



INFLUENCE OF SWISSBALL TRAINING AND CORE TRAINING ON BALANCE AMONG HOCKEY PLAYERS

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ABSTRACT

The purpose of the study was to find out the influences of swiss ball and core training on balance among 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 Tamilnadu Physical Education and Sports University, Chennai India and their ages ranged from 18 to 25 years. The selected variables were balance tested by stork balance test. 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), Core training group (CBTG) 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.

KEYWORDS: 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 physical fitness level and have this in mind, a new set of exercises called swiss ball exercises has been developed especially to improve fitness. The origin of the

"swiss ball" appellation is found in that ball exercises were first observed in Switzerland and not in Italy. This explains why they are not commonly known as Italian balls (Milligan, 2005).

Core training is a very important aspect of an exercise routine for athletes. When incorporated into a proper workout routine it will help improve neuromuscular control and hopefully reduce injuries. The trunk of the body is considered the core and is comprised of the abdominal muscles, back muscles, pelvic floor muscles and the diaphragm. The core is the basis for all functional movements in sports and is crucial for everything from cutting, pivoting, throwing, etc. Its

main purposes are to allow for balance & stability, absorbing force and for the transfer of force to the extremities. Core strength training may be a relatively new, buzz term in the fitness industry but coaches and athletes have understood its value for many years (Neeraj et al. 2014).

METHODOLOGY

The purpose of the study was to find out the influences of swiss ball and core training on balance among 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 Tamilnadu Physical Education and Sports University, Chennai India and their ages ranged from 18 to 25 years. The selected variables were balance tested by stork balance test. 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), Core training group (CBTG) 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 – I
ANALYSIS OF COVARIANCE FOR THE PRE, POST AND ADJUSTED
POST-TESTS DATA ON BALANCE OF CONTROL AND
EXPERIMENTAL GROUPS (IN SECONDS)

Test	Control group	Swiss ball training group Expt-I	Core training group Expt-II	SOV	SS	df	MS	F –ratio
Pre-test								
Mean	10.28	10.72	10.64	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	10.47	12.67	12.75	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 I shows that the pre-test mean values on the balance of control, swiss ball training and core 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 core 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 core training groups are 10.67, 12.53 and 12.68. The obtained 'F' ratio of 34.61 for 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 core training groups on balance.

TABLE – II
THE SCHEFFE’S TEST FOR THE DIFFERENCE BETWEEN PAIRED MEANS ON BALANCE

Control group	Swiss ball training group Expt-I	Core 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 II shows that the mean difference values between control group & swiss ball training and control group & core 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 & core training group on balance. The mean difference values between swiss ball training and core training was 0.15 which is lesser than the confidence interval value 0.66 at 0.05 level of confidence.

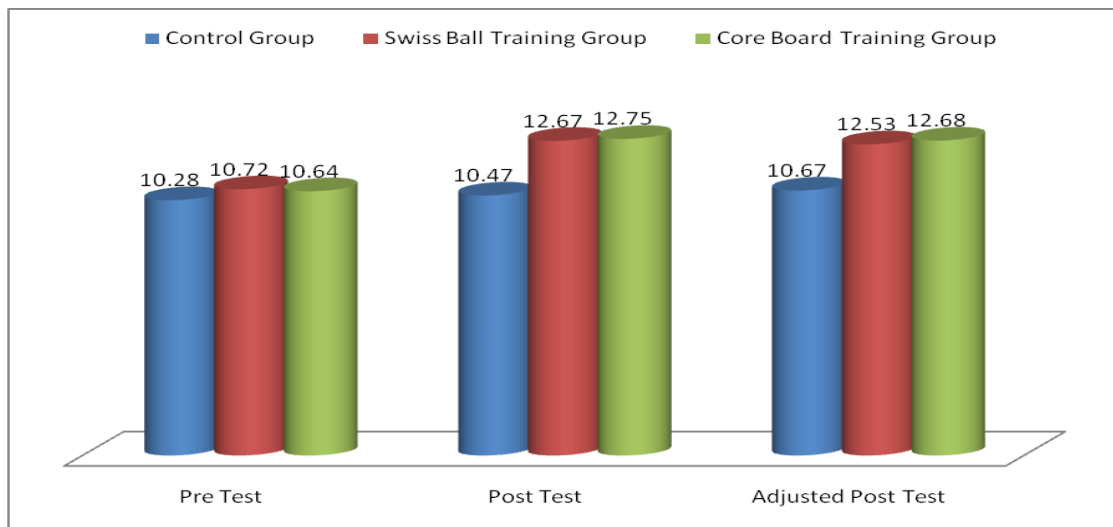


FIGURE I

THE PRE, POST AND ADJUSTED MEAN VALUES OF CONTROL, SWISS BALL TRAINING AND CORE TRAINING GROUPS ON BALANCE

CONCLUSIONS

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

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