

# Correlation of Projection of Ball and Success Rate of Jump Shoot in Handball

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## ABSTRACT

*The purpose of this study was to find out the correlation of projection of ball during jump shoot and success rate of jump shoot in Handball. Jump shot skill was analysed with the help of rating scale in which Jump shot was bifurcated in several sub skills as Approach (Run-up), Take-off Contact, Shoot (Projection and release of the ball), Landing. Camera was mounted on a fixed tripod, on a level ground and aiming at the subject. The camera was placed 10 meters perpendicular to the take-off area. Slow motion playback was used to make the accurate rating of the skill. The 15 subjects from KKM club from Pune were selected for this study and were briefed about performing in front of a camera. Each player was given ten attempts to shoot from left in, centre back and right in position in Handball and their success ratio was seen along with the projection of the ball. This research was carried out following survey method and convenience sampling method was used for selecting the sample (n=15). The correlation coefficient of projection of the ball and success ratio of the handball jump shot from various positions is 0.85 which is significant at 0.05 level. Hence it was concluded that whenever ball projection is good or excellent then player have good chance of having successful jump shot.*

**Keywords :** Handball, Biomechanics, Projection of a Ball, Jump Shoot

## Introduction

Team handball is a team game which is popularly played by the nations around the world and in several European nations, team handball is played professionally.

All practices in team handball are carried out under specific circumstances, in the presence of opposing team members, and in accordance with the rules of the game. As a result, selection of skills and its executions are mostly determined by the situations in the match. Running, Jumping and shooting are basic skills in Handball. Mostly ball velocity and projection are very important to minimize the chance of the opponent or goal keeper interrupting the shot. When the ball is thrown in speed along with proper projection at the goal, the goalkeeper may have a less time to stop the shot. In order for a throw to be

successful, the highest velocity at ball release together with aiming accuracy is required therefore during the game, thus the athlete has to keep up with the optimal efficiency of these two factors. In team handball, shooting to score goals is one of the most important aspects of the game. The jump shot is one of the most important aspects of handball since the game requires motor activity to be done under complex circumstances in the presence of opposing team members and when adhering to the rules.

In handball, many biomechanical principles can be applied and are very are useful in enhancing the performance of the player. Long arm lever at shooting arm, angle of release of ball, projection of the ball, Movement easiness in minimizing energy used, minimization of inertia, maximizing the acceleration path etc. are few biomechanical principles used in jump shot. Purpose of this study was to find out the correlation of projection of ball during jump shoot and success rate of jump shoot in Handball.

### Methodology

Jump shot skill was analysed with the help of rating scale in which Jump shot was bifurcated in several sub skills as Approach (Run-up), Take-off Contact, Shoot (Projection and release of the ball), Landing. To analyse the jump shot accurately, the camera was mounted on a fixed tripod, on a level ground and aiming at the subject. The camera was place 10 meters perpendicular to the take-off area. Slow motion playback was used to make the accurate rating of the skill. The 15 subjects from KKM club from Pune were selected for this study and were briefed about performing in front of a camera. Each player was given ten attempts to shoot from left in, centre back and right in position in Handball and their success ratio was seen along with the projection of the ball. This research was carried out following survey method and convenience sampling method was used for selecting the sample (n=15). Data was collected using rating scale as a tool. Data was recorded and statistical analysis was done for conclusions.

### Analysis and Conclusion:

**Table 1 :** Cross tabulation of Successful and Unsuccessful attempts with projection of the ball

		Success		Total
		Unsuccess	Success	
Projection	Poor	4	3	7
	Average	24	47	71
	Good	20	45	65
	Excellent	4	11	15
Total	52	106	158	

**Table 2 :** Correlation of Projection of the Ball and Success Ratio

	Successful Jump shot
Projection of the Ball	0.84

The above table shows the correlation coefficient of Projection of the ball and success ratio of the handball jump shot from various positions is 0.85 which is significant at 0.05 level. Hence it is concluded that whenever ball projection is good or excellent then player have good chance of having successful jump shot.

## Discussion

Team handball is one of the fastest sports, where players need to have a better Explosive Strength, Muscular Strength, Agility and Speed. Specially during shooting, player has to release the ball in correct way to make successful attempt along with the speed of the ball in correct direction.

Thus, this study can be used in finding out the efficiency of the jump shoot. An evaluation of player's information of shoot and its comparison with the projection of the ball help us to identify weakness and strengths in the execution of jump shoot.

Further biomechanical analysis may help to understand correct angle of release during shoot or position of the body in the air during shoot.

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