

Classification of Cupping Therapy: A Tool for Modernization and Standardization

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Authors' contributions

This work was carried out in collaboration between all authors. All authors designed the study and contributed to the protocol development. Author TSA wrote the first draft of the manuscript. Authors NAQ and MK revised the manuscript number of times. Authors TSA, NAQ and MK managed literature search. All authors read and approved the final manuscript.

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ABSTRACT

Cupping therapy is one of the oldest healing methods and practiced by ancient Chinese, Egyptians and Greeks. There are many types of cupping therapy and recently, practitioners and researchers have added more types to the practice of cupping. This research aimed to classify types of cupping to help in modernization and standardization of cupping therapy. This proposed classification of cupping therapy that might guide researchers stay organized, help them to differentiate and compare various types, raise their knowledge of cupping and precisely clarify cupping types terms and methods related to research in future. The proposed classification of cupping into six main categories will also help the field of cupping therapy in uniform training of concerned therapists.

Keywords: *Cupping therapy; classification; cupping research; training; standardization; modernization.*

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1. INTRODUCTION

The history of cupping therapy dated back to thousands of years [1]. Evidently, the Ebers papyrus which is one of the oldest medical records and written approximately 1536 B.C mentioned cupping. It was published by Georg Moritz Ebers in 1875 and is a scroll 20, 23 meters in length and has 108 columns of text which is ordered in series of prescriptions, and grouped according to different diseases, illnesses and injuries [2] However, over the past few decades, there have been increasing number and quality of research papers in the field of cupping therapy [1], and presently this trend is continuing with further research on cupping and publications in various related journals around the world [1]. Notably, there are various types of cupping therapy in accordance to geographical regions, cultures, and practitioners' experience and skills. Furthermore, more than one term for the same cupping type are also found in the literature. For example, wet cupping [3] is also known by the name of full cupping [4], bloodletting cupping [5] or bleeding cupping [6]. Similarly, classification of cupping therapy types in the literature categorized cupping into two main types wet and dry cupping [7]. The first version of this classification of cupping was published in "Cupping Therapy Encyclopedia" in late 2013 but not in medical journals [8]. According to this classification, cupping therapy was classified into five main categories. The limits of this classification were the missing of the new cupping therapy types and alternative names of the same cupping type. We attempted to work on this subject to develop more accurate and comprehensive classification. Evidently, there is a need to classify cupping therapy to unify all types of terms and methods of cupping in order to help concerned health authorities, researchers and policy makers in the field of cupping therapy classification, standardization and continuous training. To the best of our knowledge, the proposed classification is inclusive of all types of cupping therapies along with new categories. The relevance of this research is that it encompasses all types of cupping therapies. Secondly, this is the most precise classification published in the medical journals in the past. The significance of this proposed classification is that it will guide researchers stay better organized, further help them to differentiate and compare various types of cupping, enhance their knowledge of cupping therapy, integrate all cupping methods in research and provide better quality cupping services to patients population.

2. CLASSIFICATION OF CUPPING THERAPY

Cupping therapy types can be classified into six main categories, the first is technical category which includes dry, wet, massage and flash cupping therapy. The second is the power of suction related category which includes light, medium, strong and pulsatile cupping therapy. The third is method of suction related category which includes fire, manual vacuum, and electrical vacuum cupping therapy. The fourth is based on materials inside cups, and includes herbal, water, laser, Moxa, needle, electrical stimulation, and magnetic cupping therapy. The fifth is area treated related category. The sixth is other cupping methods category that includes sports, cosmetic and aquatic cupping.

2.1 Category 1

2.1.1 Technical types

This category of cupping is in line with technique used in doing cupping. It includes dry cupping, flash cupping, wet cupping and massage cupping.

2.1.1.1 Dry cupping

Dry cupping [9] is also given other names such as static cupping [10] or retained cupping [1]. This method of applying cups over the skin needs negative pressure inside the cups through various methods including fire, manual pump or electrical suction [11]. Negative pressure is the pressure that is less than ambient pressure, and created by exhausting air inside the cup. The practitioners leave the cups on the skin area up to 15 minutes. The pressure inside the cup can be controlled by the number of suctions when using manual pump. Increasing number of suctions will increase the negative pressure inside the cup [12]. The pressure inside the cup can also be controlled by the fire exposure time when using fire to create negative pressure. Prolonged exposure of the cup to the fire will increase the negative pressure inside the cup that may cause pain or discomfort and may cause skin burn due to the overheating of the cup. Atmospheric (ambient) pressure is higher than the negative pressure inside the cup allowing the skin to pullout. Cupping is applied to increase the circulation of blood and lymph to the local area and also to relieve painful muscle tension [9]. Cupping effectively treats pain and

also enhances a patient's general feeling of wellbeing [9]. Risk of burn, scar formation, and dermatitis are the main disadvantages of this method.

2.1.1.2 Flash cupping

Flash cupping [13], also referred to as empty cupping [14] is the name given when several medium to light pressure cupping are performed several times in quick succession along the area being considered for treatment that requires stimulation [1]. It only takes less than 30 seconds from the time when cup is applied and then removed because it entails stimulation process. It is done by using one cup, or some practitioners use four medium sized cups. They apply the four cups quickly then reapply them on the skin of next area before 30 seconds and used to stimulate para spinal lines on the back. This method is used when dry cupping is not indicated especially in young people and ladies.

2.1.1.3 Wet cupping

Wet cupping [3] has been given several other names: full cupping [4], bloodletting cupping [5] and bleeding cupping [6]. This method is used most frequently in traditional medicine [1]. A surgical instrument is used to scrape the skin and the cup is then applied to suck blood [5]. Laceration of the skin and capillary vessels takes place in wet cupping, and it may act as a nociceptive stimulus, that triggers diffuse noxious inhibitory control (DNIC). It may help in treatment of chronic musculoskeletal pain [3]. Skin disinfection, wearing personal protective equipment, following infection control program that includes safe medical waste disposal are advisable for all cupping therapy practitioners. The risk of infection, vasovagal attacks and scars are the main disadvantages of this method.

2.1.1.4 Massage cupping

Massage cupping [15] also known as moving cupping [14], dynamic cupping [16] and gliding cupping [12] is a method of massage and done by applying oil to the skin and moving the cup, by a weak suction, on the area that needs massage [12]. Various types of oils may be used such as olive oil, peppermint oil and lavender oil. It is suitable for all people, even young and elderly people. The cost may be the disadvantages of this method.

2.2 Category 2

2.2.1 The power of suction related types

This category of cupping types is classified according to the level of negative pressure inside the cups used in doing cupping. It includes light cupping, medium cupping and strong cupping [17] and pulsatile cupping therapy [18].

2.2.1.1 Light cupping

Practitioners produce a weak suction in the cup to do light cupping [17]. It is suitable for children and elderly people. The pressure inside the cup is between 100 and less than 300 millibar which is a unit of atmospheric pressure. Practitioners do one to two full manual pump suction to perform light cupping [12]. It is a light method of cupping that can be used for elderly people and in sensitive body parts like the face. Light cupping pressure used in massage, dry and flash cupping techniques and may be used to treat pain disorders for elderly people and facial massage. The advantage of light cupping is that it does not leave cupping marks on most of cases. Conversely, fall of cup is the most frequently reported disadvantage of light cupping.

2.2.1.2 Medium cupping

Medium cupping [17] is a medium strength, and general purpose cupping. The pressure inside the cup remains between 300 and less than 500 millibar. Practitioners do three to four full manual pump suction to perform medium cupping [12]. It is a general purpose cupping method and the negative pressure is suitable for all other types. Medium cupping pressure may be used to treat musculoskeletal pain conditions, headaches and to increase blood circulation. Frequently observed cupping marks is one of its disadvantages so, it is advisable to not use this method on face.

2.2.1.3 Strong cupping

Strong cupping is done by creating high negative pressure inside the cups [17] Suction is intense and, therefore, it is not suitable for children and elderly people. The negative pressure inside the cup is above 500 millibar. Practitioners do five or more full manual pump suction to perform strong cupping [12]. The practitioners should take special care while performing strong type of cupping because they produce a high negative

pressure on the skin associated with the risk of inflammation, pain and discomfort. The risks of dermatitis and skin burn are the two main disadvantages of this method.

2.2.1.4 Pulsatile cupping therapy

Pulsatile cupping is special type of cupping therapy [18]. The pressure inside the cups is not constant but variable. It is used in randomized clinical trials evaluating the efficacy of cupping therapy in the treatment of osteoarthritis [18]. Pulsatile cupping is administered by a mechanical cupping device with flexible silicone and plastic cups according to the treatment area. The device generates a pulsatile (changeable) negative pressure inside cup. Negative pressure varies between 100 and 200 millibar, at the interval of 2 seconds [18]. This method is found to relieve symptoms of osteoarthritis of the knee compared to no intervention [18]. It is one of the new cupping types tested by randomized clinical trial [18] and more research is needed using pulsatile cupping therapy.

2.3 Category 3

2.3.1 Method of suction related types

This category of cupping types is classified according to how the practitioners create negative pressure inside the cup. It includes fire cupping, manual vacuum cupping and electrical vacuum cupping.

2.3.1.1 Fire cupping therapy

Fire cupping is a type of cupping done by creating negative pressure inside the cups by using fire [19]. It is used with glass, ceramic and bamboo cups that have no valves (a valve is a tool for controlling the passage of air through the cup). In China, the traditional cupping method is usually performed with fire; a piece of paper or cotton alighted and inserted into cup directly or a piece of cotton is soaked with 95% alcohol, applied to the end of a stick and then ignited. The burning stick is circled in the cup a few times and then removed. The cup is applied immediately on the skin surface [19]. There is a risk of skin burn in this cupping type because of using fire.

2.3.1.2 Manual vacuum cupping therapy

Manual cupping [20] has also other names: vacuum cupping and opening cupping [19]. It is done by creating negative pressure inside the

cups by using manual suction pump [20]. Self-suction cups using rotator on top of cup, or squeeze rubber top can be added to this type. The main advantages of this method are: experimental studies showed that the increase in blood flow is more evident by using this type of cupping than the traditional fire one. In addition, this cupping instrument is also a new technique in the modernization of cupping [19]. Reusing the manual pump without sterilization by some practitioners is the main disadvantage of this method.

2.3.1.3 Electrical vacuum cupping therapy

Electrical vacuum cupping is a type of cupping in which negative pressure is created inside the cup by using electrical suction pump or apparatus [20]. The advantages of this type are that the therapists can adjust the negative pressure freely, can produce a negative pressure pulse, and connect several cups [20]. It can be used in medical researches to measure and adjust negative pressure inside cup.

2.4 Category 4

2.4.1 Materials inside cups related types

This category of cupping types is classified according to the material inside the cups. Some new cupping devices contain magnets, laser probe, and electrical stimulant. They used also more than one therapy in the same session by complementing the value of cupping therapy to other traditional therapies. It includes needle cupping, hot cupping, herbal cupping, magnetic cupping, laser cupping, electrical stimulation cupping and water cupping.

2.4.1.1 Needle cupping

Needle cupping is done by applying the acupuncture needle first, and then the cup is applied over it [21]. Using small short needle and avoid abdomen and chest areas are essential to protect the patient from serious adverse events like penetrating organ, or causing pneumothorax. Skin disinfection (aseptic measures) and wearing personal protective equipment are important for practitioners. See Fig. 1.

2.4.1.2 Hot cupping

Dried herb, called Moxa is used to do hot cupping [22] or Moxa cupping [14]. Therapists use a needle, warmed by Moxa, and then the

cup is applied over it. Usually, they use special technique to protect skin from burning by using a thin aluminum layer under the hot Moxa. Moxa is a dried Mugwort leaves used in Chinese medicine in a procedure called Moxibustion, a form of acupuncture. Observing patient during the procedure is very important because the patient is at risk of burn, which is the main disadvantage of this method.



Fig. 1. Needle cupping

2.4.1.3 Herbal cupping

Herbal cupping [23] or medicinal cupping [24] is done by boiling cups in a suitable herbal tincture, and then applied to the skin [23]. The herbs are placed into a deep pan and boiled in water for 30 minutes. Then bamboo cups are placed in the herbal tincture for 5 minutes to soak. Each cup is removed from the pan, allowed to cool briefly (about 1 minute) and then applied to a pain area. Cups were left for 10 minutes. One session daily and the entire treatment requires 15 sessions. Caution is taken to minimize the risk of burns or blisters from the hot cups or hot water dripping onto the skin [24]. Allowing cup to cool is important to protect patient from the risk of burn injury. Sharp edges of bamboo cups, the risk of burn and the difficulty in cup sterilization after use are some of the disadvantages of this method.

2.4.1.4 Magnetic cupping therapy:

Magnetic cupping therapy is done by using magnetic cupping sets that contains magnets inside the cups [25]. Electromagnetic stimulation increases the therapeutic effectiveness of cupping, especially when applied to joints, including the knees and elbows. It is used in the treatment of diseases related to joints [25]. The main advantage of this therapy is the dual effect on patients. The development of skin ulcers on prolonged application is the main disadvantage.

2.4.1.5 Laser cupping therapy

This method uses new cupping devices that contain acupuncture laser probe inside the cups. It stimulates acupuncture points by laser stimulation in addition to cupping [26]. The researchers did not evaluate and test this method properly, and hence needs research in future. The advantage of this method is the dual effect of laser acupuncture and cupping therapy. The cost of this device may be the main disadvantage until it is tested properly.

2.4.1.6 Electric stimulation cupping therapy

Electrical stimulation cupping is a method of providing electric stimulation simultaneously with cupping therapy. The electrical stimulation during treatment is similar to transcutaneous electrical nerve stimulation (TENS) stimulation. Thus the combined two therapies enhance the overall effect and used for stimulating points and muscles by electric and vacuum stimulation [25]. The advantage of this method is the dual effect of electrical stimulation and cupping therapy.

2.4.1.7 Water cupping

Water cupping is done by using warm water inside the cup during cupping session. It involves filling a third of the cup with warm water. Whilst holding the cup close to the client with one hand, bring it close to the point to be cupped and insert burning cotton wool into the cup, then swiftly and simultaneously turn the cup onto the skin. When performed properly, no water spillage occurs [4]. (See Fig. 2) Water cupping is especially beneficial for treating asthma and related conditions including dry cough [25]. But certainly not in the acute stages of these diseases. Water spillage is the main disadvantage of this method.



Fig. 2. Water cupping

2.5 Category 5

2.5.1 Area treated related types

This category of cupping types is classified according to the body part considered for the cups application. This is a new concept of cupping therapy practice to specify and concentrate on certain body areas. This category includes Pedi cupping, abdominal cupping, facial cupping, female cupping and male cupping.

2.5.1.1 Pedi cupping

Pedi Cupping is a combination of reflexology, massage cupping and plantar fascial release on the leg and foot [8]. This method could be used to treat musculoskeletal pain in the legs and lower compartment. This method may be used to treat plantar fasciitis as other leg ailments.

2.5.1.2 Abdominal cupping

When Cupping is used for the abdomen, it is called abdominal cupping. The treatment sequence starts from the top, under the sternum and moving the cup towards the outer aspect of the body, circling the umbilicus clockwise and then increasing the circle. It begins with flash cupping and continues with massage cupping on abdomen [25]. It stretches the walls of the organs, increase blood circulation and promote the digestive system [8]. This method could be used to treat digestive problems and in the management of obesity. Stimulation of blood circulation and acupuncture points which control mood and appetite are the main suggested mechanisms of action [27].

2.5.1.3 Facial cupping

Facial cupping is a rejuvenation treatment of face by cups. It is used mainly for beauty reasons. Small silicon cups are used for facial cupping. The practitioners often use special massage cupping techniques [25]. The benefits of facial cupping are multiple including oxygen-rich blood is forced to the face, fluid circulation is encouraged, and the lymphatic system is activated, and all this resulting in healthier and livelier looking skin [25]. Some practitioners do not use the infection control measures, which is the main disadvantage of this method.

2.5.1.4 Female cupping

Female cupping is also called Breast cupping therapy [25] can be done by the use of special cup sizes and sets to stimulate and support

female breasts [8]. The cupping treatment begins with light to medium cupping. Two major factors influence the outcome of breast enhancement treatment: one is age, and the other is the body mass index. Patients over the age of 20 or severely underweight have a poor prognosis [25].

2.5.1.5 Male cupping

Male cupping is the use of vacuum erection device to stimulate and support erection function [8]. The device includes a clear plastic cylinder and a vacuum pump. This method uses negative pressure to increase blood flow and, thus, helps in the treatment of erectile dysfunctions.

2.6 Category 6

2.6.1 Other types

This category includes cupping types that are not classified in other categories. It includes sports cupping, cosmetic cupping and aquatic cupping.

2.6.1.1 Sports cupping

Cupping is used for the treatment of sports and athletic injuries and for rehabilitation purposes. [25,28] Myofascial decompression is an alternative term used describing this method of cupping therapy. Myofascial decompression is specific techniques have developed for cupping therapy to aid in healing of musculoskeletal pathologies. Movement patterns and functional exercise with the cups attached to specific sites [28]. One of the best examples of it is the treatment of hamstrings conditions by cupping [28]. The treatment begins with a light scraping of the area to increase blood flow and screen for soft tissue adhesions. The cups are then applied on hamstring for 3 minutes then the athlete performs a series of active movement patterns, ten hamstring curls, and ten prone straight leg raises with the cups in place. The therapist then passively moves the patient's leg through passive range of motion with the cups still in place. The final step is a sliding of the cups along the treatment area following a distal to proximal pattern [28]. Myofascial decompression is used as an intervention for soft tissue injuries like hamstrings strain [28].

2.6.1.2 Cosmetic cupping

Cosmetic cupping is one of the new concepts of cupping therapy that was introduced in spas and beauty salons. In cosmetic cupping, devices are used to enhance body functions and health.

Selection of the right cup size is important, small size cups are used for facial cupping and large cups are used for the arms and legs [25].

2.6.1.3 Aquatic cupping

Aquatic cupping is doing cupping underwater. Muscles tend to stretch much underwater and doing cupping may help in this situation [29]. This method combines cupping therapy with aquatic therapy. Aquatic cupping is water-based treatments of therapeutic value. It is used for rehabilitation, and musculoskeletal diseases

[29]. In aquatic therapy, Hot water produces sedation effect, and cold water produces stimulation effect.

3. DISCUSSION

This study appraised the published literature and produced a comprehensive classification of cupping therapy. Notably, cupping therapy is given different names in different languages such as cupping in English, Bekam in Malay, Hijama in Arabic, Schröpfen in German and Baguan in Chinese. Few studies classified cupping into just

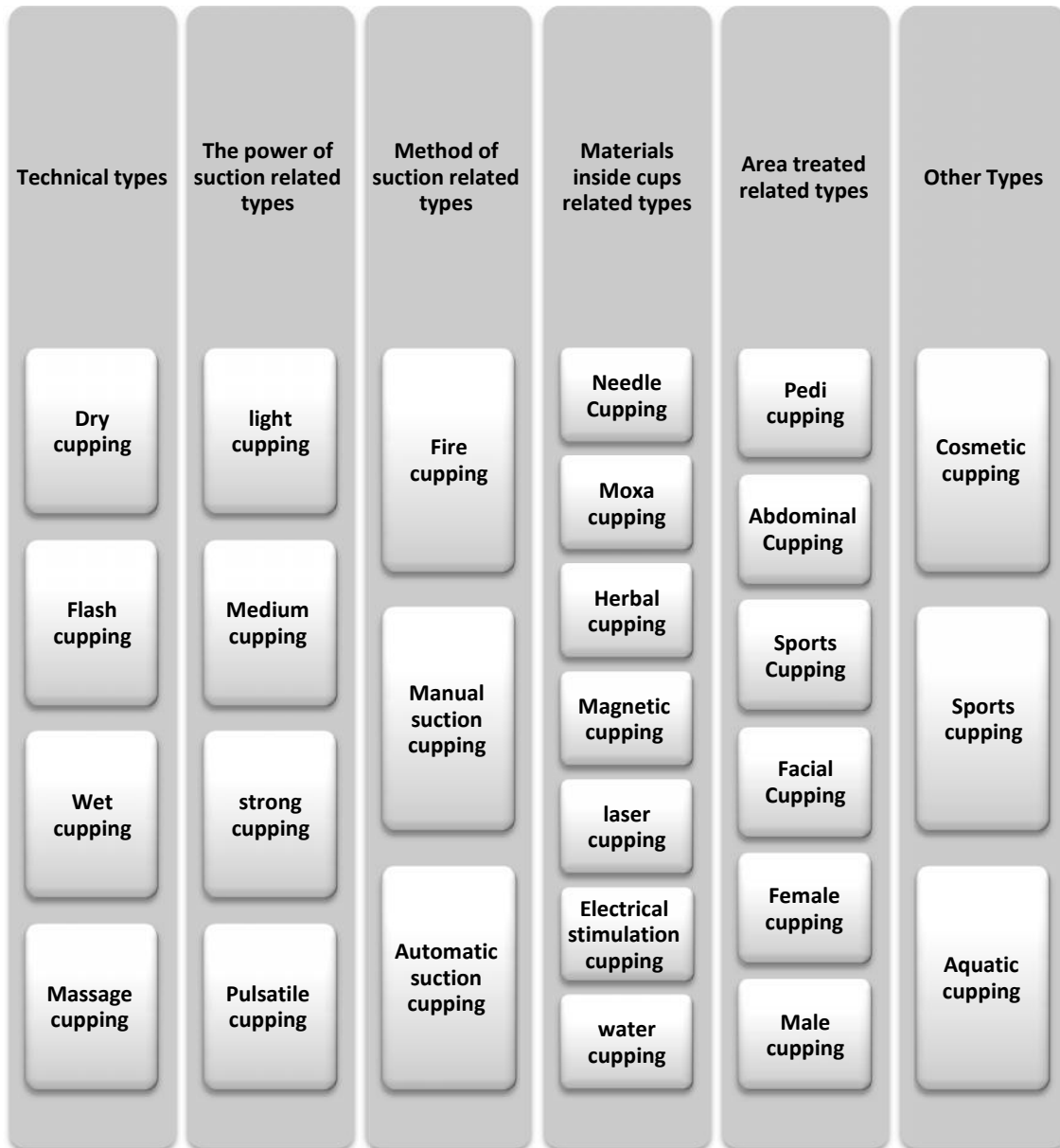


Fig. 3. Cupping therapy types

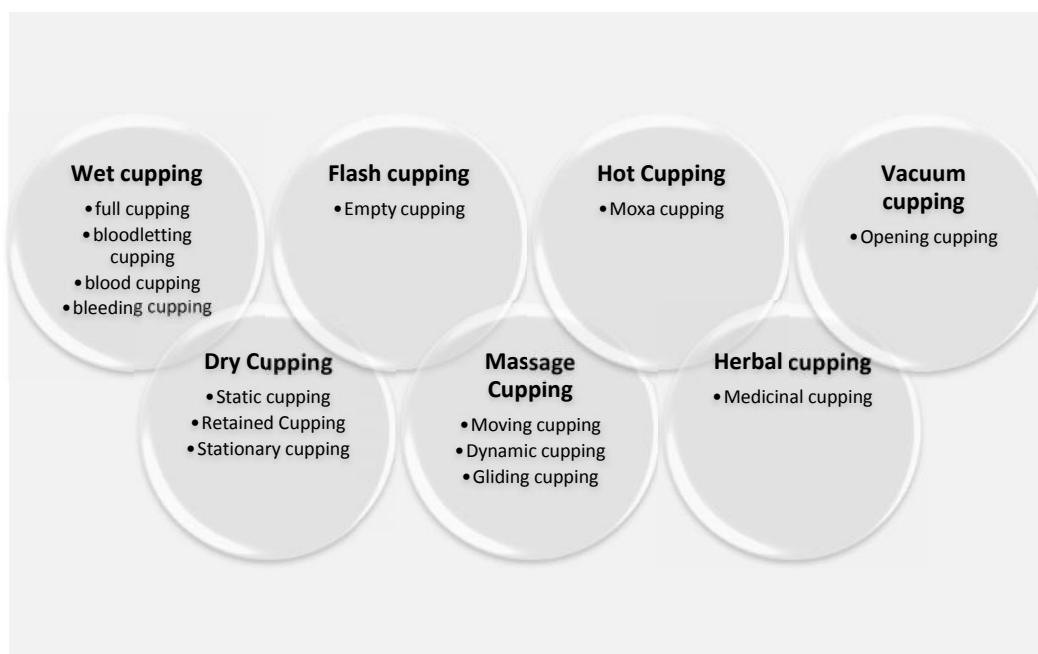


Fig. 4. Cupping alternative names for the type

two categories according to the skin scarification [7] and ignored other various types of cupping and new research that evaluated the new cupping methods and new cupping devices. In this proposed classification, efforts are made to consider the emerging concept of standardization in cupping therapy [30]. Consequently, the standardization of cupping therapy would reduce the adverse events of cupping, and promote the safe use of cupping therapy. For the advancement of safe use of cupping worldwide, fifteen manipulations of moving cupping, 10 protocols for clinical application of cupping [31] and safety guidelines for the practice of cupping were published recently [32]. Similarly, evaluation studies of the efficacy of various cupping therapy with negative pressure were published and the results of these studies were the suction height increases linearly along with vacuum pressure [20]. Furthermore, studies that involved the efficacy of fire and manual vacuum (methods of suction) found that vacuum cupping method induces nearly the same effects and some even stronger effects than fire cupping [33]. In a report, Ministry of Health, Malaysia, described seven types of cupping therapy, and these are wet cupping, dry cupping, moving cupping, needle cupping, flash cupping, water cupping and herbal cupping [34]. In a systematic review, Cao et al. [14] enumerated eight types of cupping therapy, which are empty (flash) cupping, moving cupping, retained (dry) cupping,

needle cupping, moxa cupping, wet cupping, herbal cupping and water cupping. So, a comprehensive classification of cupping therapy is an added value to all these efforts. This proposed classification will increase the knowledge and help researchers to find cupping therapy alternative terms in literature easily to prepare systematic reviews. It will also facilitate cupping therapy training by organizing cupping types into categories and constitute a new tool for standardization and modernization of cupping therapy. Standardization of cupping therapy will help in decreasing adverse events (AEs) of cupping that are classified into systemic and local adverse events. The local AEs were scar formation, burn, bullae formation, abscess formation, skin infections, hyperpigmentation, Köebner phenomenon, pain, panniculitis, pruritis and skin laceration. Systemic AEs were: anemia, headache, and dizziness, feeling tired, vasovagal attack, nausea, insomnia, whole body pruritis, lipoma and acquired hemophilia [35].

4. CONCLUSION

In summary, cupping therapy can be classified into six main categories, which are based on several approaches including technical, the power of suction, the method of suction, the materials inside cups, the area under treatment and the other types. The importance of this classification lies in its novelty that could help

practitioners and researchers in the field of cupping therapy standardization, conducting research and preparing systematic reviews on cupping and cupping therapy practice and capacity building training programs. This study calls for further research in this field of cupping therapy classification in the future.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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