

BIOMECHANICAL APPROACH TO THE ANALYSIS OF SOME OF THE TECHNIQUES PERFORMED IN THE HISTORICAL KIRKPINAR

İlhan TOKSÖZ

Trakya University, Kirkpinar School of PE & Sports, Balcan Campus, Edirne
e-mail: toksoz@msn.com

Alınış: 12 Kasım 2009

Kabul Ediliş: 04 Aralık 2009

Abstract: *This study investigates the characterization and analysis of the most used technics of the authentic Turkish Oil Wrestling. The balance-centered biomechanical techniques of "İc Kazık", "Dis Kazık" and "Kaz Kanadı" were used in this study. The subjects, who are active wrestlers for the last 10 years and students of the school of Physical Education and Sport of Trakya Kirkpinar University, were analyzed by the video camera usage. The analysis was made in three phases of the oil wrestling techniques: the "entrance", "performance" and "finishing" phases. The main purpose of the study was the contribute to the coaching techniques methodology of the sport; including the wrestling suit (called kispet), and greasing the total body with oil and three phases of the competition were examined.*

Keywords: *wrestling techniques, Biomechanics, Kazık, Dis kazık, Kaz kanadı.*

Tarihi Kirkpinar'da Uygulanan Bazı Tekniklerin Analizine Biyomekanik Yaklaşım

Özet: *Bu çalışmada, güreşin otantik uygulamalarından ve Yağlı güreşte de en çok kullanılan tekniklerden olan "İç Kazık" "Dış Kazık" ve "Kaz Kanadı"nın denge merkezli biyomekanik yaklaşımla tanımlama ve analizi yapılmıştır. Bu branşta 10 yıllık spor yaşı olan, beden eğitimi ve spor yükseköğrenimi gören sporcuların bu teknikleri uygulamaları video ile kayıt edilerek tekniğe giriş, uygulama ve bitirişten oluşan üç fazının tanımlanması ile, bu branşın teknik eğitim metodolojisine katkı sağlanma amaçlandı. Bu çalışma da incelenen branş (yağlı güreş), müsabaka giysisi (kispet) ve tüm vücudun teknikler sırasında yağlı olarak bulunuyor olması ve üç tekniğin de üç fazlı incelenmesi yeni kayıt olarak değerlendirildi.*

Anahtar Kelimeler: *güreş teknikleri, Biomekanik, Kazık, Dış kazık, Kaz kanadı.*

INTRODUCTION

During the early stages of sport sciences academic discipline the term "Kinesiology" was used. Mechanical principles of human performance were the main interest area of kinesiology research area did not only cover the mechanical principles and skeleton-muscle system movements it was much more than that. The term such as antropomechanic, biodynamic, antropokinetic, biokinetic, homokinetic, kinanthropology were used to describe this area of research. At the end the term "Biomechanics" was accepted by the large number of academicians in this field.

Today, in many sports branches such as football in the first place, but in athletics, cricket, handball, tennis, badminton biomechanics research evaluations started to contribute to the sports performance training methodology. Among these researches Sacripanti examined the motion analysis of sportsmen. This study was named "Browniger motion theory".

Sacripanti in this research studied the dynamics of biomechanical theory of competitive sports. In this study he attempted to classify the forces that affected the technical performances of sportsmen such as (1) force of gravity (2) thrust-pulling forces (3) ground reaction forces (which is caused by friction). He found out that transferring energy to the opponent takes place during the holding phase of the wrestling match. According to the Sacripanti's classification the sport of wrestling in considered "closed system". During this phase the wrestler has to be stable and half flexible contact points (holding). In this type of situation the stable equilibrium can only be based on two wrestlers holding each. This way ground reaction forces are produced by with the result of thrust-pulling forces.(1-9)

The "Static balance-centered approach" in the sport of wrestling and also in the sport of oil wrestling (where wrestlers wear pants called 'kispet'* and grease their total body with olive oil) is considered, according to Sacripanti's (1988) theory, as "closed technique skill and evaluation is made accordingly and it is considered as part of new studies which will take place on "oil wrestling" which is a sport of authentic form of wrestling.

MATERIAL AND METHOD

The basic anatomical description of the term “balance” which makes up the base of humans biomechanics studies according to Alive’s Homo Erectus describes the act of balance “the erect and upright position; the feet are open on the shoulders width; arms are perpendicular and paralleled to each other.” This is the form of the first basic static posture position and called “The Main Basic Posture” (Figure1). Considering this point of view three techniques in the Turkish authentic oil wrestling (Ic Kazik, Dis Kazik and Kaz Kanadi) were taken into the scope of our study. The analysis of three phases: entrance, application and finishing phases were studied.

These three phases performed by the wrestlers were recorded by the video** (as shown below) and were transferred to the computer. On these pictures, with the device of projection, reflecting to the curtain (2m. x 2m.) hanged on the wall, it is worked to the analysis of these techniques which are the forms of performance transformation of sport education. The performance analysis was performed on two male sportsmen (68 kg weigh class) who are student at the Kirkpinar School of Physical Education and Sports. Both are voluntary participants in this study who are active wrestlers for the last 10 years.

The Techniques of Greased Wrestling



Figure 1: The sportmen, in the position of static balance, before the technic education.

Kaz Kanadi:

Entrance phase: This move involves the act of holding. The posture of the wrestler is similar to “cross the breast” hold.



Figure2: Kaz Kanadı Practice

Practice phase: This phase the wrestler aims to spoil and break the balance of the opponent by the wrestler places both hand under the rival's arm pits and it is the presence of rival's head under the armpit or abdomen.

Finishing phase: Includes the action of making the opponent to lose his balance by using two moves called single or double "Kaz Kanadı" moves.



Figure3:Kaz Kanadı Technique Finishing

Kazık:

Entrance phase: In the main motion of "tambour" the wrestler's arm enters into the kispet of the opponent in the form of fist it hold in that position. This move is called "Kazık".

Practice phase: In this phase the wrestler holds the opponent in order to spoil to center of gravity; he applies the force and pulls the opponent towards himself.



Figure 4:Entrance to the technique of Kazık

Finishing phase: This phase involves putting the opponent down by way of using two ways one "İc Kazık" the other "Dis Kazık" plays. Both plays can be performed by standing up or on the ground.



Figure 5: Performance of the technique of Dış Kazık

RESULTS

In this study three traditional oil wrestling techniques of historical Kirkpınar Oil Wrestling (649 years old sport) is studied analyzed in three phases of entrance, performance and finishing. Despite of difficulty of performing the techniques by the oil wrestlers because of the dense usage of oil over their total body, the wrestlers contain the extreme physical power to perform these techniques. Also wrestlers mastered the techniques due to 10 years of wrestling training experience.

Analysis of the Techniques:

Kaz Kanadı:

Entrance phase: At the beginning of performing this technique the wrestler aims to cause imbalance to the opponent by the way of spoiling the balance axis of the center of gravity of the body and removing the points of contact of the body on the ground.

Performance phase: Wrestler, holding the opponents arm near him from the outside and getting his forearm into the armpit and meantime pressing and pulling the opponent's head with his right arm causes imbalance of his body. If this attempt is successful in overcoming the resistance of the rival, this technique continues by reaching contact points in distant lower extremities of the opponent to cause the body to cease.

Finishing phase: This technique finalizes when opponent loses contact with the ground due to wrestler using the force while his body completely united with the opponent.

İc Kazık:

Entrance phase: The wrestler who is applying this technique places his arm on the abdomen of his rival which happens to be the balance axis of the rival by the way of placing his fist into the kispet of the opponent.

Performance phase: The wrestler, by pulling the rival towards him and in the meantime applying force to get him down on his back, he is trying to hold the contact point with the opponent at the highest level. This way dispersion of the force is applied forcefully.

Finishing phase: Spoiling the balance of gravity of the rival by taking him down the wrestler completes the task.

Dis Kazık:

Entrance phase: While "Dis Kazık" technique is being applied, the wrestler puts the opponent's arm behind the balance axis by putting his arm and fist into the kispet.

Performance phase: while pressing a force by pulling the rival towards himself, causing imbalance of the opponent, putting him down and at the same time coming at him to make him pull on his back by applying power. At this point

he tries to keep the contact point at the kispet level in order to maintain power distribution which he has applied on the opponent.

Finishing phase: The wrestler finishes the action by pulling the rival towards him powerfully and spoiling his equilibrium center and falling him down.

DISCUSSION

Sacripanti used the “Browniger Theory” in analyzing the movements of two athletes. In addition Hachmuth (1984), in his studies, claimed that the place of the center of gravity changes according to the shape of the athlete’s body, similar that we have described during the finishing phase of all three techniques (1-4,7-8)). This evaluation, actually is not considered unexpected because Sacripanti’s (1988) classification of biomechanics of wrestling he mentions two “schools of wrestling” such as : Turkish and Russian Schools. In this article Sacripanti’s evaluation of “take down”, “throw”, and “press” classifications are valid for the Finishing phases that we have examined (1—9).

This Classification did not seem sufficient for the three techniques have used during our study. Sacripanti (1988) also advised the classification (A) sweeping the rival off his feet, (B) getting him down. Because of the deficiencies he has witnessed (1-9).

According to findings of our study, second description above seems valid for the “performance” and “finish” phases of the three techniques we have used in our study. But the most important point of this stage is, the detailed analysis of the technique called “the athletic technique” which is considered a “complex kills” in order to maintain more valid results by using the “information technology” for further investigation.

Acknowledgements

I wish to thank to Prof. Dr. Enver Duran, Trakya University Rector who makes the leadership in our country to the studies on the subject of Grease Wrestling.

REFERENCES

1. Sacripanti A. “Biomechanical classification of wrestling standing techniques.” 6.Int.Simp.of Biomechanics in Sport., Bozeman/Montana USA, 1988.
2. Mikhailov A.S., Loskutov A.Yu. “Foundation of Synergetics II (complex patterns)” Springer- Verlag, Berlin, 1991.
3. Petrov R. “Lutte libre et lutte Greco-Romaine” Ed.FILA, 1984.
4. Hochmuth G., Biomechanics of athletic movement (Book Review); Published in Journal of Sports Sciences. 3(3): 1985, 251-259); pp.171, Sportverlag Berlin, 1984.
5. <http://www.informaworld.com/smpp/title~content=t713817673> To cite this Article ‘Biomécanique du mouvement / motion Biomechanics’, Archives of Physiology and Biochemistry, 110: 1, 80 – 87, 2002.
6. Özer K. “Morfolojic Planning In Sport” Nobel Publishing House, Istanbul, 2009.
7. Tamer K. “Evaluating and Assesment of Physical-Physiological Performance in Sport”, Yayım Evi Ankara, 2000.
8. Toksöz İ., Aydemir M.Y. éInternational Historical Kırkpınar Sympozium” ‘(editors)’ Published Book, ISBN : 978-975-374-074-6 <http://kbesyo.trakya.edu.tr/.ndex.html>, access number 53507 p.193 Edirne, Türkiye, 2007.
9. Zorba E. “Sport and Physical Compatibility For Everyone” Directorate of Youth and Sports of Turkey Education office, Ankara, 1999.