



# IMPACT OF WEIGHT TRAINING AND PRANAYAMA ON SHOOTING ABILITY IN HANDBALL WITH RESPECT TO CENTRAL BACK

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**Abstract:** The objectives of the study were to determine the effects of weight training and pranayama on shooting ability of handball players **with respect to Central Back**. Two groups were targeted experimental & control, fifty handball players consider as a experimental group and 50 other players as a control group would be selected as subject for present study and their age ranged between 14-19. Only training was given to the experimental groups. This study involves the effects of Pranayama and weight training on the performance of handball players in an experimental design. Weight Training program would be planned as 12 weeks 4 days a week and 60 min. Training programme that use large muscles groups that can be maintained continuously and are aerobic in nature. The Pranayama and Weight training the demonstration was given to the Players. Data was taken from the 50 handball players as a experimental group of similarly Pre and Post Test was taken from 50 other players as a control group. The training was given to the experimental group only. Mean, Standard Deviation and Analysis of Covariance (ANCOVA) was utilized by the investigator. The results of the study reveals that there was significant effects of weight training and pranayama was found in shooting ability of handball players **with respect to Central Back** ( $P > .05$ ).

## INTRODUCTION

The “jump shot” is the most used shot in team handball. Developing the ability to jump and shoot over the defence, as well as jumping inside the goal area, will make athletes more effective scoring threat. The “wing shot” is the jump shot performed at a difficult shooting angle. The “fall shot” is the basic technique of the circle runner. It allows receiving the ball on the 6 meter line and shooting without using three steps (Clanton & Dwight, 1997). Shooting the ball hard is not enough to beat a good goalie; accuracy is essential. Shooting for the corners is one of the important principles of shooting. The high corner cobwebs are under the crossbar and inside the goalpost. The low cobwebs are where the goalpost meet the floor, above where the goalie’s foot can extend and below where the goalie’s hand can reach. In team handball competition, 73-75 % of all throws during the game constitutes jump throws followed by the standing throw with run-up (14-18%), penalty throw (6-9%), diving throw 2-4%) and direct free throw (0-1%). These techniques are used to increase the horizontal velocity making it difficult for the defensive player to tackle and potentially enabling a higher ball velocity (Wagner, 2008;2011).

## METHODS

Two group were targeted experimental & control .50 handball players consider as a experimental group and 50 other players as a control group would be selected as subject for present study and their age ranged between 14-19. Only training was given to the experimental groups. This study involves the effects of Pranayama and weight training on the performance of handball players in an experimental design. The data was collected through respondents in the form of different experimental tests. The demographic information about Age, height ,weight etc. was obtained before seeking responses.

### Shooting Ability of the Handball players

The objective of the study was to measure the shooting ability of the handball players. The apparatus **Shooting Ability are to** Handballs, handball court and score sheet. The goal post was divided into nine targets. The, top and bottom right corner boxes were 75 cm x 50 cm, top and bottom left corner boxes were 75 x 50 cm; The top and bottom middle boxes were 150 x 50 cm. Left and right middle boxes measures 75 cm x 100 cm, while the middle box was 150 cm x 100 cm. Total ten trials were given to the handball players the sum of total of handball players was counted.

### Training Programme:

Weight Training program would be planned as 12 weeks 4 days a week and 60min. training programme that use large muscles groups that can be maintained continuously and are aerobic in nature. Warm - up period was approximately 10



min., this was combine callisthenic– type stretching, exercise and progressive aerobic activity. However, cool down period were 5 to 10 min. The yogic Pranayama includes Kapalbhathi ,Anulom Vilom ,Bhastrika and nadi shodhan before starting above Yogic Pranayama the demonstration was given to the Players

**STATISTICAL ANALYSIS**

The obtained data Mean, Standard Deviation and Analysis of Covariance (ANCOVA) was utilized by the investigator. The level of significant was set up at 0.05 level.

**RESULTS AND DISCUSSION**

The results and discussion have been presented in concise and comprehensive manner that is easy to comprehend.

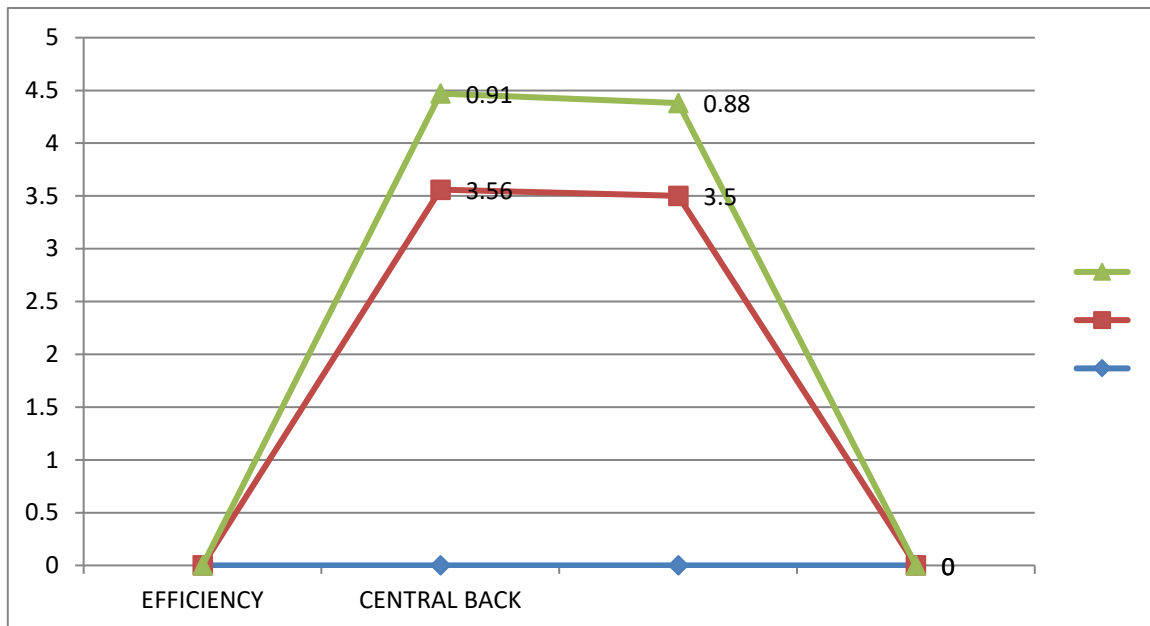
**Table -1**

**Means &SDs of shooting ability in Handball with respect to Central Back in pre and post-test of control group.**

Shooting ability	Test	Number	Mean	S.D.
Central Back	Pre Test	50	3.56	0.91
	Post Test	50	3.50	0.88

Table -1 Shows that Means &SDs of shooting ability in Handball with respect to Central Back in pre and post-test of control group. With regards to shooting ability in Handball with respect to Central Back of pre and post-test of control group they have obtain the mean value of 3.56 and 3.50 respectively

**Figure- 1 Means & SDs of shooting ability in Handball with respect to Central Back in pre and post-test of control group.**



**Table 2**

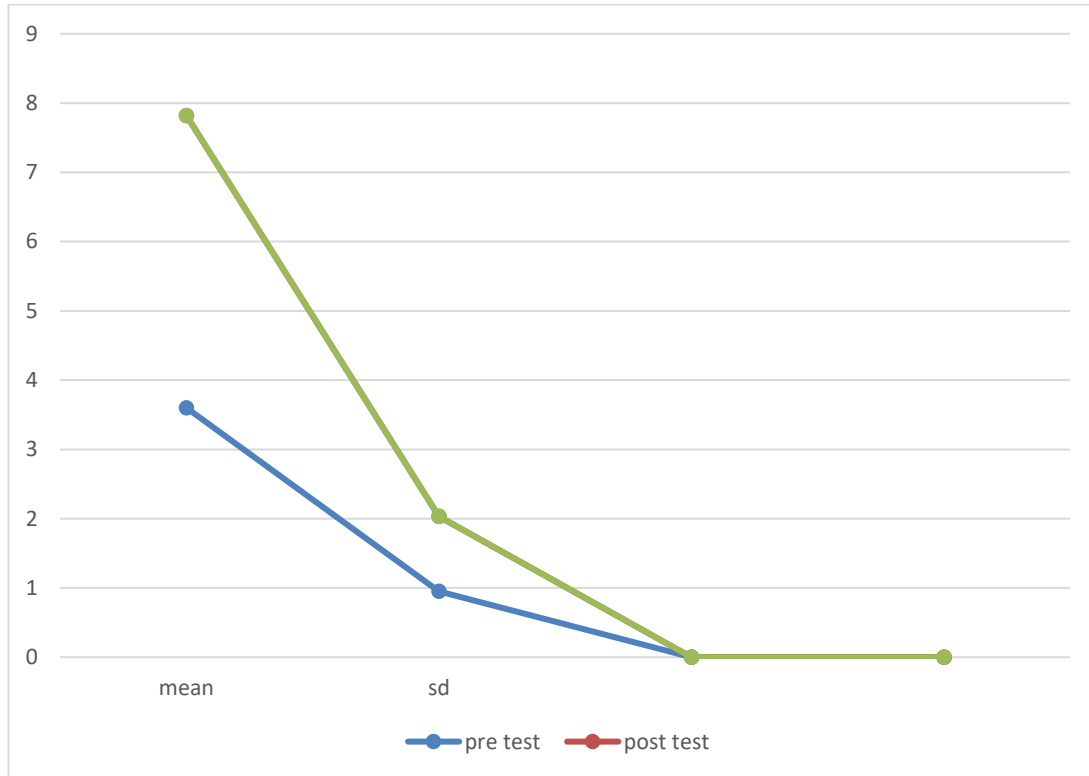
**Means &SDs of shooting ability in Handball with respect to Central Back in pre and post-test of Experimental group.**

Efficiency	Test	Number	Mean	S.D.
Central Back	Pre Test	50	3.60	0.95
	Post Test	50	4.22	1.08



Table -2 Shows that Means &SDs of shooting ability in handball with respect to Central Back in pre and post-test of Experimental group. With regards to shooting ability in Handball with respect to Central Back of pre and post-test of Experimental group they have obtain the mean value of 3.60 and 4.22 respectively.

Figure-2 shows the Means & SDs of shooting ability in Handball with respect to Central Back in pre and post-test of Experimental group.



**Table-3**  
Analysis of Covariance of effects of Pranayama and weight training on shooting ability in handball with respect to Central Back

source of variation	Degree of freedom	Ssx	Ssy	Ssxy	Ssyx	mssyx	F-ratio
Treatment Group	1	0.25	19.78	2.20	24.53	9.96	7.66*
Errors Group Means	197	15.78	16.89	9.56	12.45	1.30	

\* Significant at .05 level.

Table-3, Illustrates the statistical information of analysis of co- variance of pre and post-test of shooting ability in handball with respect to Central Back

**DISCUSSION**

The results of the study reveals that there was significant effects of weight training and pranayama was found in shooting ability of handball players with respect to Central back (F= 7.66, P>.05). The weight training and pranayama was increase the shooting ability of handball with respect to Central back. Training effect describes the physiological changes that occur from regular participation in a fitness program (Singh S.K, & Tuteja, 2013). Weight training is a common type of strength training for developing the strength Singh S.K and Firdous (2014), Singh S.K, & Tuteja (2013),.



It uses the weight force of gravity to oppose the force generated by muscle through concentric or eccentric contraction. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movement Singh S.K(2017), Bhosale V & Sinku S.K ( 2014) , Singh S.K and Firdous (2014), Singh S.K, & Tuteja (2013),. Weight training is a common type of strength training for developing the strength. It uses the weight force of gravity to oppose the force generated by muscle through concentric or eccentric contraction. Weight training uses a variety of specialized equipment to target specific muscle groups and types of movement. Weight training is an effective tool for improving or maintaining strength, endurance, and overall fitness (Singh and Firdous 2014),. This shot is mainly used by the offence players during a group tactical attack. The performance of this shot is preceded by a cross-legged jump or a jump towards the goal (Volossovitch A ,2005)

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