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Anthropometric measurements and their relation to agility ability with intercollegiate football male players

Dr. Sudhakara G
Physical Education, Teacher Sri Prabulingaswamy High School, Hiremagalore, Chikkamagalore, Karnataka, India

Abstract
The purpose of the present study to examine the relationship of agility ability with selected anthropometric variables of football male players. For this purpose the researcher selected 30 football ball male players from Shri Devi group of educational institutions. Tum kur (Karnataka) and those players who represented this institution at inter-collegiate tournament and age ranged from 18-25 years. The data was collected through applying the tests: 10x4 meter shuttle run test for agility ability And selected anthropometric variables such as Body weight was measured by weighing machine and the score was measured in kilograms. Standing Height was measured by stadio meter and the score was measured in cm. Leg length, thigh girth and calf girth were measured by gullick tape and scores was recorded in cm. For the relationship of agility ability with selected anthropometric variables Pearson Product Moment coefficient test were applied at 0.05 level of significant. All statistical analysis was done using MS Excel and SPSS version 16.0.The result of the present study showed that there was significant relationship found in selected anthropometric variables such as Height(r=.451), weight(r=.446), and leg length(r=.448), and insignificant relationship found in thigh girth (r=.322) and calf girth (.336) of Shri Devi group of educational institutions. Tum kur (Karnataka) inter collegiate football male players in relation to agility ability.

Keywords: agility ability, anthropometric. football

1. Introduction

Anthropometric and physical qualities have the potential situation and best essentials in the execution perfection in numerous games and sports. Anthropometric variables are one of those factors which is influence the sports and physical activity of an individuals. These Anthropometric dimensions and morphological characteristics play an important role in determining the success of an athlete. (Reco-Sanz, 1998; Wilmore & Costill, 1999) [9, 12]

Anthropometrics measurements were central concerns of the period of the experimental time of estimation, which started in the 1860 concerned on three regions development measure body type and body composition. All the movements are based upon the basic forms of running, jumping and throwing. These movements require well proportionate physique and all types of physical fitness qualities on the part of every player. (Nagar, L., Meena, D. S., & Singh, B., 2012) [8]

Anthropometric assessment comprises of target estimations of structure and capacities of the body. The assessment of the structure incorporates things, for example, weight, all out stature and width, the profundity and circumferences of the chest etc. After an intensive study of anthropometric measures of Olympic athletes, Garay, Levine and Lindsay Carter concluded that level of performance in a particular event demand a particular type of body size and shape, other aspect being similar, they established high relationship between structure of an athlete and the specific task (event) in which he excelled. (Garay & Carter, 1974) [5].

The word physical fitness and motor fitness are often used interchangeably. The term motor fitness was developed to describe a broad concept than physical fitness. This extensive term means the ability to perform basic motor skills efficiently and effectively. Motor fitness is an important component for an athlete in order to obtain optimal performance in sports. The level of motor abilities components is of prime ' importance for learning of various activities and perfection of different skills. Traditionally motor abilities have been viewed as a combination of factors that are basic to all moments. All the factors of motor ability are chiefly concerned with the ability of the player and his capacity of action. The level of motor ability is the prime importance for learning various general activities and perfection of different skills in various sports and physical activities. Motor ability is sometimes used to mean achievement of basic motor skills. It also indicates present athletic ability.

General motor ability may be defined as, motor fitness including neuromuscular coordination abilities or motor control by eye hand coordination, eye foot coordination and whole body movement coordination. Sometimes general motor fitness is also defines as one's inherent potential to perform vigorous motor activities with best speed, strength, endurance, flexibility, agility and quick reaction time. Thus, when we use the term general motor ability, we are talking about basic motor fitness and general body coordination skill needed in various sports, athletics and gymnastics activities. Sports Specific motor ability may be defined as, general motor ability plus excellence in specific sports skills in the game of one's specialization. Thus sports specific motor ability is the culmination of all fitness components i.e. skill ability, motor control and motor educability testing. If a sports person has good specific and general motor ability then he can perform better at higher level. In order to improve performance in

sports.

Barrow and Me Gee (1979) [3] say that agility plays an important role in physical activities and it is revealed to a great extent in sports and games involving efficient footwork and quick change in body position such as in basketball, football, tennis etc.

Football is probably the world's most popular sport, played in practically every nation at varying levels of competence. Football may be played competitively or for fun, as a career, a means of keeping fit or simply a recreational pursuit (Reilly, 1996). Modem football is very fast in its nature, the spectators and the players enjoy the game of football with a great amount of merriment. It is a game of constant action and requires continuous adaptation to changing situation by the team as a whole as well as by the individual players. Although it is a team game, there is an ample room for players to display their brilliance through team play involving improvisation and tactical knowledge.

The main purpose of the present study to find out the relationship of agility ability with selected anthropometric variables of football male players.

2. Methodology

2.1. Selection of Subjects

To achieve the purpose 30 football ball male players from ShriDevi group of educational institutions. Tumkur (Karnataka) and those players who represented this institution at intercollegiate tournament and age ranged from 18-25 years.

2.2. Administration of Tests

Agility ability was measured by applying the 10x4 meter shuttle run test the score was measured in seconds. And selected anthropometric variables such as Body weight was measured by weighing machine and the score was measured in kilograms. Standing Height was measured by stadiometer and the score was measured in cm.leg length, thigh girth and calf girth were measured by gullick tape and scores was recorded in cm. For the relationship of agility ability with selected anthropometric variables

2.3. Statistical Analysis

To determine whether relationship among the research variables exists or not, Pearson Product Moment coefficient test were applied at 0.05 level of significant. All statistical analysis was done using MS Excel and SPSS version 16.0.

3. Results

To establish the Correlation of selected anthropometric variables with agility ability of inter-collegiate football male players, Pearson moment correlation (r) was computed and data pertaining to this has been presented in table-1.

Table 1: Correlation of selected anthropometric variables with agility ability of inter-collegiate football male players

S. No	Variables	r -value
1	Agility Ability And Height(cm)	.451*
2	Agility Ability And Weight(kg)	.446*
3	Agility Ability And Leg Length(cm)	.448*
4	Agility Ability And Thigh Girth(cm)	.322
5	Agility Ability And Calf Girth(cm)	.336

*Level of confidence significant at r 0.05

The table 1 indicates that the calculated 'r' value of selected anthropometric variables; height (cm) (r=.451), weight (kg) (r=.446) and leg length (cm) (r=.448) were found significant relationship with agility ability and thigh girth (cm) (r=.322) and Calf Girth (cm) (r=.336) were found insignificant relationship with the agility ability at 0.05 level of significance. Therefore the above finding shows that the height, weight and leg length are correlated with the agility ability except than thigh girth and calf girth were found insignificant.

4. Discussion

The finding of the study shows that the selected anthropometric variables are significantly related to agility ability of male football players. The finding of the study also supported by Harish, P. M. (2015) [6] conducted a study to examine relationship of anthropometric variables with basketball playing ability and the finding of the study shows that there is a correlation between the selected anthropometric variables and basketball playing ability. Singh, T. N., Nain, B., Reeta., Salam, C., & Singh, S. (2012) [10] conducted a study on a comparative study of anthropometric variables between residential and non-residential school students of Chandigarh and the results shows that there were significant difference found on anthropometric variables (body weight, height, calf circumference and thigh circumference etc.). Kumar, B. T. N., & Urs, S. R. (2012) [7] conducted a study on relationship of selected physical and anthropometric variables with the game performance of college men volleyball players and the results shows the significant with height, leg length, thigh girth and calf girth.

5. Conclusions

On the basis of findings following conclusions have been drawn

Significant relationship found in selected anthropometric variables such as height(r=.451) weight(r=.446) and leg length(r=.448) Insignificant relationship found in thigh girth (r=.322) and calf girth (r=.353) of Shri Devi group of educational institutions. Tum kur (Karnataka) inter collegiate football male players in relation to agility ability.

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