

Handball playing ability: A case study of college level players

Ashok Kumar

PGT Physical Education, DAV, Safidon, Haryana, India

Abstract

Presently sports has become an important part of the education system. Handball is one of the important games and being played throughout the world. It is an Olympic game. The success in handball is determined by some basic abilities which include strength, power, competence, endurance and speed. It has been reported that showed a significant effect of the intertwined strength and speed training on speed of movement.

Speed has been reported as an important ability in the good performance in the handball athlete. Similarly, it was also revealed that experience is an important component in terms of the athlete. It has been studied that that reaction time is influenced by the following factors like body height, training level and dominant hand.

Keywords: handball, game and player

Introduction

Handball is an important Olympic game where success is determined by basic abilities such as strength, power, speed and endurance. It has been reported that handball players and baseball players demonstrated faster reaction times than non-training people. Studies have revealed that handball players presented a much higher level of the abilities than non-training people, and the differences observed between the groups were statistically significant.

During the last 30 years, handball has undergone a major development from a relatively slow ball sport into a more dynamic game with high speed and intensity including a great amount of physical confrontations between players. Now handball is being played aggressively. Its speed has also been increased. With changing rules handball has become so excited. No game has got so transition as the handball during the years, this makes it so interesting.

For getting success in handball, a player must possess viz.

1. Technical
2. Tactical
3. Psychological/social
4. and physical characteristics

During the present days handball has become faster and more physically demanding game with a substantially higher number of attacks and goals per match.

Handball has come to India in the year 1971, then team India toured to various countries for the participation viz. China in 1979 and Germany in 1982. In 1982 team India also participated in the Asian Games in 1982. During the present days, India is a rising country, more and more persons are involved and showing interesting in the game. Various Indian organizations and federations are organizing tournaments in tehsil, district and in state levels. Similarly, Indian Handball Federation is organizing matches at national level for both

males and females.

Martin (1979) and Mathew (1981) in their studies have reported that in handball and in other games performance is determined by endurance strength, flexibility and power.

Singh conducted a detailed study on the athletes which determine that high level of strength, static strength of arms, cardio-respiratory, endurance and leg explosive strength, Dynamic flexibility and coordination scores indicated lowest fitness among the athletes as compared to non-athletes.

Bayios *et al.* have reported that female basketball, volleyball, handball players and basketball player were found to be significantly taller, heavier as compared to non-athlete.

Rosch *et al.*, (2000) have revealed that the most important variables for measuring performance in handball are physical condition, technical skills and tactical performance.

Farrow *et al.*, (2005) in their studies have determined that high performance athletes involved in multidirectional (agility) sports have demonstrated superior decision- making strategies over less skilled athletes during reactive agility tasks involving sport related stimuli.

Various studies have revealed that women's handball and their players are very similar to those of the men's game, with high levels of aerobic capacity.

With India doing satisfactory in the games and Government is also framing new policies to make progress in sports. But the pace of improvement is very slow as compared to the pace improvement of other countries of the world. European countries with small population have made a great achievement and success in the sports. They have adopted a positive strategy to improve the games. Various scientific methods have been applied by these countries in order to make progress. Nation India also must should implement the scientific techniques in order to gain momentum in the sports. It has become most urgent to find out existing situation and

explore the short comings which are responsible for the poor performance in the field of games and sports.

Analysis in handball related to performance is difficult, because its results are determined by both the team as well as individual's performance. When as a team unit, handball is strongly influenced by tactical concepts in offence and defense as well as social/ mental factors within and outside the team.

Review of Literature

Various research scholars have studied the playing ability of the handball athletes viz, Needhiraja and Kalidasan (2011) [10, 11] they conducted survey related to the handball players and observed different results, the height was directly related to play

Natarajan and Vijayaragavan (2011) [10, 11] predicted the Handball playing ability from selected psychological variables among college level Handball players. They reported that there are various variables which determine the performance of the athlete. The various variables were height, speed, muscular strength, palm length, palm breadth and determine these variables are directly responsible for the performance of the athlete. Similar results were also observed by the numbers of research authors.

Similarly, Needhiraja (2011) [10, 11] has reported that various physical and psychological variables viz. Body mass, Length, Body height, arm span, arm length & hand span and Girth are directly related to the performance. These were found some common anthropometrical variables in the athlete of handball. The performance was mainly determined by these factors.

Similarly it was also revealed that height, arm span, arm length and hand span become the common anthropometrical characteristics which can predict the playing ability in Handball players.

Johnson and Melson (1982) [21] in their studies have determined that motor performance increases the performance of the athlete. Various motor abilities are:

1. Speed
2. power
3. agility
4. endurance
5. strength
6. ball passing
7. reaction time
8. and flexibility

These are motor abilities have been reported to increase the performance of the athletes. The more the motor abilities the more the performance.

Table 1: Different variables

S. no.	Variables
1	Height
2	Arm length
3	Palm length
4	Palm breadth
5	Humerus breadth
6	Femur breadth
7	Vital capacity
8	Resting heart rate
9	Diastolic blood pressure
10	Peak expiratory flow rate
11	Speed
12	Agility
13	Flexibility
12	Muscular strength
13	Anxiety
14	Girth

Some important variables for handball playing ability

Length measurements	Height, arm length hand length hand breadth palm length
Breadth measurements	Humerus breadth and Femur breadth
Physiological variables	Cardiovascular endurance resting heart rate Peak expiratory flow rate and Breath holding time.
Girth measurements	Arm girth relaxed Arm girth flexed Chest girth Waist girth
Physical variables	Speed Agility Flexibility Leg power Endurance

Physical Fitness

Strength

Methew and Fox (1976) have stated that the muscular strength is the combination of the force, tension of the muscle which that muscle can exert against resistance in one maximum effort.

While Phillip and Harnek (1979) have defined strength is the total power of the muscles attained by a single maximum effort.

Endurance

Endurance has been defined as the combination of the respiratory/circulatory systems to adjust during different peaks of exercise and recover thereafter. (Phillips. D. Allen et. al 1979)

Agility

Johnson and Nelson, (1982)^[21] have defined agility under the physical ability by which an individual change its position from one place to other in quick time.

Speed

Borrow (1977) have determined that speed is the potential or ability of an individual to cover the distance or the move in fat movement. In sports an athlete should have this ability. As the games in the present days are too fast, so the athlete should possess high amount of the speed.

Flexibility

Johnson and Nelson (1982)^[21] have reported that flexibility is one of the important components for the individual or an athlete. The flexibility is the capability of an individual to move its body and the body parts. The flexibility helps an individual to gain the momentum during the playing time.

Conclusion

1. In conclusion, the present study reveals that the success in handball is determined by some basic abilities which include strength, power, competence, endurance and speed. It has been reported that showed a significant effect of the intertwined strength and speed training on speed of movement
2. Similarly, it was also revealed that experience is important component in terms of the athlete. It has been studied that that reaction time is influenced by the following factors like body height, training level and dominant hand

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