) was significant; scheffe's post hoc was applied.

Results and Discussion

Table 1: Analysis of co variance for pre–test, post test and adjusted post test data on speed of resistance training, strengthening and control group of volleyball players (in seconds)

Test		Resistance Training Group	Strengt Training Group	Control Group	Sov	Sum of Square	Df	Mean Square	F ratio
Pre test	Mean	5.11	5.11	5.18	B	0.07	2	0.04	0.29
	S.D	.38	.26	.41	W	7.14	57	0.13	
Post test	Mean	5.00	5.04	5.25	B	0.71	2	0.35	2.99
	S.D	.32	.26	.43	W	6.72	57	0.12	
Adjusted post test	Mean	5.02	5.06	5.20	B	.37	2	0.19	6.64*
					W	1.56	56	0.03	

Table I exhibit that the Pre test mean value of Speed on the Resistance training, strengthening and the Control group are 5.11, 5.11 and 5.18 respectively. The reckon 'F' ratio value 0.29 for the pre test score of the Resistance training, strengthening and the Control group of Speed is lesser than the required table value of 3.16 and the obtained P value of 0.742 is more than the required P value of 0.005 ($p<0.005$). For significant at 0.05 level. Hence it is not significant and is discovered that there is no significant difference among the Resistance training, strengthening and the Control group of Speed before the implementation of investigation training. It shows the ergodic selection of the subject for the three groups is prosperous. After the experimental applicable tests mean value for Speed on the Resistance training, strengthening and the Control group are 5.00, 5.06 and 5.20 in the order given The calculated 'F' ratio value 2.99 for post test score is lesser than the table value of 3.16 for 2 & 57 degree of freedom at 0.05 level and the incur P value 0.58 also higher than the required p value 0.005 ($p<0.005$). It shows that there is no significant relationship among Resistance training, strengthening and the Control group for the variable of Speed.

The adjusted post test values for the Speed on Resistance training, strengthening and the Control group are 5.02, 5.06 and 5.20 in orderly. The reckon 'F' ratio of adjusted post test value is 6.64 which is higher than the requisite table value 3.16 for 2 & 56 degree of freedom at 0.05 level of significant and the received p value 0.003 is lesser than the required p value of 0.005 ($p<0.005$). Apart from the result it exposes that there is a significant differences among Resistance training, strengthening and the Control group on the variable of Speed.

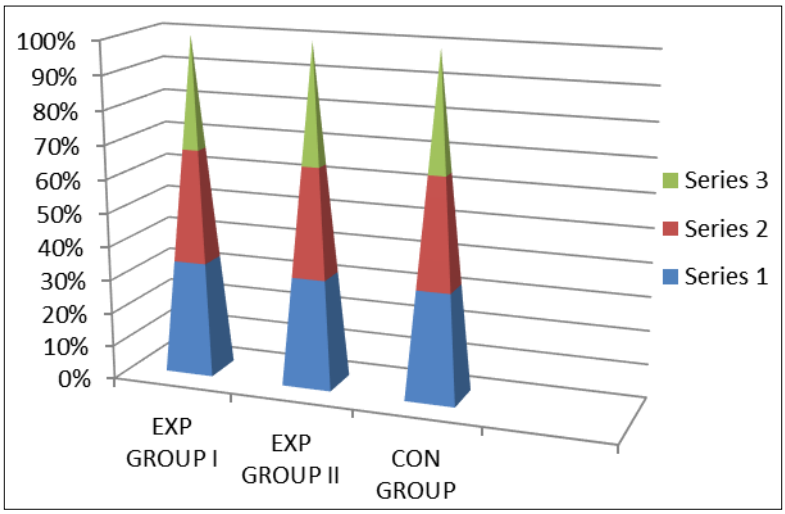

Fig 1: Bar diagram showing mean difference on speed of resistance training, strengthening and control group of volleyball players (in seconds)

Table 2: Analysis of co variance for pre –test, post test and adjusted post test data on resting heart rate of resistance training, strengthening and control group of volley ball players (in numbers)

Test		Resistance Training Group	Strengt Training Group	Control Group	Sov	Sum of Square	Df	Mean Square	F ratio
Pre test	Mean	73.65	72.95	74.70	B	24.10	2	12.05	1.11
	S.D	3.28	3.66	2.87	W	616.50	57	10.82	

Post test	Mean	72.65	71.07	75.15	B	127.03	2	63.52	6.57
	S.D	3.25	2.89	3.18	W	551.30	57	9.67	
Adjusted post test	Mean	72.68	70.26	74.51	B	57.24	2	28.62	7.80*
					W	205.46	56	3.67	

Table II exhibit that the Pre test mean value of Resting Heart rate on the strengthening, Resistance training and the Control group are 73.65, 72.95 and 74.70 respectively. The reckon 'F' ratio value 1.11 for the pre test score of the Resistance training, strengthening and the Control group of resting heart rate is lesser than the required table value of 3.16 and the obtained P value of 0.335 is more than the required P value of 0.005 ($p<0.005$) for significant at 0.05 level. Hence it is not significant and it discovered that there is no significant difference among the Resistance training, strengthening and the Control group of Resting Heart rate before the implementation of investigation training. It shows the ergodic selection of the subject for the three groups is prosperous. After the experimental applicable tests mean value for Resting Heart rate on the Resistance training, strengthening and the Control group are 72.65, 71.07 and 75.15 in the order given The calculated 'F' ratio value 6.57 for post test score is higher than the table value of 3.16 for 2 & 57 degree of freedom at 0.05 level and the incur P value 0.003 also lesser than the required p value 0.005 ($p<0.005$). It shows that there is positive significant relationship among Resistance training, strengthening and the Control group for the variable of Resting Heart rate.

The adjusted post test values for the Resting Heart rate on Resistance training, strengthening r and the Control group are 72.68, 70.26 and 74.51 in orderly. The reckon 'F' ratio of adjusted post test value is 7.80 which is higher than the requisite table value 3.16 for 2 & 56 degree of freedom at 0.05 level of significant and the received p value 0.000 is lesser than the required p value of 0.005 ($p<0.005$).Apart from the result it exposes that there is a significant differences among Resistance training strengthening and the Control group on the variable of heart rate.

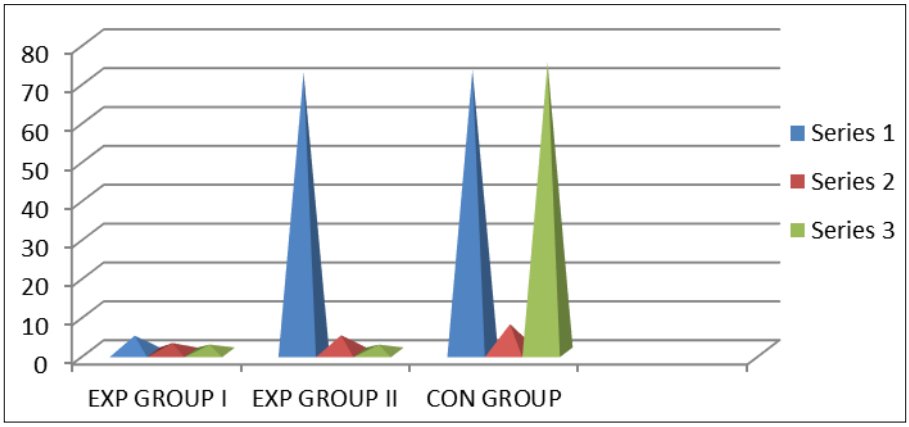

Fig 2: Bar diagram showing mean difference data on resting heart rate of resistance training, strengthening and control group of volley ball players (in numbers)

Table 3: Analysis of co variance for pre–test, post test and adjusted post test data on spiking of resistance training, strengthening and control group of volley ball players (in numbers)

Test		Resistance Training Group	Strengt Training Group	Control Group	Sov	Sum of Square	Df	Mean Square	F ratio
Pre test	Mean	25.23	25.06	25.07	B	4.43	2	2.21	.20
	S.D	3.86	3.35	2.74	W	639.62	57	11.22	
Post test	Mean	23.73	23.81	26.05	B	68.96	2	34.48	3.01
	S.D	2.83	3.21	3.05	W	652.21	57	11.44	
Adjusted post test	Mean	23.81	24.01	25.74	B	44.01	2	22.01	5.82*
					W	211.46	56	3.78	

Table III exhibit that the Pre test mean value of spiking on the strengthening, Resistance training and the Control group are 25.23, 25.06 and 25.07 respectively. The reckon 'F' ratio value 0.20 for the pre test score of the Resistance training, strengthening and the Control group of spiking_is lesser than the required table value of 3.16 and the obtained P value of 0.821 is more than the required P value of 0.005 ($p<0.005$) for significant at 0.05 level. Hence it is not significant and it discovered that there is no significant difference among the Resistance training, strengthening and the Control group of spiking before the implementation of investigation training. It shows the ergodic selection of the subject for the three groups is prosperous. After the experimental applicable tests mean value for spiking on the Resistance training, strengthening and the Control group are 23.71, 23.81 and 26.05 in the order given The calculated 'F' ratio value 3.01 for post test score is lesser than the table value of 3.16 for 2 & 57 degree of freedom at 0.05 level and the incur P value 0.005 also higher than the required p value 0.005. ($p<0.005$). It shows that there is no significant relationship among Resistance training, Glute strengthening with Foam roller and the Control group for the variable of spiking.

The adjusted post test values for the spiking on Resistance training, strengthening and the Control group are 23.81, 24.08 and 25.74 in orderly. The reckon 'F' ratio of adjusted post test value is 5.83 which is higher than the requisite table value 3.16 for 2 & 56 degree of freedom at 0.05 level

of significant and the received p value 0.005 is lesser than the required p value of 0.005 ($p<0.005$). Apart from the result it exposes that there is a significant differences among Resistance training, strengthening and the Control group on the variable of spiking.

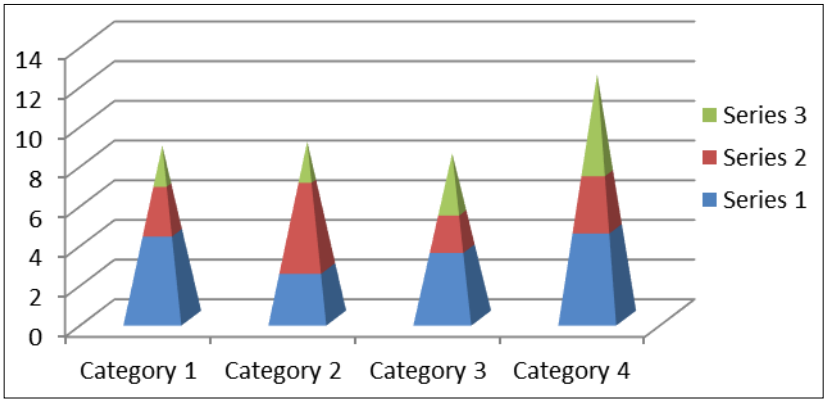

Fig 3: Bar diagram showing mean difference of shoulder strength between handball and volleyball players

Conclusions

Since the investigation is connected closely and often on selected physical, physiological and skill related variables of youth male volleyball players which recruited from Coimbatore volleyball club. Speed is considered as physical variables. Under the consideration of physiological variables the resting heart rate. And the capacity and ability of spiking of volleyball were look at under skill related variables. A minimum number of 60youth men volleyball players are recruited and restricted as a subject from Coimbatore volleyball club and subject's age ranged between 14-18 according to their school or college records. The subject bifurcated in to three equal groups each consisting 20 football players. Two experimental groups were foamed, group 2 was treated and received the strengthening exercises and group 1 was received and treated resistance training. One group was considered the control group which having 20 subjects and they were only present at the pre and post test section never treat or received any special training and they are group 3.From the selected physical, physiological and skill related variables the data were collected and recorded out of three before and after the culmination or wind up of training. Analysis of covariance with the help of SPSS packages 22 version was used as a statistical tool to find out the whether any significant differences among or between the groups. If there was any scheffe's post hoc test is followed.0.05 level of confidence was fixed for significance and the p value must less than 0.005. Investigation results showed that through by strengthening training may be decrease Speed performance timing in the field of sports and games particularly for volleyball players. This investigation discloses that there was a supportive improvement of physiological variables of resting heart rate. The performance has been accrued because of influence of strengthening training to resistance training on youth men volleyball players. Based on the finding from the present investigation it was concluded that the spiking performance was melded through the influence of strengthening training and resistance training. Apparent effects were found in the present investigation. And it was concluded that the spiking timing were ablated with the effects of strengthening and resistance training for youth men football players. For improving better spiking capacity strengthening training were exposed better result when comparing resistance training among youth men volleyball players. Since the study exposes the significant optimistic improvement on the selected variables the training may be conducted to the grass root level players or athletes.

References

1. Behm David G *et al*. Canadian Society for Exercise Physiology position paper: resistance training in children and adolescents. Applied physiology, nutrition, and metabolism. 2008; 33(3):547-561.
2. Çakir-Atabek Hayriye *et al*. Effects of different resistance training intensity on indices of oxidative stress. The Journal of Strength & Conditioning Research. 2010; 24(9):2491-2497.
3. Christou Marios *et al*. Effects of resistance training on the physical capacities of adolescent soccer players. The Journal of Strength & Conditioning Research. 2006; 20(4):783-791.
4. Chtara Moktar *et al*. Effect of concurrent endurance and circuit resistance training sequence on muscular strength and power development. The Journal of Strength & Conditioning Research. 2008; 22(4):1037-1045.
5. Anne Waugh, Allison Grant. Anatomy and Physiology in Health and Illness, Gramme chamber UK, 2006.
6. Bret Contreras. Body weight strength training Anatomy. United graphics library of congress cataloging-in-publication data Unites States of America, 2013.
7. Bret Contreras, Kellie Davis. Strong Curve; A woman guide to build a better but and body, Victory Belt Publishing Inc Las Vegas Unites State of America, 2013, 18-22.
8. Carol Oatis A. Kinesiology; The mechanics and Pathomechanics of Human movements, 2009.
9. Doborah Wuest A, Charles Don Gorden. Coaching science TJ international limited, Padstow Cornwall, great Britain, 2009.
10. Dr. Uppal AK. Kinesiology for physical Education and exercise science, Lakshmibai National Institute of Physical Education Gwalior. Friends Publication India, 2004.