

Association of Lower Body Girths With The Performance of National Level Taekwondo Players

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Abstract

The purpose of the present study was to ascertain the association of thigh and calf girth measurements with the performance of Taekwondo players. The subjects taken for this study were national taekwondo players from all over India. The data for this study was collected during senior national taekwondo championship 2018. The anthropometric data of calf girth and thigh girth is measured using measuring tape. The data collected then was analysed using Pearson product moment correlation coefficient at 0.05 level of significance. The results of the study showed insignificant relationship between Lower body girths and the performances of taekwondo players.

Keywords : sparring, anthropometry, taekwondo, calf girth, thigh girth

Introduction

The name Taekwondo came into known since 1955, whereas the evolution of taekwondo is the result of historical happenings in Korea about 2,300 years ago. During the demonstration of martial arts by the military in 1952, the south korean President Syngman Rhee advised that all the martial art styles need to be merged. Then in 1955, all the masters of several kwans sat down to discuss a single unified name for all the martial art styles. They all came up with the name Tae Soo Do as the unified name for all the styles. Then Choi Hong Hi suggested to use the name Tae Kwon Do by replacing Soo by 'Kwon' which means 'Fist'. Korean soldiers were the very first students to practice Taekwondo. In 1962, Korean Sports Association had recognized the Korean Taekwondo union. Then later the name Korean Taekwondo Union was changed to Korean Taekwondo Association. In May 28, 1973, Dr. Un Yon Kim officially established the governing body of Taekwondo called World Taekwondo Federation in Kukkiwon headquarters at Seoul, Korea. In oct. 8th, 1975, Taekwondo gets affiliated to the General Association of International Sports Federations (GAISF). In 1976, Taekwondo gets affiliated to the International Council of Military Sports (CISM). In July 17, 1980 International Olympic Committee (IOC) gave recognition to the World Taekwondo Federation (WTF) as a recognized sport federation and also selected Taekwondo as demonstration sport in the 1988 and 1992 Olympic games. Then in 2000 Olympic games at Sydney, it was officially included as an Olympic sport. Kyorugi is a full-contact sparring which had been an Olympic event since Sydney Olympic Games in the year 2000. On June, 2017 the name 'World Taekwondo federation' was changed to 'World Taekwondo'. Today, Taekwondo is being practiced in almost 190 countries in the globe and 209 national member

associations are officially affiliated to its organisation 'World Taekwondo' (WT) covering all the five continents of the world. (Ronald A. Southwick, 1998)

Anthropometry is the science which deals with the systematic measurement of the dimensions and proportions of the human body. The anthropometric measurements diagnosed were calf girth and thigh girth. Calf girth is the measurement of the maximum circumference of the calf. Thigh girth is the measurement of the circumference taken at the lateral mid point of the thigh.

Objectives

The objectives were postulated as:-

1. To investigate the relation between Calf Girth and Winning Performance of Taekwondo Players.
2. To analyze the relation between Thigh Girth and Winning Performance of Taekwondo Players.

Hypotheses

The hypotheses of the study were postulated as:-

1. There exists a significant positive relationship between Calf Girth and Winning Performance of Taekwondo Players.
2. There exists a significant positive relationship between Thigh Girth and Winning Performance of Taekwondo Players.

Method & Procedure

This study was conducted on the national and international Taekwondo players of India. The subjects were 25 taekwondo players who plays under fin weight category i.e under 54kg weight. The data for this study was collected during the national Taekwondo championship 2018 which was held at Madhya Pradesh. The sampling technique for selecting the subjects for this study was purposive sampling technique. The independent variables selected for this study were calf girth and thigh girth. And the dependent variable selected for this study was performance of the players in previous senior national championships. The tools used for the measurement of anthropometric data was flexible measuring tape. The girth of calf was measured at the largest circumference of the calf by using flexible measuring tape. For thigh girth the mid-point was marked between the trochanterion and tibiale laterale. The girth was then measured at that marked point by using flexible measuring tape. The data collected for calf and thigh girth of 25 Taekwondo players was then correlated with their performance data using Pearson product moment correlation coefficient at 0.05 level of confidence.

Results

Relation Between Calf Girth and Winning Performance Of Taekwondo Players

The objective was to analyze the relationship between Calf Girth and Performance of Taekwondo players.

Table 1

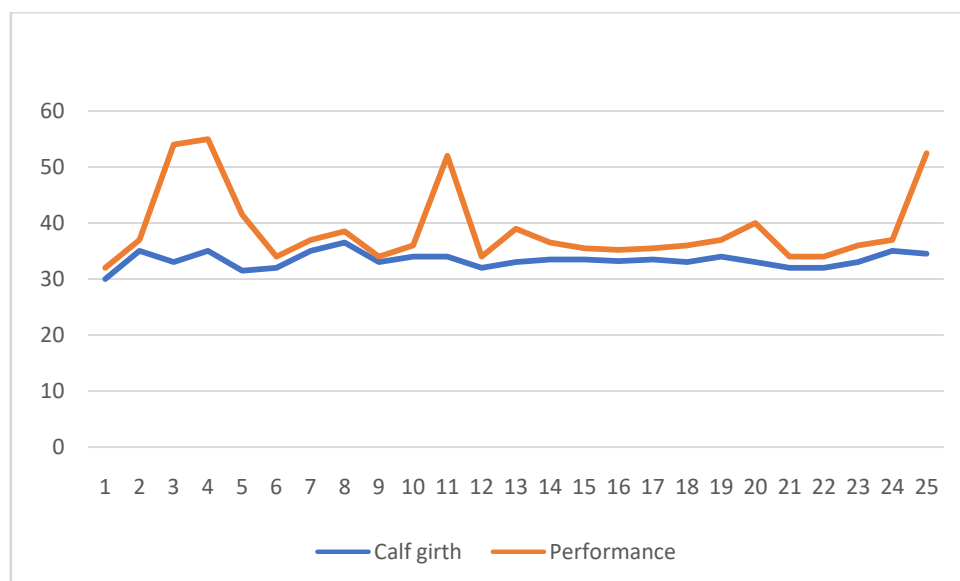
Relationship between Calf Girth and Winning Performance of Taekwondo players

Variables	N	Mean	S.D	df	r-value
Calf Girth	25	33.368	1.386	23	0.153
Performance	25	5.56	6.423		

Table value of r for $df = 23$ at 0.05 level of confidence was 0.396.

Figure 1

Line graph showing the relation of Calf Girth with the Winning Performance of Taekwondo players



Data presented in table 1 indicate that the value of Pearson Product Moment Correlation Coefficient between Calf Girth and Winning Performance for male national

Taekwondo players was 0.153. This was a positive very low correlation and statistically insignificant at 0.05 level of confidence. Thus, the stated hypothesis that there exists a significant relationship between Calf Girth and Performance of Taekwondo players was rejected.

Relation Between Thigh Girth and Winning Performance Of Taekwondo Players

The objective was to analyze the relationship between Thigh Girth and Winning Performance of Taekwondo players.

Table 2

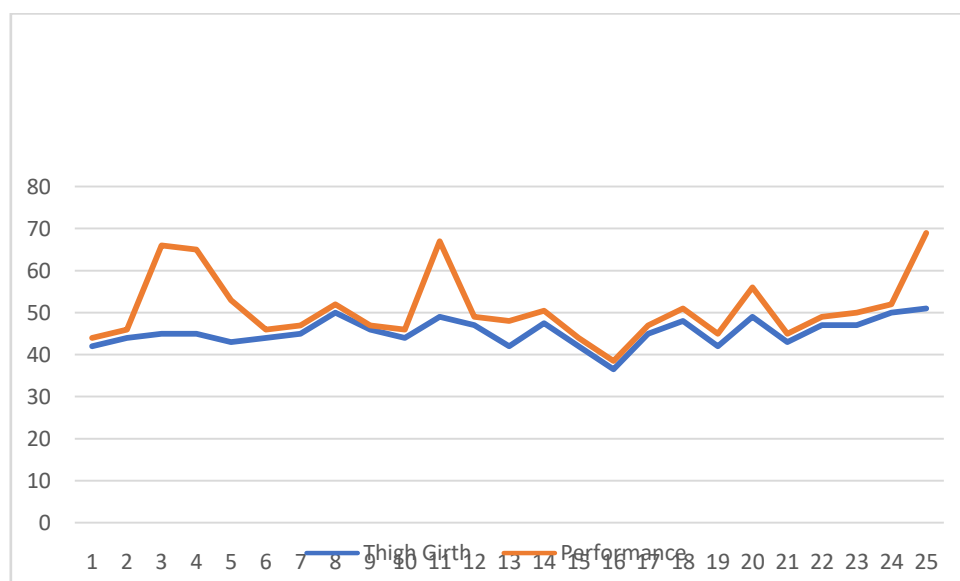
Relationship between Thigh Girth and Winning Performance of Taekwondo players

Variables	N	Mean	S.D	df	r-value
Thigh Girth	25	45.36	3.305	23	0.242
Performance	25	5.56	6.423		

Table value of r for $df = 23$ at 0.05 level of confidence was 0.396.

Figure 1

Line graph showing the relation of Thigh Girth with the Winning Performance of Taekwondo players



Data presented in table 2 indicate that the value of Pearson Product Moment Correlation Coefficient between Thigh Girth and Winning Performance for male national Taekwondo players was 0.242. This was a positive low correlation and statistically insignificant at 0.05 level of confidence. Thus, the stated hypothesis that there exists a significant relationship between Thigh Girth and Winning Performance of Taekwondo players was rejected.

Discussion and conclusion

The statistical results showed insignificant relationship of Thigh Girth and calf girth with the Performance of Taekwondo players. In one of the study “Relationship between anthropometric, physiological and physical characteristics with success of female taekwondo athletes”. The anthropometric and physical data was taken from 40 female elite taekwondo players. The results of the study showed insignificant relation of calf and thigh girth with the performance of taekwondo athletes^[1]. The result of that study was similar with the result of this present. Thigh and calf Girth is the measurement of circumference of Mid Thigh and mid calf which can be due to higher muscle mass or adipose tissue mass. Thus only assessing the girth of Thigh does not assures the correct conclusion of the performance of Taekwondo players. Thus it was concluded that having higher or lower thigh girth and calf girth does not affects their Winning Performance.

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