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An analytical study of agility between volleyball players and handball players of senior secondary school

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Abstract

The objective of this study to compare the Agility between Volleyball Players and Handball Players of Senior Secondary School. 60 Players were selected for this study in which 30 Volleyball players (Boys) and 30 Handball players (Boys) of Senior Secondary School. T-test Agility test was used to measure the Agility between Volleyball Players and Handball Players. Independent 't' test used as a statistical technique. The level of significance was set at 0.05. This study shows that the Volleyball players were have good Agility compare to Handball players of Senior Secondary School, there was a statistical significant difference found between Volleyball Players and Handball Players of Senior Secondary School.

Keywords: Volleyball, handball, agility

Introduction

Agility is the ability of an individual to react to changes in direction without loss of speed or accuracy. The expression that someone can "stop on a dime" describes the ability of an athlete to sprint at maximal velocity and rapidly changed direction without reduction in speed. Agility is often used to describe the ability of an athlete to change from one type of movement to another (Hoffman, 2002) [2]. Volleyball is one of the world's most popular sports. It is a fast paced indoor team sport, requiring good levels of skill, speed, agility and endurance (Home of Volleyball, 2014) [12]. Players will be expected to sprint for distance of up to approximately 90 feet. Changing direction quickly and maintaining balance are also paramount to proper play. Participants are expected to hold their hands above their heads for extended periods of time. For these reasons, agility, balance, speed and upper body strength are necessary for success (Volleyball Fitness, 2014) [6]. Handball is India's second most popular sport (Handball in India, 2014) [8]. Agility is an essential attribute if a Handball player is going to give 100% effort and commitment during a match (Soccer Agility, 2014). Handball refers to a number of sports that involve, to varying degrees, kicking a ball with the foot to score a goal (Handball, 2014). In Handball, an agile player can respond quicker to an opposing player, closing down or jockeying. An agile player has the ability to explosively brake, change direction and accelerate again (Soccer Agility, 2014).

Objective

The objective of this study was to compare agility between Volleyball Players and Handball Players of Senior Secondary School.

Volleyball

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. It has been a part of the official program of the Summer Olympic Games since 1964.

Competitive teams master six basic skills: serve, pass, set, attack, block and dig. Each of these skills comprises a number of specific techniques that have been introduced over the years and are now considered standard practice in high-level volleyball.

Serve

Setting up for an overhand serve. A player making a jump serve.

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A player stands behind the inline and serves the ball, in an attempt to drive it into the opponent's court. His or her main objective is to make it land inside the court; it is also desirable to set the ball's direction, speed and acceleration so that it becomes difficult for the receiver to handle it properly. A serve is called an "ace" when the ball lands directly onto the court or travels outside the court after being touched by an opponent.

Pass

A woman making a forearm pass or bump.

Also called reception, the pass is the attempt by a team to properly handle the opponent's serve, or any form of attack. Proper handling includes not only preventing the ball from touching the court, but also making it reach the position where the setter is standing quickly and precisely.

Set

The set is usually the second contact that a team makes with the ball. The main goal of setting is to put the ball in the air in such a way that it can be driven by an attack into the opponent's court. The setter coordinates the offensive movements of a team, and is the player who ultimately decides which player will actually attack the ball.

Attack

The attack, also known as the spike, is usually the third contact a team makes with the ball. The object of attacking is to handle the ball so that it lands on the opponent's court and cannot be defended. A player makes a series of steps (the "approach"), jumps, and swings at the ball.

Block

Blocking refers to the actions taken by players standing at the net to stop or alter an opponent's attack.

A block that is aimed at completely stopping an attack, thus making the ball remain in the opponent's court, is called offensive. A well-executed offensive block is performed by jumping and reaching to penetrate with one's arms and hands over the net and into the opponent's area. It requires anticipating the direction the ball will go once the attack takes place. It may also require calculating the best foot work to executing the "perfect" block.

Dig

Digging is the ability to prevent the ball from touching one's court after a spike or attack, particularly a ball that is nearly touching the ground. In many aspects, this skill is similar to passing, or bumping: overhand dig and bump are also used to distinguish between defensive actions taken with fingertips or with joined arms. It is especially important while digging for players to stay on their toes; several players choose to employ a split step to make sure they're ready to move in any direction.

Handball

Handball is a team sport in which two teams of seven players each (six outfield players and a goalkeeper) pass a ball to throw it into the goal of the other team. A standard match consists of two periods of 30 minutes, and the team with the most goals scored wins.

Modern handball is usually played indoors, but outdoor variants exist in the forms of field handball and Czech handball (which were more common in the past) and beach handball (also called sandball).

The game is quite fast and includes body contact as the defenders try to stop the attackers from approaching the goal. Contact is only allowed when the defensive player is completely in front of the offensive player, i.e. between the offensive player and the goal. This is referred to as a player sandwich. Any contact from the side or especially from behind is considered dangerous and is usually met with penalties. When a defender successfully stops an attacking player, the play is stopped and restarted by the attacking team from the spot of the infraction or on the nine meter line. Unlike in basketball where players are allowed to commit only 5 fouls in a game (6 in the NBA), handball players are allowed an unlimited number of "faults", which are considered good defence and disruptive to the attacking team's rhythm.

Goals are scored quite frequently; usually both teams score at least 20 goals each, and it is not uncommon for both teams to score more than 30 goals. This was not true in the earliest history of the game, when the scores were more akin to that of ice hockey [clarification needed]. But, as offensive play has improved since the late 1980s, particularly the use of counterattacks (fast breaks) after a failed attack from the other team, goal scoring has increased.

Origins and Development

There are records of handball-like games in medieval France, and among the Inuit in Greenland, in the middle Ages. By the 19th century, there existed similar games of håndbold from Denmark, házená in the Czech Republic, hádzaná in Slovakia, gandbol in Ukraine, torball in Germany, as well as versions in Uruguay.

The team handball game of today was formed by the end of the 19th century in northern Europe, primarily Denmark, Germany, Norway and Sweden. The first written set of team handball rules was published in 1906 by the Danish gym teacher, lieutenant and Olympic medalist Holger Nielsen from Ordrup grammar school north of Copenhagen. The modern set of rules was published on 29 October 1917 by Max Heiser, Karl Schelenz, and Erich Konigh from Germany. After 1919 these rules were improved by Karl Schelenz. The first international games were played under these rules, between Germany and Belgium for men in 1925 and between Germany and Austria for women in 1930. Therefore modern handball is generally seen as a game of German origins.

In 1926, the Congress of the International Amateur Athletics Federation nominated a committee to draw up international rules for field handball. The International Amateur Handball Federation was formed in 1928, and the International Handball Federation was formed in 1946.

Men's field handball was played at the 1936 Summer Olympics in Berlin. During the next several decades, indoor handball flourished and evolved in the Scandinavian countries. The sport re-emerged onto the world stage as team handball for the 1972 Summer Olympics in Munich. Women's team handball was added at the 1976 Summer Olympics. Due to its popularity in the region, the Eastern European countries that refined the event became the dominant force in the sport when it was reintroduced.

The International Handball Federation organized the men's world championship in 1938 and every 4 (sometimes 3) years from World War II to 1995. Since the 1995 world championship in Iceland, the competition has been every two years. The women's world championship has been played since 1957. The IHF also organizes women's and men's junior world championships. By July 2009, the IHF listed 166

member federations - approximately 795,000 teams and 19 million players.

Gameplay Formations

Players are typically referred to by the position they are playing. The positions are always denoted from the view of the respective goalkeeper, so that a defender on the right opposes an attacker on the left. However, not all of the following positions may be occupied depending on the formation or potential suspensions.

Offense

- Left and right wingman. These typically excel at ball control and wide jumps from the outside of the goal perimeter to get into a better shooting angle at the goal. Teams usually try to occupy the left position with a right-handed player and vice versa.
- Left and right backcourt. Goal attempts by these players are typically made by jumping high and shooting over the defenders. Thus, it is usually advantageous to have tall players for these positions.
- Center backcourt. A player with experience is preferred on this position who acts as playmaker and the handball equivalent of a basketball point guard.
- Pivot (left and right, if applicable). This player tends to intermingle with the defense, setting picks and attempting to disrupt the defense formation. This positions requires the least jumping skills but ball control and physical strength are an advantage.

Defense

- Far left and far right. The opponents of the wingmen.
- Half left and half right. The opponents of the left and right backcourts.
- Back center (left and right). Opponent of the pivot.
- Front center. Opponent of the center backcourt, may also be set against another specific backcourt player.

Offensive play

Attacks are played with all field players on the side of the defenders. Depending on the speed of the attack, one distinguishes between three attack waves with a decreasing chance of success:

First wave

First wave attacks are characterized by the absence of defending players around their goal perimeter. The chance of success is very high, as the throwing player is unhindered in his scoring attempt. Such attacks typically occur after an intercepted pass or a steal and if the defending team can switch fast to offense. The far left/far right will usually try to run the attack as they are not as tightly bound in the defense. On a turnover, they immediately sprint forward and receive the ball halfway to the other goal. Thus, these positions are commonly held by quick players.

Second wave

If the first wave is not successful and some defending players gained their positions around the zone, the second wave comes into play: The remaining players advance with quick passes to locally outnumber the retreating defenders. If one player manages to step up to the perimeter or catches the ball at this spot he becomes unstoppable by legal defensive means. From this position the chance of success is naturally very

high. Second wave attacks became much more important with the "fast throw-off" rule.

Third wave

The time during which the second wave may be successful is very short, as then the defenders closed the gaps around the zone. In the third wave, the attackers use standardized attack patterns usually involving crossing and passing between the back court players who either try to pass the ball through a gap to their pivot, take a jumping shot from the backcourt at the goal, or lure the defense away from a wingman.

The third wave evolves into the normal offensive play when all defenders reach not only the zone but gain their accustomed positions. Some teams then substitute specialized offense players. However, this implies that these players must play in the defense should the opposing team be able to switch quickly to offense. The latter is another benefit for fast playing teams.

If the attacking team does not make sufficient progress (eventually releasing a shot on goal), the referees can call passive play (since about 1995, the referee gives a passive warning some time before the actual call by holding one hand up in the air, signalling that the attacking team should release a shot soon), turning control over to the other team. A shot on goal or an infringement leading to a yellow card or two minute penalty will mark the start of a new attack, causing the hand to be taken down, but a shot blocked by the defense or a normal free throw will not. If it were not for this rule, it would be easy for an attacking team to stall the game indefinitely, as it is difficult to intercept a pass without at the same time conceding dangerous openings towards the goal.

Defensive play

The usual formations of the defense are 6-0, when all the defense players line up between the 6 meter and 9 meter lines to form a wall; the 5-1, when one of the players cruises outside the 9 meter perimeter, usually targeting the center forwards while the other 5 line up on the six meter line; and the lesser common 4-2 when there are two such defenders out front. Very fast teams will also try a 3-3 formation which is close to a switching man-to-man style. The formations vary greatly from country to country and reflect each country's style of play. 6-0 is sometimes known as "flat defense", and all other formations are usually called "offensive defense".

Material and methods selection of subjects

For the purpose of this study 60 students were selected in which 30 Volleyball players (Boys) and 30 Handball players (Boys) between 16 to 18 years of age were selected from Senior Secondary School, through purposive sampling technique.

Selection of variable

Agility criterion measure

T-test Agility test was used to measure the agility of the subjects or players. Equipment required: tape measure, marking cones, stopwatch.

Statistical technique

Independent t- Test used as a statistical technique for the data analysis. The level of significance was set at .05.

Result and Discussion

Table one Show that the average value of Agility for Volleyball players 12.204 and for Handball players 13.82.

Standard deviation for Volleyball and Handball players 1.61 and 2.15 respectively.

Table 1: Showing descriptive statistics for agility between volleyball players and handball players of senior secondary school

T-test agility		
Statistics	Volleyball	Handball
Mean	12.203667	13.82
Standard Error	0.2948997	0.393027155
Standard Deviation	1.6152324	2.152698387
Kurtosis	-0.2281692	-0.81765447
Skewness	0.588489	0.291546082
Range	6	7.57
Minimum	10	10.45
Maximum	16	18.02
Sum	366.11	414.6
Count	30	30

Table 2: Showing significance difference for agility between volleyball players and handball players of senior secondary school

S. No.	Subjects	N	Mean	S.D.	df	't' ratio
1.	Volleyball Player	30	12.204	1.61		
2.	Handball Player	30	13.82	2.15	58	3.29

Table two shows that significance difference was found between the mean of Volleyball players and Handball players. Calculated 't' value was 3.29 at 0.05 level of significance it shows that significant difference because this calculated value is higher than the tabulated 't' value of 2.00.

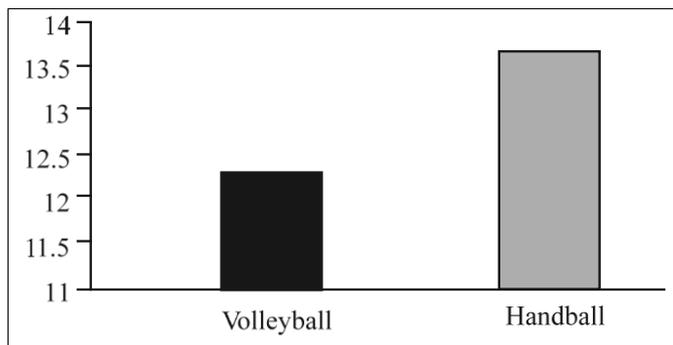


Fig 1: Showing significance difference for agility between volleyball players and handball players of senior secondary

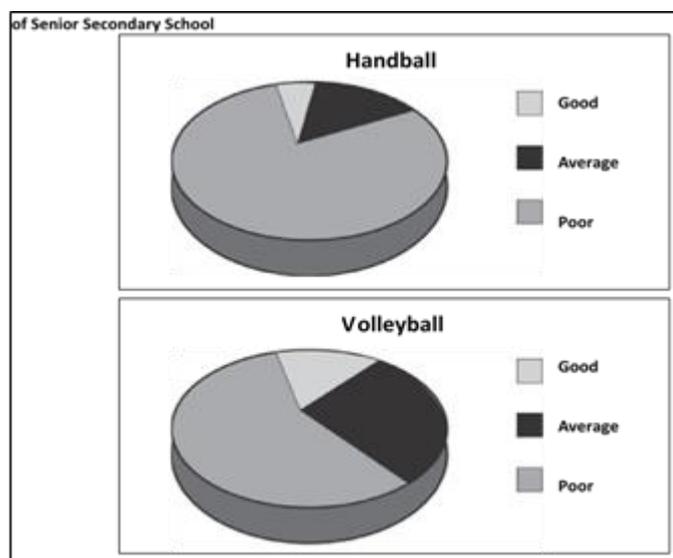


Fig 2: Showing frequency distribution for agility between volleyball players and handball players

Frequency distribution of Agility between Volleyball Players and Handball Players of Senior Secondary School the graph two Shows that 17% Volleyball players belonged to Good category, 3% Handball players belonged to Good category, 23% Volleyball players belonged to Average category, 14% Handball players belonged to Average category 60% Volleyball players belonged to Poor category and 83% Handball players belonged to Poor category.

Conclusion

On the basis of obtained result it was concluded that, the Volleyball players have good Agility as compare to the Handball players. There was a statistical significant difference was found between Volleyball players and Handball players of Senior Secondary School. Agility training must be given to Handball players of School to improve the game performance and also for Volleyball players to improve more.

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