

## **THE EFFECT OF BLOODLETTING ON MIGRAINE HEADACHE**

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### **ABSTRACT**

One of the most common headaches, especially among women is migraine (approximately 85%). It relieved by drug or nondrug therapy (treatment without consuming drug). The drug therapy for migraines headache have many side effects thus the other methods that have less complications should be used for pain relief. One of the nondrug and Comprehensive treatment ways is bloodletting. This study is designed to investigate the effect of bloodletting on migraine in patients with migraine headaches that referred to Research Institute of bloodletting in Tehran of Iran. This is a prospective cohort study which conducted on 40 patients suffering from migraine headaches, the migraine headache were confirmed by physician with clinical examination. Data were collected by questionnaire that consisted of four parts, demographic profile, disease information, specifications pain, pain intensity registering form. our finding in this study showed that, the samples were including 18 male and 22 female in 30-39 years range .pain scores before and after bloodletting sessions showed significant difference by pair t test ( $P < 0.001$ ). Our finding strongly emphasized that bloodletting has pain reduction effect in patients with migraine headache.

**KEYWORDS:** Headache, Bloodletting, Migraine, Cohort Study, Questionnaire

### **INTRODUCTION**

One of the most common headaches, especially among women is migraine (approximately 85%). Migraine is a highly prevalent and often severely disabling disorder (Bigal, 2006). Migraine is defined as a moderate to severe recurrent headache lasting between four and 72 hours, usually unilateral and pulsatile in quality. It is often accompanied by nausea or vomiting and is aggravated by routine activities, light and noise. Initial treatment, is with analgesics for the head-ache, an anti-emetic for the nausea, and the avoidance of triggering conditions (Olesen, 1999). The cause of migraine headache is unknown; the accepted theory is a disorder of the serotonergic control system, as PET scan has demonstrated the aura coincides with diffusion of cortical depression consequent to increased blood flow (up to

300% greater than baseline). The migraine headaches are variants, some originate in the brainstem (featuring intercellular transport dysfunction of calcium and potassium ions) and some are genetically disposed (Ogilvie, 1998). Pain relief measures include over-the-counter analgesics, the drug therapy for migraines headaches have many side effects thus non-pharmacological therapy with less complication is useful if would be effective. Various non pharmacological methods including massage trigger point therapy, reflexology, spinal manipulation, therapeutic heat or cold and exercise therapy have also been investigated in the past for migraine patients. According to Edmeads et al study, more than 3 to 48% of migraine sufferers have tried complementary therapies, while only 44% see a medical practitioner. Patients who access complementary therapies are more likely to use them in combination with mainstream treatment (Detsky, 2006; Edmeads, 1993). Despite the fact that migraine patients employ therapies such as cupping on a regular basis, until recently very little high quality clinical evidence existed to Support or refutes its efficacy. Today, some patients report they treat their headache by using non drug therapy (treatment without consuming drug) such as Bloodletting, Acupuncture, cold therapies and etc (Shetfell, 1989; Diamond, 2001; Huang, 2008; Elorriaga, 2003). Bloodletting (blood-letting) also called Wet-cupping is the withdrawal of often considerable quantities of blood from a patient by scratching on skin and then vacating blood by special cup, to cure or prevent illness and disease. It was the most common medical practice performed by caregiver from antiquity up to the late 19th century, a time span of almost 2,000 years (Bloodletting, 2009; Los Angeles Times, 2001). The practice has been abandoned for all except a few very specific conditions (Blood-letting, 1871). Bloodletting is used in the management of headaches. It can be applied as a single form of care, or as part of a comprehensive treatment program. Whereas this treatment is no popular, however, there are still debates as to what Bloodletting role plays in reducing or eliminating pain associated with Migraine headaches. This study is designed to investigate the effect of bloodletting on migraine in patients with migraine headaches that referred to Research Institute of Bloodletting in Tehran of Iran.

### **Methods & materials**

This is a prospective cohort study which conducted on 50 patients suffering from migraine headaches. Before examination, the physician established justification class for patients to aware them for moral status. To drew samples, the following importance note should be obeyed by investigators: 1- the migraine headache must be approved by physician with

laboratory and clinical examination 2- severity pain score is greater than 3-4 by universal pain assessment tool (This pain assessment tool is intended to help patient care providers assess pain according to individual patient needs. Explain and use 0-10 Scale for patient self-assessment. use the face or behavioral observations to interpret express pain when patient cannot communicate his/her intensity ) , in another word the pain should be in moderate to severe 3- the patients under study should not be under treated by another treatment and referred to bloodletting for initial treatment. Therefore 10 patients were omitted from samples because they haven't the condition were mentioned on above. Data were collected by questionnaire that consisted of four parts including: demographic profile, disease information, specifications pain, pain intensity registering form. The Scientific value of this questionnaire was confirmed by content value method and the feasible value by test-retest method. Researcher et al collected the data before and after bloodlettings sessions. The bloodlettings sessions were include three general and one head bloodletting sessions. General bloodlettings were performed by using cup on mid-scapular line (figure 1) and head bloodletting was performed by using cups on occipital and mid-sagittal line (figure 2). Treatments by bloodlettings were performing general bloodletting each 21 days for tree period, and then head bloodletting was performed. Thereafter data were drown from questionnaires and converted to digital form, the digital form analyzed by using SPSS software.



**Figure 1: General bloodletting.**



**Figure 2: Head bloodletting**

The following procedure is used .The subjects had complied with the pre-cupping requirements (inclusion criteria) Contra-indications were eliminated, Equipment was sterilized ,Subjects were reassure/reminded of minor side effects .components such as blood pressure, pulse rate and O 2 saturation rate were measured in a sitting position, and then asked from them to identify the level of their pain ,Vital signs were taken only to monitor subject general condition, The bloodletting application was performed at the head (occipital and sajital lines) and general mid-scapular line by utilizing a razor for sterility purposes and

control of depth and breadth of cuts. Cups were applied to the treatment region and the blood was carefully drained three times. The cupped region was managed as according to basic wound management procedures (i.e. antiseptics and gauze application) All measurements (blood pressure, pulse rate and O<sub>2</sub> saturation rate, as well as the pain and well being scales) were repeated by the same researcher immediately after bloodletting and then one and two weeks after cupping.

## Result

Our finding in this study showed that, the samples were including 18 male and 22 female in 30-39 years range. Majority of them (72.5%) had unilateral headache. Majority of samples said, headache caused from exposing in noising situation .85% said their headache was aggravated by nervousness [Table 1]. Headache scores before bloodletting were in range of 8-10. after one and second bloodletting sessions, the headache score were in rang of 5-7.5. In third bloodletting session, headache score were in rang of 3-4.9. In fourth bloodletting session, score were in rang 0-2.9. Majority of patient (40%) reported, they haven't any headache in 15 days after bloodletting sessions [table 2]. Diminution in headache intensity after bloodletting has significant correlation by pair T test ( $P < 0.001$ ). Decline in headache score after bloodletting in female was greater than male but the difference wasn't significant.

**Table one: some demographic data**

|                                  |                                 |
|----------------------------------|---------------------------------|
| Age                              | 25±7.43 years                   |
| married                          | 35                              |
| Number of referring to physician | 33 person ,more than 6 time     |
| Headache period in years         | 32 have more than 2 to 6 time   |
| Type of headache                 | 29 person have Pulsate headache |

**Table 2: distribution of pain score before and after bloodletting therapy**

| Pain score<br>Time of procedure         | (0)<br>No pain |         | (0-2.9)<br>Mild |         | (3-4.9)<br>Moderate |         | (5-7.9)<br>Severe |         | (8-10) Intolerable |         |
|---|----------------|---------|-----------------|---------|---------------------|---------|-------------------|---------|--------------------|---------|
|   | N              | Percent | N               | Percent | N                   | Percent | N                 | Percent | N                  | Percent |
| Before blood letting                    | 0              | 0       | 0               | 0       | 3                   | 7.5     | 13                | 32.5    | 24                 | 60      |
| After first bloodletting session        | 0              | 0       | 2               | 5       | 5                   | 12.5    | 22                | 55      | 11                 | 27.5    |
| After second bloodletting session       | 0              | 0       | 7               | 17.5    | 17                  | 42.5    | 10                | 25      | 6                  | 15      |
| After third bloodletting session        | 3              | 7.5     | 7               | 17.5    | 20                  | 50      | 5                 | 12.5    | 5                  | 12.5    |
| After fourth bloodletting session       | 15             | 37.5    | 10              | 25      | 5                   | 12.5    | 7                 | 17.5    | 3                  | 7.5     |
| 15 days After last bloodletting session | 16             | 40      | 14              | 35      | 6                   | 15      | 2                 | 5       | 2                  | 5       |

### **Discussion & conclusion**

In this study our finding showed that pain reduction is significant after bloodletting procedure, as same as Ahmadi A, et al study which showed that wet-cupping leads to clinical relevant benefits for primary care patients with headache (Ahmadi, 2008). Bloodletting is the treatment of a broad range of conditions; blood diseases such as haemophilia and hypertension, rheumatic conditions ranging from arthritis, sciatica, back pain, migraine, anxiety and general physical and mental well-being (Gilbert, 1980; Chirali, 1999; Davis, 1997; Hennawy 2004). The aim of this procedure is to extract blood that is believed to be harmful from the body which in turn rids the body of potential harm from symptoms leading to a reduction in well-being. The Various theories are existed about the benefits of the bloodletting or wet-cupping. One theory suggested that it is by increase in circulation around the area of cup and allowing for the elimination of toxins trapped in the Tissues. Another theory suggests that it is the process of transferring discomfort and even pathology from one site to another that may cure the original site of any disease process. The psychosomatic theory also exists that explains the effect of cupping's and another complimentary procedure as purely a placebo effect. Bloodletting works according to the principle of Tanqiya-e-Mavad, i.e. evacuation of morbid matters from the affected area. It also improves circulation to the area and provides better nutrition to the area, where it is applied. In this study our finding showed that the bloodlettings have elimination effect on migraine headache because majority of patient stated, they haven't any headache in 15 days after bloodletting sessions. The results confirm that bloodletting intervention to Headache can lead to significant reductions in pain level. Also it is apparent that the maximum level of pain perceived by an individual reduced by 50% (from 10/10 to 5/10) at the end of the study. This is particularly important as Cupping Therapy has long been advocated as an effective form of pain relief the results obtained from this study complement propositions made by many cupping practitioners worldwide.

### **Acknowledgment**

Authors are thankful from Allah that most merciful and most gracious. Also appreciated form employers that worked in Hejamat Research Institute for their participation. As well as special thank from patients that participated with excessive collaborations.

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