



IMPACT OF BOSUBALL TRAINING ON HANDBALL PLAYERS' MUSCULAR STRENGTH

Raghu G M*, Dr. K. Ivin Jabakumar, Dr. N. Mallesh*** & Dr. M. Suresh Kumar******

* Ph.D. Research Scholar, Department of Physical Education, Ganesar College of Arts & Science (Affiliated to Bharathidasan University, Tiruchirappalli), Ponnamaravathy, Pudukkottai, Tamil Nadu, India

** Director of Physical Education, TUK Arts College (Affiliated to Bharathidasan University, Tiruchirappalli), Thanjavur, Tamil Nadu, India

*** Co-Supervisor, Assistant Director of Physical Education, RV College of Engineering, Bengaluru, Karnataka, India

**** Co-Supervisor, Director of Physical Education, Ganesar College of Arts & Science (Affiliated to Bharathidasan University, Tiruchirappalli), Pudukkottai, Tamil Nadu, India

Cite This Article: Raghu G M, Dr. K. Ivin Jabakumar, Dr. N. Mallesh & Dr. M. Suresh Kumar, "Impact of Bosuball Training on Handball Players' Muscular Strength", International Journal of Multidisciplinary Research and Modern Education, Volume 11, Issue 1, January - June, Page Number 61-63, 2025.

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Abstract:

The purpose of the study was to find out the effect of bosuball training on muscular strength among handball players. To achieve the purpose of the present study, thirty handball players at Inter-collegiate level from Bengaluru, Karnataka were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups of fifteen players each. Group I acted as Experimental Group (Bosuball training) and Group II acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Analysis of Covariance (ANCOVA) to find out the significance among the mean differences. In all cases 0.05 level of significance was fixed to test hypotheses. It was observed that the six weeks of experimental group have significantly improved the muscular strength of handball players.

Key Words: Bosuball Training, Muscular Strength, Handball

Introduction:

The bosu ball is an inflated rubber hemisphere attached to a rigid platform. The device is often used for balance training, but often is thought to help out with strength and muscle building. The "BOSU" in bosu ball stands for "both sides up," or alternately, "both sides utilized." It was invented in 1999 by David Weck, and today, it's part of many people's regular workout routines. A bosu ball is basically a semi sphere, with a rubber bouncy ball top and a flat bottom. Exercises can be performed on both sides, hence the "both sides up" acronym (Navin, 2013).

Statement of the Problem:

The purpose of the study was to find out the effect of bosuball training on muscular strength among handball players.

Hypothesis:

It was hypothesised that there would be significant improvement on muscular strength due to the effect of bosuball training.

Selection of Subjects:

The purpose of the study was to find out the effect of bosuball training on muscular strength among handball players. To achieve the purpose of the present study, thirty handball players at Inter-collegiate level from Bengaluru, Karnataka were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups of fifteen players each.

Experimental Design:

The groups were assigned as Experimental Group and Control Group in an equivalent manner. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Experimental Group was exposed to bosuball training and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 6 weeks. After the experimental treatment, all the thirty subjects were re-tested. Muscular strength was assessed by sit ups. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences. In all cases 0.05 level of significance was fixed to test hypotheses.

Table 1: Bosu Ball Training Programme (I to VI Weeks)

Parts	Main Exercises	Rep / Set	Duration of Each Exercise	Rest Between Set	Intensity
General Warming Up 10 Minutes	Push-Ups-Ball Side Down	6/3	1 Minute	1 Minute	LOW
Specific Warming Up 10 Minutes	Sit-Ups-Ball Side Up				
Main Exercises 30 Minutes	Squats-Ball Side Up				
	Lunges-Ball Side Up				
Cooling Down 10 Minutes	Boat Pose-Ball Side Up Side Plank Mountain Climber Burpee Jump				

Statistical Techniques:

Analysis of covariance (ANCOVA) was computed. The level of significance 0.05 was chosen and considered as sufficient for the study.

Results:

Table 1: Computation of Mean and Analysis of Covariance of Muscular Strength of Experimental and Control Groups

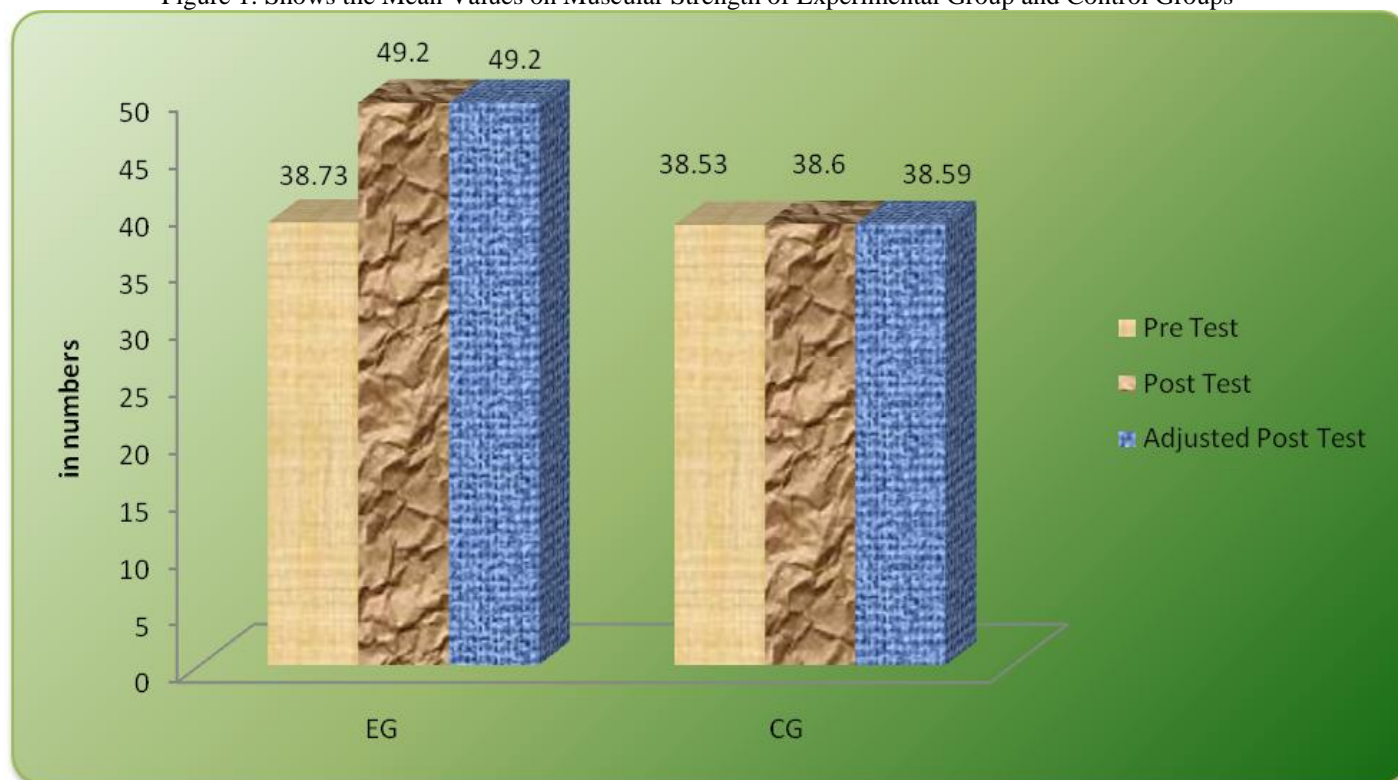
	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	38.73	38.53	BG	0.300	1	0.300	0.05
			WG	156.667	28	5.595	
Post Test Mean	49.20	38.60	BG	842.700	1	842.700	132.56*
			WG	178.000	28	6.357	
Adjusted Post Mean	49.20	38.59	BG	843.522	1	843.522	128.61*
			WG	177.081	27	6.559	

* Significant at 0.05 level table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of muscular strength of experimental and control groups were 49.20 and 38.59 respectively. The obtained F-ratio of 128.61 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on muscular strength. The above table also indicates that both pre and post test means of experimental and control groups differ significantly.

The pre, post and adjusted post mean values of muscular strength of both experimental and control groups are graphically represented in the figure 1.

Figure 1: Shows the Mean Values on Muscular Strength of Experimental Group and Control Groups



Conclusion:

It was observed that the six weeks of experimental group have significantly improved the muscular strength of handball players.

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