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RELATIONSHIP OF SELECTED KINEMATIC AND ANTHROPOMETRIC VARIABLES TO THE PERFORMANCE OF SET-SHOT IN BASKETBALL

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ABSTRACT:

Training in games and sports is no longer a myth and it has no casual approach. It has been accepted as highly specialized science. The latest approach is aimed at, the construction of a mathematical model, of a skill in a form which is suitable for computer analysis so that it could be simulated under several carefully controlled conditions for predicting more effective techniques for higher performance.

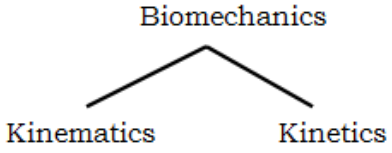
KEYWORDS : *Training in games and sports , mathematical model.*

INTRODUCTION :

As we know basketball was born in the united states in 1891 as a recreational activity and quickly spread, culminating in its debut at the Olympic games in 1936 as a men's sport.

In sports arena photographing human movement is widely employed in bio-mechanics as a means of recording the events. It provides a pictorial record of events analysis is impossible by observation alone. A difficulty of photographic research is the expense of providing the equipments, including the practice and development of films: if the camera is operating at high speed, film will be moved at a rather rapid rate. It will be found that cost mount quickly. Keeping the latest research trends in view scholar had made an attempt to analyse. The Relationship of Selected kinematic and Anthropometric Variables to the Performance of Set Shot in Basketball.

Before hitting the problem directly few terms which will be helpful in understanding the research work needed to be explained are:



Bio-mechanics : it's a science which studies the internal and external forces acting on a human body and the results produced by these forces.

Kinematics : It's a branch of physics concerns with the description of the motion of objects without considering the forces that causes or result from the motions.

SAMPLE

Five male basketball players of university level under the age group 18-23 yrs were selected to act as subjects of the study.

PROTOCOL

The data was collected with the help of sequential photography, with the help of Mikon model EM with motor drive. Kinematical variables of the body are calculated at;

a) Moment stance.
b) Moment Relase.

The center of gravity of the body at both moments was determined by use of segmentation method.*

On the basis of sequence photographs "Stick figures" were developed and from these figures angle of elbow joint, shoulder joint, hip joint, knee joint, ankle joint and body inclination were measured.

STATISTICAL ANALYSIS

Data was analyzed by use of pearson's product moment correlation and first order multiple correlation.

FINDINGS

Analysis of data ascertain the relationship between the selected variables and the performance of players in set shot, found relationship between angle of left ankle joint and the performance in set shot during stance.

In order to determine the effect of more than one independent variable on the dependent variable multiple correlation was calculated and results are shown in table 1:

Table -1
Relationship Between independent variables and the Dependent variable in the technique of set shot.

Coefficient of Correlation		
1) Ankle and knee joint	.86	.96
2) Ankle and Elbow joint	.96	.09
3) Left ankle and Shoulder joint	.99	.69
4) Left knee joint and height of Center of gravity	.96	.68

In nutshell the study confirms that the players flex the ankle during stance while preparing for set shot as well as well flexed shooting arm and its angle at shoulder joint. The center of gravity of the body should be kept at low height at moment stance. During release the player should extend the legs for better performance.

The results of this study were also in agreement with the works of Hudson * and Hudron ** who stated that during release the player pushes the ball in the forward and upward direction by shifting his center of gravity in the forward direction which results in more inclination of torso.

This study revealed that for perfect execution of set shot player should attain a low flexed position at stance and extend his joints of lower and upper extremity during the release and also release the ball at greater height.

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