International Journal of Multidisciplinary Research and Modern Education (IJMRME)
Impact Factor: 7.315, ISSN (Online): 2454 - 6119
(www.rdmodernresearch.org) Volume 5, Issue 1, 2019

EFFECT OF SWISSBALL TRAINING AND PLYOMETRIC TRAINING ON BALANCE AMONG MALE HOCKEY PLAYERS

Dr. K. Ivin Jabakumar
Director of Physical Education, TUK Arts College, Thanjavur, Tamilnadu

Cite This Article: Dr. K. Ivin Jabakumar, "Effect of Swissball Training and Plyometric Training on Balance among Male Hockey Players", International Journal of Multidisciplinary Research and Modern Education, Volume 5, Issue 1, Page Number 216-217, 2019.

Abstract:

The purpose of the study was to find out the impact of swiss ball and plyometric training on selected physical variables among inter-collegiate male hockey players. To achieve the purpose of the present study, fifty-four players at the inter-collegiate level were selected as subjects at random from affiliated colleges of Bharathidasan University, Tiruchirappalli, Tamilnadu state, India and their ages ranged from 18 to 25 years. The selected subjects had earlier playing experience of at least four years in Hockey and only those who represented their respective college teams were taken as subjects. The selected variables were balance. The subjects (n=54) were randomly assigned into three equal groups of eighteen players each. The groups were named as Swiss ball training group (STG), Plyometric training group (CTG) and Control group (CG) in an equivalent manner. Both the training programmes were imparted to the respective groups for about 12 weeks. Analysis of covariance and scheffe's test was followed. All the statistical analysis tests were computed at 0.05 level of significance. The experimental groups Hockey players showed significant improvement on balance when compared to the subjects in the control group.

Key Words: Swissball, Core, Balance, Hockey

Introduction:

Swiss ball is a ball which is filled with air and it has a mobile platform which gives bouncy effect to the body thereby the body should align and maintain balance while performing an exercise. Exercises are mostly designed with the part or the whole of the body to make physically fit. Different researchers have made on all aspects of exercise training and their significance and effect on the physical fitness. Any specific conditioning for a particular activity will bring a definite change in (Milligan, 2005).

Methodology:

The purpose of the study was to find out the influences of swiss ball and plyometric training on selected physical variables among inter-collegiate male hockey players. To achieve the purpose of the present study, fifty-four players at the inter-collegiate level were selected as subjects at random from affiliated colleges of Bharathidasan University, Tiruchirappalli, Tamilnadu state, India and their ages ranged from 18 to 25 years. The selected subjects had earlier playing experience of at least four years in Hockey and only those who represented their respective college teams were taken as subjects. The selected variables were balance. The subjects (n=54) were randomly assigned into three equal groups of eighteen players each. The groups were named as Swiss ball training group (STG), Plyometric training group (PTG) and Control group (CG) in an equivalent manner. Both the training programmes were imparted to the respective groups for about 12 weeks. Analysis of covariance and scheffe's test was followed. All the statistical analysis tests were computed at 0.05 level of significance.

Results:

Table 1: Analysis of Covariance for the Pre, Post and Adjusted Post-Tests Data on Balance of Control and Experimental Groups

Test	Control Group	Swiss Ball Training Group Expt–I	Plyometric Training Group Expt–II	SOV	SS	DF	MS	F – Ratio
Pre-Test								
Mean	10.38	10.62	10.44	B.M	1.93	2	0.96	1.03
SD(±)	0.76	1.01	1.09	W.G	47.79	51	0.93	
Post-Test								
Mean	10.27	12.57	12.65	B.M	60.15	2	30.07	25.81*
SD(±)	0.9	1.21	1.09	W.G	59.42	51	1.16	
Adjusted Post-Test								
Mean	10.67	12.53	12.68	B.S	43.43	2	21.71	34.61*
				W.S	31.36	50	0.62	

**Significant at 0.05 level of confidence.*

The table 1 shows that the pre-test mean values on the balance of control, swiss ball training and plyometric training groups are 10.28, 10.72 and 10.64 respectively. The obtained 'F' ratio 1.03 for pre-test scores was less than the table value, 3.18 for degrees of freedom 2 and 51 required for significance at 0.05 level of confidence on balance. The post-test mean values of control, swiss ball training and plyometric training groups are 10.47, 12.67 and 12.75 respectively. The obtained 'F' ratio 25.81 for post-test scores was greater than the table value 3.18 for degrees of freedom 2 and 51 required for significance at 0.05 level of confidence on balance. The adjusted post-test means of control, swiss ball training and plyometric training groups are 10.67, 12.53 and 12.68. The obtained 'F' ratio of 34.61for adjusted post-test means was greater than the table value of 3.18 for degrees of freedom 2 and 50 required for significance at 0.05 level of confidence on balance. The result of the study indicates that there was a significant difference among the adjusted post-test means of control, swiss ball training and plyometric training groups on balance.

Table 2: The Scheffe's Test for the Difference between Paired Means on Balance

Control Group	Swiss Ball Training Group Expt–I	Plyometric Training Group Expt–II	MD	CI
--	12.538	12.681	0.15	0.66
10.675	12.538	--	1.86*	
10.675	--	12.681	2.01*	

**Significant at 0.05 level of confidence.*

The table 2 shows that the mean difference values between control group & swiss ball training and control group & plyometric training are 1.86 and 2.01 respectively which are greater than the confidence interval value 0.66 at 0.05 level of confidence. The results of the study showed that there was a significant difference between control group & swiss ball training group and control group & plyometric training group on balance. The mean difference values between swiss ball training and plyometric training was 0.15 which is lesser than the confidence interval value 0.66 at 0.05 level of confidence.

Conclusion:

- The control group Hockey players did not show significant improvement in any of selected variables.
- The experimental groups Hockey players showed significant improvement on balance when compared to the subjects in the control group.

References:

1. Dorthy, Y. & Landie, S. (1992). Field Hockey-Fundamental and Techniques. London: Faber and Faber limited.
2. Dureha, K.Dilip. and Akhil, Mehrotra (2003). Teaching & Coaching Hockey. New Delhi: Paperbacks.
3. Escamilla, R.F., Lewis, C., Bell, D., Bramblet, G., Daffron, J., Lambert, S., Pecson, A., Imamura, R., Paulos, L. & Andrews, J.R. (2010). Core muscle activation during Swiss ball and traditional abdominal exercises. J Orthop Sports Phys Ther. 40(5):265-76.
4. Eswara Moorthy, A. & Angamuthu, K. (2013). Effect of Swissball Training on Selected Motor Fitness Variables among Football Players. Star Research Journal. 01.
5. Ivin Jabakumar K., Suresh Kumar, M. & Kalidasan. R. (2011). Influence of e-content based coaching on selected Fundamental skills in field hockey. Recent Research in Science and Technology, 3, 1(59-62).
6. Milligan, James (2005). Swiss Ball for Total Fitness: A Step-by-step Guide. Sterling Publishing Company, Inc.
7. Mitchell – Taverner, Claire. (2005). Field hockey: techniques & Tactics. First Edition, Human Kinetics.
8. Robert, P.C., Venkatesan, A.G. & George, A. (2013). Influence of Parcourse Training and Interval Training on Vital Capacity among Education Male Students, Creative Research Thoughts, 1, 5.
9. Sujitha Paulose & Dr. M. Suresh Kumar (2020). Effect of Progressive Muscular Relaxation Training on Selected Psychomotor Variables among Hockey Players. Alochana Chakra Journal, 9, 5, 2439-2443.
10. Suresh, Kumar M. (2014). Impact of Conventional Training on Dribbling Ability of Novice Hockey Players. Star International Research Journal, 2, 1(07).
11. Suresh, Kumar M. (2014). Skill Tests in Field Hockey - Past, Present & Future. International Journal of Recent Research and Applied Studies, 1, 2(34-36).
12. Suresh, Kumar M. (2017). Skill Tests in Field Hockey - Past, Present & Future. International Journal of Recent Research and Applied Studies, 1, 2(34-36).