

**A STUDY ON THE CONTRIBUTION OF BIO-KINEMATICAL VARIABLES IN
PERFORMANCE OF JUMP FLOAT SERVE AMONG THE VOLLEYBALL
PLAYERS OF OSMANIA UNIVERSITY**

BY

AHMED.J.KAWOOSH
Roll No. 1002-10-712-046

Under the Guidance of

PROF. P. VENKAT REDDY
Principal

University College of Physical Education
Osmania University, Hyderabad



Thesis Submitted in Partial Fulfillment for the Award of Degree in

MASTER OF PHYSICAL EDUCATION

UNIVERSITY COLLEGE OF PHYSICAL EDUCATION

Osmania University, Hyderabad, Andhra Pradesh-INDIA

May 2012

SUMMARY OF THESIS

1. INTRODUCTION

The scientific progress of the advantages of our time, as it included all aspects of life including the athlete, who interact with the natural science and humanitarian many to prepare the individual numbers a comprehensive balanced in preparation to get to higher levels in the sporting event of choice, including the preparation of the individual does not take place without this science, must to develop methods and modern methods contribute to the development of all sports, especially volleyball game that you need to create physical and high skill.

As well as that of modern scientific development has led a breakthrough in the field of scientific research in various fields of science and reached to overcome the difficulties that may face this development.

This did not come haphazardly, but came through research and investigation to utilize them in different areas, including the sports field as linked to "close" to science other sports, including flag **Bio-kinematical** who shall disclose errors and provide accurate information that you might not naked eye to see.

Kinetic analysis is only the way we came to know, and help workers in the sports field to detect errors and to work minutes after the measured light of the considerations in the evaluation of specific performance specifications.

The volleyball game contains many of the skills and these skills are skills which open in response to the performance skills of the factors and variables is expected, including the skills of closed conditions where performance is

known in advance and did not need to take quick decisions in response to any unexpected variables.

The **jump float serve** in volleyball of the best and the most difficult serving and the difficulty met by the opposing team because the path of the ball be in a zigzag, which is dangerous to the opponent and thus make a point in addition to that plays an accuracy a key role in the performance of skills and skills of volleyball in particular.

As well as the accuracy of the transmission in the percentage of success, which prompted a lot of adoption and use in the game, especially at critical points of which depends on it the fate of the team.

Therefore, the researcher seeks to explain this kind of important types of transmissions to identify the most important variables and their role in the skill and the percentage of impact.

Which is the most common and widely used by the players for various reasons, including the proportion of security and accuracy in guiding the ball and the selection of the target area.

2. THE STATEMENT OF THE PROBLEM

The jump float serve in volleyball is considered one of the most important skills you require to identify the stages and performance variables through the great development that occurs in a game of volleyball.

Jump float serve in volleyball is a type which is used by many players.

While playing jump float serve in volleyball, the prominent role in the course of the game through the use by some players because of its impact and influence is more than a sign of progress and the results of the match.

Observed the researcher from through followed up the developments in the evolution of the game of volleyball. Note the lack of availability of information about the stages of kinematical performance of the four (approach, flight, hitting, down)

Prompting the researcher to study this topic for answer on the following questions: -

- Is there contribution of the variables **bio-Kinematical** of the stages of performance.
- Is there a difference in the rates of contribution in four stages.

3. OBJECTIVES OF THE STUDY

1. To identify **Bio-kinematical** variables for the four stages (approach, flight, hitting, down) of **jump float serve** in volleyball.
2. To identify Correlation (relationship) between the **bio-kinematical** variables and performance of **jump float serve** in volleyball.
3. To identify Contribution of **bio-kinematical** variables in performance of **jump float serve** in volleyball.

6. HYPOTHESIS

1. There is a significant relationship between the **bio-kinematical** variables and performing of **jump float serve** in volleyball.
2. There is variation in contribution the **bio-kinematical** variables in performing of **jump float serve** in volleyball

7. LIMITATIONS OF THE STUDY

Volleyball Players of Osmania University (20 players) they are represented (71%) from original society.

8. ANALYSED BIO-KINEMATICAL VARIABLES

1. Approach distance
2. Approach speed
3. Final step time
4. Horizontal distance for final step
5. Maximum flexion for knee joint
6. Flight angle
7. Flight speed
8. Distance between elbow and longitudinal axis
9. Angle of maximum trunk bow
10. Angle of wrist joint
11. Angle of elbow joint
12. Angle of shoulder joint
13. Surrounding speed
14. Raise of hip point in moment of hitting ball
15. The distance between leaving of ground and returning to it

9. TEST USED IN THE SEARCH

Assessment the technical performance of **jump float serve**.

Evaluation by professors: Dr. V. Satyanarayana, Dr. Rajesh Kumar and Dr. B. Sunil Kumar.

10. RESULTS:

Contributed Bio-kinematical variables in performance were:

1. Surrounding speed: **38.6 percent**
2. Final step time: **20.3 percent**
3. Flight angle: **9.2 percent**
4. Angle of maximum trunk bow: **9.9 percent**

11. SOME CONCLUSIONS

1. The approach speed and angle of flight and the Angle of maximum trunk bow and raise of hip point in moment of hitting ball with a statistically significant inverse between the performance skills and those variables where the increase of each variable of these variables leads to increase the level of performance of **jump float serve**.
2. The Maximum flexion for knee joint and axis with a statistically significant ejectively correlation between performance skills and variables where each variable increase of variables leads to increase the level of performance of **jump float serve**.

3. The highest percentage contribution for variables bio-kinematical in **jump float serve** is surrounding speed, final step time and then followed flight angle and finally angle of maximum trunk bow.

12. SOME RECOMMENDATIONS

1. Need to focus on the application of the principles and foundations of the mechanical variables bio-kinematical through training modules in line with the requirements of motor performance of **jump float serve** in volleyball.

2. Attention to the grounds on mechanical performance of the four stages (approach, flight, hitting, down) by the trainers during the training modules to enhance the level of serve in the game that includes the presentation and explanation and some illustrative pictures and movies of the skills required.

3. Interest in mechanical and training grounds for the performance of the three stages, namely, (approach, flight, hitting, down) and how to deal with by those concerned to serve the level of serve in the game.

4. Training must be emphasized that achieves true application of the variables bio-kinematical with most ratios to achieve high levels of performance skills first and then the ratios of least impact.

5. Need to focus on some of the variables bio-kinematical which did not achieve high rates of contribution during the training modules to achieve the conditions and requirements of the basic mechanical performance of the motor performance.