

تأثير الحجامه الرطبة على القوة الانفجارية للاعبي الكرة الطائرة

L'influence de HIDJEMA sur la force explosive  
Chez les joueurs de volley-ball

The Effect of Wet Cupping on the Explosive Power of Volleyball Players

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**Abstract:** Nowadays, the world witnesses rapid development in various sports; the sports achievements and the high level of sports in general did not come over night, but it has been the result of well planning for sports training, which was based mainly on research, expertise and scientific experiments. Despite the scientific and technical progress of modern therapeutic and medical methods, the methods of folk medicine, including wet cupping, are still practiced in many societies to the present time, either for their therapeutic efficiency in dealing with many cases of illness or prevention of infection. Besides, the use of wet cupping by champions in the Rio Olympics competition raised a wave of questions about the benefits of alternative medicine methods, which is adopted by the most powerful athletes in the world (Michael Phillips, Alex Nadour). Sports cupping is a legal regulation of the applications of cupping with athletes in several areas such as first aid, rehabilitation and quick recovery and energy. The most common cupping types used in sport are: bloody cupping (wet), dry cupping, and rub-down cupping. The objective of the research is to uncover the effect of wet cupping on the explosive power of the arms and legs of the volleyball senior players. In the light of the results and their discussion, the researcher concludes that the tests are far superior in the post-test results of explosive power of the arms and legs in the study sample.

**mots clés :**

volley-ball, la force explosive, HIDJEMA

**RÉSUMÉ :**

À l'heure actuelle, Le développement sportif dans les résultats ainsi que le niveau est la conséquence d'une planification élevée de l'entraînement sportif basé sur des recherches, des essais et des expériences.

Le progrès scientifique des moyens thérapeutique n'a pas remis en cause les méthodes traditionnelles à savoir HIDJAMA pour des raisons d'efficacité et de prévention.

Dans Les derniers jeux olympiques à "rio" beaucoup de questions ont été posés relatives aux bénéfices de l'utilisation de HIDJAMA par des athlètes comme le nageur américain " MICHAEL PHELPS".

Les sportifs profitent de HIDJEMA pour plusieurs raisons mentionnant: la rééducation, les premiers soins et la récupération, l'objectif de cette recherche est de détecter l'effet de HIDJEMA dans la force explosive des bras et des jambes pour les joueurs de volley-ball. On a observée l'amélioration de ses résultats pour le groupe qui a pratiqué HIDJEMA.

**1. Introduction and Problematic :**

It is common for athletes to try new treatments that may relieve pain, whether or not they are supported by scientific evidence. In 2009, athletes were seen wearing copper bracelets in the belief that it might improve their performance. In 2008, Olympic athletes began to use colored adhesives known as Kinesio tape on their shoulders, backs, and upper and lower limbs (Giuseppe Musumeci, 2016, 373) .

Many athletes resorted to alternative medicine treatments when the use of medical means fails to treat the symptoms associated with the muscular or the skeletal system. Research and scientific studies in medical organizations, colleges, schools, insurance companies, and doctors expanded to reveal the effectiveness of these therapeutic alternatives (Abu El-Oula Ahmed Abdel-Fattah, Mohamed Sobhi Hassanein, 2001, 21).

In the last Olympic games at Rio de Janeiro in Brazil, we noticed many athletes with large red circles all over their skin, including the 23-time Olympic gold-medal winner Michael Phelps, the greatest swimmer of all time , These circles are the marks of "Cupping Therapy", a technique using suction cups that has its origins in traditional medicine that has been practiced throughout Asia for thousands of years in the treatment of pain and other complaints. (Giuseppe Musumeci, 2016, 373)

Although modern medicine is increasingly developed in terms of its diagnostic and therapeutic tools, many patients prefer popular medical treatment methods, including cupping, which has been well known among the different parts of the society. (Malika Ben Mansour / Khaled Khawani, 2015, 140).

The appearance of cupping as an influential factor in the performance of sports in international competitions started from the Beijing Olympics (2008), where many Olympic champions and showed signs of cupping on their bodies, as well as the appearance of signs of cupping on the American athletes like the famous swimmer "Michael Phelps" during the Rio Olympics, Brazil (2016). That is because cupping has an effective effect on many physiological variables resulting from hard physical training. Sport cupping is a legal regulation of the applications of cupping with athletes in several areas such as first aid, rehabilitation and quick recovery. . . and the most common cupping types applied to athletes are: bloody cupping (wet), dry cupping, and rub-down cupping (Ahmed Helmi Saleh, 2017, 22, 32)

Physical fitness is of principal importance in raising the level of overall athletic performance. Training experts have been constantly researching the best methods for its development in various modern ways. (Mohammad Sobhi Hassanine, 2007, 77)

In this sense, the problem of this study is centered on the following main question:

**How does wet cupping affect the explosive power of the upper and lower limbs of volleyball players?**

## 2. Hypotheses of the Study:

- The use of wet cupping on specific areas of the body improves the explosive power of the two legs of volleyball players.
- The use of wet cupping on specific areas of the body improves the explosive power of the arms of volleyball players.

## 3. Objectives of the Study:

- The main objective of the study is to detect the effect of wet cupping on the explosive power of volleyball players through:
- Knowing the values of the differences between the tests in the results of the explosive power of the lower limbs and its influence by wet cupping compared to the study sample.
- Determining the values of the differences between the tests in results of the explosive power of the upper limbs and its influence by wet cupping compared to the study sample.

## 4. Definition of Concepts and Terms:

**Wet Cupping:** It is the suction of a part of the skin layer at different places by the generation of negative pressure which leads to the collection of blood in the capillaries where the cupping takes place. After that, the suction is repeated in the same place after it is scratched (the work of scratches very simple on the surface of the skin, about 0.1 mm depth and 4 mm long spread over 3 rows) to extract the still blood in a modern, sterile, easy and safe way (Mohammad Ezzet Aref, 2003, 55)

**Explosive Power:** it is defined as the maximum resistance that can be overcome in the shortest possible time. Allawi defines it as the ability to achieve the maximum power in the shortest time. El-Mandelawi and Ahmed Said consider it as the ability of the muscular nervous system in overcoming

given resistance, requiring a high degree of muscular contractions (Ouras Ne'mah Hassan, 2010, 84).

##### 5. Explosive Power and Volleyball Player:

Explosive power is one of the most important physical abilities in volleyball. It is a precise and effective combination of power and speed which means the explosive sides of power and speed. To have a such ability, long training phases are required because not every player has high speed it is necessary for the player to have explosive power. The latter is decisive factor in volleyball especially in various skills:

The vertical jump to reach the highest possible height in preparation for the spike or the attack depends on the explosive power movement of the two arms' muscles, and serve skill requires explosive power, especially jump serve skill requires the explosive power of the two legs and arms, and the block skill is required when jumping high. In addition, the rapid movement from one place to another in the stadium requires explosive. It is worth mentioning here that the measure of explosive power has two main directions:

1. Pushing the body to itself as it is in jumping and leaping.
2. Pushing the body behind the tool as in the throwing and pushing and hitting. (Lama Samir El-Sheikhly, Najla Abbas El-Zuhairi, 2004,95)

##### 6. Previous Studies:

Tawfiq Ghafoori's study (2015): *The Study of Functional, Biochemical and Aerobic Variables, Cupping*, unpublished doctoral research, Physiotherapy Training department, faculty of physical education and sports sciences, Mosul University.

The study aims to reveal:

- Some functional and chemical variables at the time of rest for all three groups, before cupping for the first and second experimental groups.
- The values of some functional and chemical variables at the time of rest for the three groups, after the cupping process of the experimental groups one and two.

**Method and Sample:** The study followed the experimental method, and the sample of the study was composed of 24 students from the Faculty of Physical Education at the University of Koya distributed to three groups; each one consists of 8 students

##### Results:

- The observed changes in the biochemical, functional, aerobic resistance, and therapeutic variables after cupping work establish the scientific basis for this old treatment.
- The wet cupping supported training program led to a noticeable decrease in the number of heart beat and respiration at rest, and a clear increase in the vital capacity and inhalation.
- The wet cupping supported training program led to significant changes in the biochemical variables, where WBC, RBC, HB, MCV, MCH, CHC and PH increased

within normal range and (PCV, ESR, , TC, TG, LA) decreased. However, the variable (Plt) has not changed.

- Noticeable achievement in the aerobic resistance (run / walk 12 minutes) for the first group was more compared to the two groups, and this is due to the effectiveness of cupping when linked to training in activating of blood circulation and stimulating muscle groups to respond faster.
- There is a scientific miracle in the commandment of the Prophet peace be upon him (PBUH) to his nation to use cupping, in which the current study proved that cupping was effective on the functional, biochemical variables, as well as aerobic resistance and healing.

### **The study of Ahmed Mahmoud Saleh (2012): The Effect of the Use of Wet Cupping in Different Areas in Some Blood Variables and Achieving 100 Meters Run for Young People.**

#### **Objective of the Study:**

- Preparation of a stimulating and motivational method using cupping as a natural stimulant of the body in preparation for competitions
- Knowing of the effect of wet cupping on some blood variables and achievement in the competition (100 meters) for young people.

**METHOD AND SAMPLE:** The research used the experimental method. The sample of the research consisted of 10 young runners for (100 meters) competition of Anbar province

**Results:** Cupping activated the body on the light of the development of the achievement in (100 meters) run. In addition to:

- The points and positions of cupping on the upper part of the back and the lower back and in some points in the lower limb identified by specialists in this area were safe to use and did not have any side effects.
- The wet cupping program applied to the experimental group led to a clear increase in the white blood cells, hemoglobin, red blood cells, and platelets within normal range.
- Given the cupping process on the experimental group, the differences were significant for the experimental group in the number of red blood cells, hemoglobin and achievement.
- Noticeable achievement in the (100 meters) competition in the experimental group more than the controlling group in terms of the effectiveness of cupping in activating blood circulation and stimulating muscle groups to respond quickly.

#### **Field Action:**

### **7. Methodology:**

The problem of the study required the use of the experimental method to suit the nature of the subject.

## 8. Research Community and Sample Study:

The research community in this study encompasses all the volleyball players of the Youth Star Club of M'sila, which is active in the second national section (2017/2018 season). The sample was chosen in a deliberate way, consisting of 12 senior players.

## 9. Study Tests:

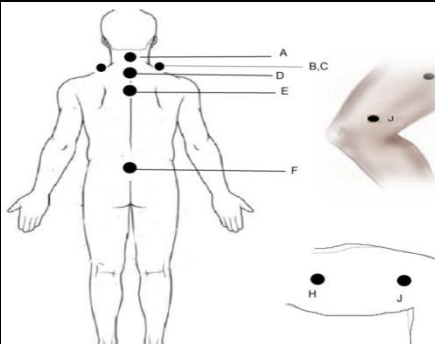
In order to determine the concerned tests with measuring the explosive power of both legs and arms, the researcher has chosen:

1. Vertical jump test from stillness, which measures the physical component (the explosive power of the legs).
2. Ball throwing test, which measures the physical component (the explosive power of the arms).

### Locations of Cupping for Athletes:

The determination of the cupping dose is subject to many variables, which are taken into account by the specialist who follows the case. The basic rule is to use cupping repetitively with an interval, taking into consideration the circumstances of each case. However, locating cupping for athletes is subject to the purpose of process wherein it differs from locations used in therapy than those used in rehabilitation. Even the method of rehabilitation differs from that used in healing. Thus, these are largely due to the assessment of the specialist after an in-depth study in subject. (Ahmed Hilmi Saleh, The Blog of the Sports Cupping, 2011)

Based on the scientific references and some specialists, the locations indicated in Figure (01) were agreed upon. The wet cupping of the experimental group was performed twice, the first on the locations (A, D, E, F) and the second on (B, C, H, J) within an interval of a week.



(A) The middle back of the neck

(B, C) On the shoulders in both sides of the neck

(D) the upper back at the seventh vertebra of cervical vertebrae

(E) down the location (D) about 03 cm

(F) at the beginning of the lumbar vertebrae at the prominent bone at the bottom

## 10. Statistical Methods:

The researcher used the Statistical Package for Social Sciences SPSS to analyze the available data and discuss them in light of hypotheses

## 11. Presentation, Analysis, and Discussion of Results:

Table (01) presents the results of the pre-test of the explosive power of legs in the sample and experimental groups

Statistical Variables	Standard Deviation	Mean Value	Skewness
Results of the explosive power of legs for the sample group	40.42	3.101	0.81
Results of the explosive power of legs for the experimental group	39.84	2.04	1.22

From the above table, we observe the values of the descriptive variables of the pre-test results for legs explosive power in both groups. This is the starting point in the analysis of the data. All values indicate the normal distribution of the two groups before the experiment.

**Table (02) presents the results of the post-test of the explosive power of legs in the sample and experimental groups**

Statistical Variables	Standard Deviation	Mean Value	Skewness
Results of the explosive power of legs for the sample group	41.55	4.22	1.45
Results of the explosive power of legs for the experimental group	43.08	1.48	0.91

From the table above, the values of the descriptive variables of the post-test results of legs explosive power in the two groups were obtained. The mean values for groups were 41.55 and 43.08, respectively, and with a standard deviation of 4.22 and 1.48 per group.

**Table (03) presents the results of the pre-test of the explosive power of arms in the sample and experimental groups**

Statistical Variables	Standard Deviation	Mean Value	Skewness
Results of the explosive power of arms for the sample group	7.06	0.57	0.87
Results of the explosive power of arms for the experimental group	6.98	0.72	0.94

From the above table, the values of the descriptive variables of the pre-test results of arms explosive power in the two groups were obtained. The mean values of the sample and experimental groups were 07.06 and 06.98, respectively, with a standard deviation of 0.57 and 0.72 for each group. This is the basis for starting data analysis in light of the hypotheses presented. All values indicate the normal distribution of the two groups before the experiment.

**Table (04) presents the results of the post-test of the explosive power of arms in the sample and experimental groups**

Statistical Variables	Standard Deviation	Mean Value	Skewness
Results of the explosive power of arms for the sample group	7.21	0.48	1.22
Results of the explosive power of arms for the experimental group	7.89	0.27	1.54

From the table above, the values of the descriptive variables of the post-test results of arms explosive power in the two groups were obtained. The mean values for groups were 07.21 and 07.89, respectively, and with a standard deviation of 0.48 and 0.27 per group.

#### 11.1. "T" Test Results for the Differences between Post-Measurements in the Explosive Power Variable of the Two Legs in the Sample:

Table (05) represents the results of the differences in the post-tests of the explosive power of the two legs in the sample and experimental group

Statistical Variables	Mean Value	Standard Deviation	"T" Value	Significance Level	Degree of Abstract Probability SIG	Statistical Significance
Sample group results	41.55	4.22	2.892	0.05	0.012	Statistically significant
Experimental group results	43.08	1.48				
Sample size 12				Freedom degree 10		

When reviewing the results of Table (05), which is related to the test of explosive power of the two legs between the two groups, it was found that the calculated value of test 2.894 and the significance level 0.05 was greater than the SIG of 0.012, The difference between the results of the post-tests of the sample group and the experimental one in the variable (explosive capacity of the two legs), which are real differences with major significance and this indicates that the use of wet cupping has positively affected this variable and thus the validity of the first hypothesis has been achieved.

#### 11.2. "T" Test Results for the Differences between Post-measurements in the Explosive Power of the Arms in the Study Sample:

Table (06) represents the results of the differences in the post-tests of explosive power of the arms in the sample and experimental group



Statistical Variables	Mean Value	Standard Deviation	"T" Value	Significance Level	Degree of Abstract Probability SIG	Statistical Significance
Sample group results	7.21	4.22	2.781	0.05	0.021	Statistically significant
Experimental group results	7.89	1.48				
Sample size 12				Freedom degree 10		

Table (06) indicates that the calculated value of "T" to test the explosive power of the arms is 2.781, and the value of the SIG is 0.021, the significance level is greater than the SIG value. Therefore, there are statistically significant differences in the explosive power test results of arms for the experimental group are attributed to the use of wet cupping.

Having these differences gives a clear indication of the statistical approaches to improve and develop the physical requirements of modern volleyball players. Therefore, the use of wet cupping may be more effective if applied according to specific mechanisms and strategies with clear scientific rules. Hence, the researcher thinks that the related requirements to the use of wet cupping in specific areas and times on the body of the athlete have significant physiological effects that act as a natural stimulant for the body during training and preparing for competitions.

The increased blood circulation in the muscles and tissues leads to scraping the accumulated material as a result of muscular stress. In addition, the activation of the circulatory system which provides extra oxygen, needed nourishment, hormones, and enzymes, allowing the rapid regeneration and reconstruction of cells, as well as providing muscles and joints with the of the aforementioned oxygen, enzymes and hormones to generate bioenergy to nourish the nerves and cells and thus increase the flexibility of muscles and joints and avoid contractions

and painful cramps. The use of wet cupping in specific areas and times does not pose any risk to athlete. Rather, it has significant physiological effects that act as a natural stimulant for the body during training and preparing for competitions.

## 12. Results:

A number of studies have examined the subject of cupping and its relation to recovery and healing in the field of sports to a set of results that confirm the findings of this study. "Tawfiq Ghafouri" indicates that the remarkable changes of the biochemical, functional and aerobic variables and healing after the cupping process establish the scientific basis for this treatment (Running / walking 12 minutes). This is due to the effectiveness of cupping in activating the blood circulation and motivating the muscular groups to respond faster. The study also produced the following results:

1. The use of wet cupping to improve the explosive power of the lower limbs (the explosive power of the two legs) of the volleyball players.

2. The use of wet cupping to improve the explosive power of the upper limbs (the explosive power of the arms) of the volleyball players.
3. The points and places of wet cupping on the withers and lower back and some points in the lower end and identified by specialists in this area was safe to use and did not have any side effects.

### 13. Conclusion:

The use of cupping with sport is ancient. The Messenger of Allah (peace and blessings of Allah be upon him) used cupping for the treatment of movement injuries. He used it in the treatment of the fatness that he suffered in two places, the first in his hip and again in his foot. As the Prophet Muhammad (PBUH) advised, the scientific miracle of wet cupping lies in the energy it gives to the body (natural tonic) and it improves its achievement if applied to the terms of science. Besides the various applications of wet cupping in the physiology of healing and first aids, the researcher tried in this study to address the role of wet cupping as natural tonic in the field of sports and concluded that the scientific application of wet cupping on a sample of 12 volleyball players to stimulate their bodies led to improve the explosive power of their arms and legs. In the end, the researcher emphasizes the necessity of educating the sports milieu with the knowledge of cupping and its various effects on the body, especially with regard to physical abilities in order to reach the high sports level.

Further studies are required to confirm the therapeutic value of cupping especially studies with sufficient sample sizes and the development of placebo cupping.

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