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Relationship of selected anthropometric variable to the performance in race walking

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Abstract
The purpose of this study was to find out the relationship of selected anthropometric variables to the performance in race walking. The subjects were 5 male race walkers of junior national level with their age ranging between 18-24 years. The anthropometric variables has exhibited significant relationship with the performance of race walking. It may be attributed to the fact that the sample size of the subjects were very small and also the greater radius of rotation provide greater momentum and stride length is depended on greater leg length, but here the arm length and leg length has not shown signi male significant relationship it may be because of other factors.

Keywords: Anthropometric, race walking

Introduction
Walking is cyclic movement in which two consecutive strides of one double stride make up a complete cycle of movement. In a double stride all the separate phases of the walking movement are performed, the new cycle follows without a break. In this cycle both legs have alternatively supporting and driving functions. The cyclic running movement has two main phases: the supporting and the non-supporting phase. The vertical movement, i.e. the vertical projection of the point of support in relation to the body's centre of gravity (CG) is regarded here as the demarcation between the phases. This is the instant when the free driving leg passes the foot bearing the weight of the body. The world of games and sports has crossed many milestones as a result of different types of research and variety of scientific advancement in general and their application in the field of sports in particular. In the modern scientific age athletes are being trained by highly sophisticated means for better achievement in their concerned sports and they are being exposed to the exercise and training methods which have proved beneficial for achieving higher standards. In the recent years, greater stress has been laid on quality rather than the quantity of training. The coaches and teachers of physical education want their athlete to extract maximum achievement from their training procedures without causing too much strain on them [1].

Statement of the problem
The purpose of the study was to investigate relationship of selected anthropometric variable to the performance in walking.

Selection of subjects
In this study 4-6 Male Race Walkers of Junior National Level were selected as subjects for this study. The age of the subjects were ranged between 18- 22 years.

Selection of variables
The following variables are selected for the study:
1. Anthropometric variables
a) Height

[1] Rustom N. Sadri, Effect of Block Spacing on Acceleration Related to the Leg Length of a Sprinter, (Unpublished Master's Thesis, Jiwaji University, April 1990), p.1.

b) Sitting height
c) Leg length
d) Arm length.
e) Body weight

Criterion Measure
The criterion measure chosen for testing the hypothesis of the present study were the performance of 10 km walk.

Reliability of data
To obtain measurement, standard and calibrated equipment like stadiometer, weighing machine, steel tape etc. was used. In order to established reliability the test re-test method was employed.

Collection of data
Anthropometric measurement and performance of Race walking was the part and parcel of collection of data.

Statistical technique
The relationship of selected anthropometric and bio-mechanical variables were correlated with the performance in Race Walking using Pearson's product moment correlation and for testing the hypothesis the level of significance was set at 0.05.

Analysis of data and result of the study
The values of selected anthropometric variables namely weight, height, sitting height, leg length and arm length with the performance of subjects in race walking pearsons product moment correlation was used. The result are presented in Table-1.

Table 1: Relationship of selected anthropometric variables with the performance in race walking

S. No.	Variables	Co-efficient of correlation
	Weight	0.537
	Height	-0.329
	Sitting height	-0.274
	Leg length	0.051
	Arm length	-0.308

*Significant at 0.05 level with df=4
Tab $r_{.05}$ (4) = 0.811

It is evident from table-3 that the correlation co-efficient for the selected anthropometric variables i.e. weight, height, sitting height, leg length and arm length is 0.537, -0.329,-0.274, 0.051 &-0.308 is not significant at 0.05 level of significance. It indicates that there is no significant relationship between selected anthropometric variables and performance of race walking. It may be therefore said that the hypothesis stated earlier that there is no significant relationship of anthropometric variables with the performance of race walking is accepted. Thus it may be concluded that there is no relationship exist between anthropometric variables and performance in race walking.

Discussion of the findings
In case of selected anthropometric measurement none of the anthropometric variables has exhibited significant relationship with the performance of race walking. It may be attributed to the fact that the sample size of the subjects were very small and also the greater radius of rotation provide greater momentum and stride length is depended on greater leg length, but here the arm length and leg length has not shown significant relationship it may be because of other factors.

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