International Journal of Yoga, Physiotherapy and Physical Education
ISSN: 2456-5067; Impact Factor: RJIF 5.24
Received: 13-02-2019; Accepted: 16-03-2019
www.sportsjournal.in
Volume 4; Issue 3; May 2019; Page No. 30-31

A study of relationship between selected physical fitness with playing ability of university level handball players

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Abstract
The objective of the present study to find out the relationship of selected physical variables with playing performance among university level handball players. Thirty (30) handball players from university level were selected as participant of the study. The participants were tested on selected physical variables such as agility, flexibility and were associated with playing performance. The Pearson product moment correlation was used to analysis the data. The level of $p \leq 0.05$ was considered significant. The result of the study revealed that selected physical variables had significant relationship with playing performance among university level handball players. Ravikumar & Srinivasa (2012) studied on "Comparative Analysis of Selected anthropometric And Physical Fitness Variables among Handball Players and they found significant difference between physical fitness and anthropometric measurement. The result of the present study also revealed that relationship is not strong its moderate type of relation.

Keywords: handball, fitness, handball players & playing ability

Introduction
Physical fitness is basic requirement for any sports activity. Motor fitness is defines that an athlete able to execute effectively during any physical activity or sports activity. Motor fitness is important as it allows greater freedom of body movement and helpful for the maintenance of working capacity of the body for a longer time. Handball is the world's most famous sport and played in every nation. In sixty minutes game all players frequently move on the ground. Nature of the sport is players moves every time on toes. Fitness is the basic to perform the skills in any games in the actual situation. Today's game demands best fitness from all players and for best fitness specific training and fitness components requires. Physical fitness implies that the body system is capable of carrying on their activities satisfactorily. It is one of the basic elements which are essential for better performance. To improvement of players performance in various games fitness activity such as speed, strength, endurance, reaction time, balance, agility and coordination, Physical fitness measurements plays an active role (Maillot & Hartley, 2012). Agility is the ability to change the direction or its body parts very quickly. Quick starts and stop and changing direction fast are the fundamental of the handball performance.in the game of handball diverting of the ball occurs very frequently, the players must be ready to receive the ball and act accordingly for that agility required. Flexibility is the ability of joint with full range of movement. Kicking, passing, jump and receive, dribbling, shooting, heading and other skills required flexibility. Bandhopadhyay, Pathikrit, Murma and Biswanath (2015) [2] also made a study on selected physical fitness components of handballer. They found significant difference on selected physical fitness components. The purpose of the study to find out relationship among selected physical fitness variables and playing ability.

Methods
To achieve the purpose of the study 30 university level handball players were selected from various north zone university tournament. The age ranged of the selected subject between 19-24 years. The selected handball players had an average of four years of handball training and having plenty of match experiences and they are representing their university handball team.
The following Physical variables were selected for this study.
Physical Variables
- Agility
- Flexibility

Performance Variable
- Playing Ability

Criterion Measures
The following criterion measures were adapted to
1. Agility were measured by 4X10 meter shuttle run.
2. Flexibility were measured by Bridge-up test (without flexo measure)
3. A panel of three coaches (judges) was formed to assess the playing ability of Handball player by using 10 points scale during match.

Findings
The scores on each of the independent variables of physical variables were correlated with criterion variable, the score on playing ability in order to find out the relationship between the dependent and independent variable which is presented in the following tables. Mean and Standard deviations were calculated for each of the selected variables. The inter-relationship among the selected physical variables were computed by using Pearson' product-moment correlation coefficients. The level of significance was set at $P > 0.05$.

Table 1: Descriptive statistics of university level handball players

S. No.	Variables	Mean	SD
1.	Agility	7.61	0.88
2.	Flexibility	15.73	1.57
3.	Playing ability	7.40	0.98

Table 1 showed the descriptive analysis of mean and standard deviation. The mean of agility, flexibility and playing ability 7.61, 15.73 and 7.40 respectively. The standard deviation of agility, flexibility and playing ability 0.88, 1.57, and 0.98 respectively.

Table 2: Relationship of Selected Physical Variables with Playing Ability among university level handball players

Variables	Correlation Coefficient (r)
Agility & playing ability	0.371
Flexibility & playing ability	0.376

Table 2 shows that the obtained "r" values for agility & playing ability 0.371 and flexibility & playing ability 0.376 and table value "r" of 05 level of significance with 28 degree of freedom is 0.361. The selected variables agility & playing ability and flexibility & playing ability were found to be higher than the table value.

Result and Discussion on the Finding:

The result of the study revealed that there were significant relationship between agility & playing ability and flexibility & playing ability of university handball players. The calculated value is higher than the tabulated value and its found significant relationship, the study calculated value obtained 0.371 and 0.376 which shows the moderate relationship between the playing ability and flexibility & agility.

Conclusions

Based on the above discussion, it was concluded that the selected physical variables had significant and moderate relationship with playing ability of university level handball players.

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