Research Article

Knowledge, attitude and practice of cupping therapy among Saudi patients attending primary healthcare in Makkah, Kingdom of Saudi Arabia

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Abstract

Background: The practice of Al-Hijamah has been part of Middle-Eastern cultural practice for thousands of years with citations dating back to the time of Hippocrates (400 BC). Up to date there are no scientifically approved research trials anywhere in the world which investigated the impact of cupping at a physiological level, although numerous small scale studies have been done promoting the benefits of cupping for various diseases.

Objectives: To explore the knowledge, attitude, and practicing of Saudi population regarding to Al-Hijamah, as one of the old traditional modality of treatments.

Materials and Methods: A cross-sectional study was conducted through the period from October 1, 2011 to March 30, 2012. It included a representative sample of male adult patients (>18 years old), who attended primary health-care centers (PHCs) in Makkah, Kingdom of Saudi Arabia (KSA) throughout the study period. Makkah was divided into four regions; one PHC was selected from each region using simple random sampling technique. One-hundred patients were selected from each center using a systematic random sampling technique. Every second patient who attended the selected PHCs was invited to voluntarily participate in the study. A pre-designed questionnaire was utilized. This questionnaire included information regarding: personal data, knowledge, attitude, and practice of cupping therapy among participants.

Result: The study included 400 adult male patients attended PHC, Makkah throughout the study period. Their ages ranged between 18 and 73 years. Approximately two-thirds of the participants (61.5%) have their information about cupping therapy from the community whereas only 11.8% and 11.3% have their information from TV and doctors, respectively. Most of them believed that Hijamah is a kind of prevention and treatment of diseases (82.3% and 88.5%, respectively). Two-thirds of the participants (269; 67.3%) have personal experience with Hijamah or experience of Hijamah among their friends or relatives. Among them, 240 (89.2%) reported that they got benefits from Hijamah. The majority of participants treated with Hijamah for back pain (97.9%), headache (96.6%), joint pain (91.7), hypersomnia (88.9%), and fatigue (84.3%) showed improvement compared to 68.2% among those performed Hijamah to treat other conditions (fever, bronchial asthma, dizziness, hyperlipidaemia, irritable bowel syndrome). This difference is statistically significant ($p < 0.001$). The majority of the participants (85.8%) reported that they are ready to repeat Hijamah or try it for the first time.

Conclusion: The knowledge and attitude of Saudi population toward cupping therapy (Hijamah) is sufficient. However, there is a need for training of persons who practicing Hijamah.

KEY WORDS: Hijamah, knowledge, attitude, practice, Saudi Arabia

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Introduction

Traditionally, cupping therapy has been practiced in most cultures in one form or another. The Arabic name for cupping therapy is Al-Hijamah which means to reduce in size that is to return the body back to its natural state and this type of therapy is present in our religions (Islam) as mentioned by our Prophet (peace and blessings be upon him).[1] The practice of

Al-Hijamah has been part of Middle-Eastern cultural practice for thousands of years with citations dating back to the time of Hippocrates (400 BC).[2] Of the Western world, the first to embrace cupping therapy were the ancient Egyptians, and the oldest recorded medical textbook, Ebers Papyrus, written in approximately 1550 BC in Egypt mentioned cupping.[3] In the UK, the practice of cupping therapy also dates back a long way with one of the leading medical journals '*The Lancet*' being named after this practice. A lancet is a piece of surgical equipment that was traditionally utilized to release excess blood (i.e. venesection) and to prick boils.[3]

Cupping therapy can be divided into two broad categories: dry cupping and wet cupping. Dry cupping therapy tends to be practiced more commonly in the Far-East, whereas wet cupping is favored in the Middle East and Eastern Europe.[4]

Cupping (Al-Hijamah) literally means to suck and it is one of the ancient methods that have been used in the treatment and cure of a broad range of conditions throughout the Eastern and Western cultures of the world. Conditions such as blood related disorders; hemophilia; hypertension; rheumatic conditions ranging from arthritis, sciatica, back pain, and migraines to psychosocial applications in the treatment of anxiety and general, physical, and mental well-being. Traditional theories advocate that the primary aim of cupping 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.[2,4]

According to Hennawy,[5] cupping therapy is indicated for blood disorders, pain relief, inflammatory conditions, mental and physical relaxation, varicose veins and deep tissue massage and quotes up to 50% improvement in fertility levels. The principles of acupuncture and acupressure are very similar to that of Wet Cupping Therapy, except for the fact that Wet Cupping involves the letting of blood whereas acupuncture and acupressure utilize suction and stimulation of points to attain the desired results. Letting out blood is in fact among the oldest of acupuncture techniques.[6] It is speculated that acupuncture started as a method of pricking boils of the skin, then expanded to letting out "bad blood" that was generated by injuries or fevers and finally allowing invisible evil spirits and perverse atmospheric qi (most notably "wind") escape from the body.[7]

Cupping therapy has no major side effects aside from minimal discomfort due to the method of application of skin cuts to the patient. In cases where the patient's pain threshold is low, a local anesthetic can be administered. Also other possible minor side effects that may occur is the feeling of slight light headedness post cupping therapy, this again is similar to the sensation one feels after having had blood taken from the doctor, as cupping therapy encourages blood flow to the cupped region (hyperemia), one may therefore feel warmer and hotter as a result of vasodilatation taking place and slight sweating may occur. Again this can be attributed to sound scientific rationale and there is no cause for concern. Pregnant women or menstruating women, cancer (metastatic) patients, and patients with bone fractures or muscle spasms are also believed to be contra-indicated. Also, cupping therapy cannot be applied to a site of DVT, where there are ulcers, arteries, or places where a pulse can be felt.[8]

This study aimed to explore the knowledge, attitude, and practice of Saudi population regarding to Hijamah, as one of the old traditional modality of treatments.

Materials and methods

This is a cross-sectional study among male adult patients, aged more than18 years attending primary health care centers (PHCCs) in Makkah through the period from October 1, 2011 to March 30, 2012. Overall, there are 74 PHCCs in Makkah (44 external and 30 internal).

As there are no available studies on knowledge, attitude, and practice of cupping therapy among Saudi population, we assumed that 50% patients have proper knowledge and attitude toward cupping therapy. Using 5% acceptable limit at 95% CI, the minimum required sample size is 377 patients. Makkah area was divided into four regions; one primary health care (PHC) was selected from each region using simple random sampling technique. One-hundred patients were selected from each canter using a systematic random sampling technique. Every second patient who attended the selected PHCs was invited to voluntarily participate in the study.

Self-administered questionnaire was given to all participants and for those who were illiterate; an interview by the researcher was applied. This questionnaire included information regarding: personal data, knowledge, attitude, and practice of cupping therapy among participants. Face validity was tested by distribution of the questionnaire to two consultants of different specialties (family medicine and community medicine) who are experts and having interest regarding the subject and some corrections were done.

Study proposal has been approved by the Regional Research and Ethics Team of Armed Forces Hospitals, Taif region. Verbal consent was obtained from every participant in the study.

Statistical Package for Social Sciences (SPSS) software version 20 was utilized for data entry and analysis. Continuous variables were presented as arithmetic mean and standard deviation whereas categorical variables were presented as frequencies and percentages. Participants' knowledge score regarding cupping therapy was calculated as follow; the participants were asked to answer five questions about Hijamah, its types, and timing of performance. Right answer is giving the highest score. The overall score was calculated in the way that the higher the score, the higher the knowledge regarding Hijamah (the score ranged between 5 and 25). Participants' attitude score toward Hijamah was calculated as follows; the participants were asked to answer questions regarding preventive and therapeutic values of Hijamah, its role in transmission of infection, its usage in both sexes, timing of performance, and its practice. Positive attitude is given the highest score. The overall attitude score was calculated in the way that the higher the score, the higher the attitude toward

Hijamah and cupping therapy (the score ranged between 10 and 30).

Bivariate analysis of mean of cupping therapy knowledge and attitude scores with regard to independent variables was done by one-way analysis of variance (ANOVA) statistical tests for comparison of more than two groups. Least significance difference test (LSD) test was used for post hoc comparisons of ANOVA. Chi-square test ($\chi 2$) was applied to test for the association and/or the difference between two categorical variables. Significance was determined at p-value < 0.05.

Result

The study included 400 adult male patients attended PHC, Makkah throughout the study period. Their ages ranged between 18 and 73 years. Their sociodemographic characteristics are presented in Table 1. Almost two-thirds of them aged below 40 years (62.6%). Slightly less than half of them (45.5%) are university educated and 8.5% have post-graduation degrees. More than half of them (52%) are governmental employees. From Figure 1), it is obvious that 61.5% participants have their information about cupping therapy from the community whereas only 11.8% and 11.3% have their information from TV and doctors, respectively. No information was reported among 6.5% participants.

Table 2 shows that most of the participants (85%) either agree or strongly agree that Hijamah is one of the traditional therapy methods and 90% agreed with the meaning of Hijamah. Less than half of the participants (46.7%) agreed that cupping therapy is either wet or dry. Most of the participants (78.5%) knew that among methods of Hijamah, a technique called glass cups. Almost two-thirds (67.5%) agreed with the statement that days 17, 19, and 21 of H months are suitable for performing Hijamah.

As shown in Table 3, generally the participants have positive attitude toward cupping therapy. Most of them believed that Hijamah is a kind of prevention and treatment of diseases (82.3% and 88.5%, respectively). More than half of them (59.5%) believed that Hijamah is useful throughout all days of the year. Most of the participants believed that there is a difference between blood donation and Hijamah (73.8%), Hijamah is a suitable method to treat both sexes (71.1%) and there is a need for practical study of Hijamah before its application in medicine (71.5%). Only 27.8% participants agreed that there is a need for practical study of Hijamah before its application in medicine. Approximately two-thirds of the participants agreed that Hijamah is suitable to treat some of the current diseases (66.6%) and Hijamah could transmit infectious diseases (65.3%). More than half of the participants (54.3%) reported that they will perform Hijamah if they get disease.

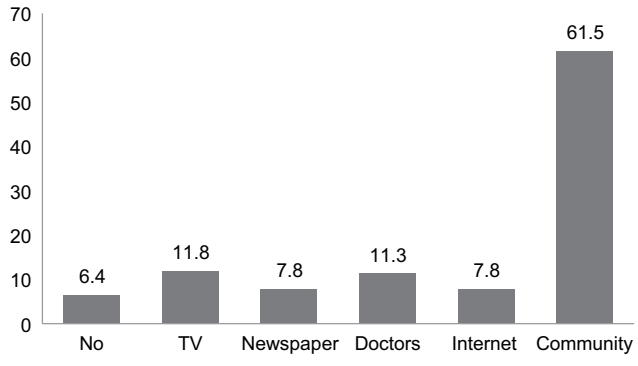

Figure 1: Source of information about cupping therapy among Saudi participants.

Table 1: Demographic characteristics of the study group (n = 400)

Characteristics	No.	%
Age in years		
18-29	127	31.8
30-39	123	30.8
40-49	75	18.7
50-60	51	12.7
>60	24	6.0
Educational level		
Illiterate	11	2.8
Primary	18	4.5
Intermediate	30	7.5
Secondary	125	31.2
University	182	45.5
> University	34	8.5
Occupation		
Unemployed	52	13.0
Governmental employee	208	52.0
Non-governmental employee	42	10.5
Retired	35	8.8
Others	63	15.7

Two-thirds of the participants (269; 67.3%) have personal experience with Hijamah or experience of Hijamah among their friends or relatives. Among them, 240 (89.2%) reported that they got benefits from Hijamah. Approximately one-third participants (33.1%) performed Hijamah to treat headache. Approximately one-quarter (26%) performed Hijamah to treat fatigue and 17.8% participants performed it to treat either back pain or joint pain.

As shown in Table 4, the majority of participants treated with Hijamah for back pain (97.9%), headache (96.6%), joint pain (91.7), hypersomnia (88.9%), and fatigue (84.3%) showed improvement compared to 68.2% among those performed Hijamah to treat other conditions (fever, bronchial asthma, dizziness, hyperlipidemia, and irritable bowel syndrome). This difference is statistically significant (p < 0.001).

The majority of the participants (85.8%) reported that they are ready to repeat Hijamah or try it for the first time. Exactly 75% participants are aware of the existence of Hijamah specialized centers. The majority of the participants (87.7%) mentioned that the Hijamah specialized centers are private

Table 2: Responses of the participants to the questions about their knowledge of cupping therapy (n = 400)

	Strongly Disagree *N* (%)	Disagree *N* (%)	Equivocal *N* (%)	Agree *N* (%)	Strongly agree *N* (%)
One of the traditional therapy methods that still used nowadays, a method called "Hijamah"	18 (4.5)	16 (4.0)	26 (6.5)	154 (38.5)	186 (46.5)
Hijamah means extraction of blood, that is believed to be harmful, from the body through a specific technique	5 (1.3)	8 (2.0)	27 (6.8)	158 (39.5)	202 (50.5)
Types of Hijamah, wet, and dry	19 (4.8)	26 (6.5)	168 (42.0)	129 (32.3)	58 (14.5)
Amongst Hijamah techniques, a method called glass cups	10 (2.5)	16 (4.0)	60 (15.0)	164 (41.0)	150 (37.5)
Days 17, 19, and 21 of H months are suitable for performing Hijamah.	8 (2.0)	19 (4.8)	103 (25.8)	122 (30.5)	148 (37.0)

Table 3: Responses of the participants to the questions about their attitude toward cupping therapy (n = 400)

	Strongly Disagree *N* (%)	Disagree *N* (%)	Equivocal *N* (%)	Agree *N* (%)	Strongly agree *N* (%)
Hijamah is a kind of prevention from diseases	7 (1.8)	19 (4.8)	45 (11.3)	173 (43.3)	156 (39.0)
Hijamah is a kind of treatment of diseases	4 (1.0)	7 (1.8)	35 (8.8)	194 (48.5)	160 (40.0)
Hijamah is useful throughout all days of the year	9 (2.3)	40 (10.0)	113 (28.3)	154 (38.5)	84 (21.0)
There is a difference between blood donation and Hijamah	9 (2.3)	24 (6.0)	72 (18.0)	152 (38.0)	143 (35.8)
Hijamah is a suitable method to treat both sexes	4 (1.0)	15 (3.8)	97 (24.3)	161 (40.3)	123 (30.8)
There is a need for practical study of Hijamah before its application in medicine	11 (2.8)	27 (6.8)	76 (19.0)	162 (40.5)	124 (31.0)
Any person can practice Hijamah in a proper healthy way	105 (26.3)	103 (25.8)	81 (20.3)	61 (15.3)	50 (12.5)
Hijamah is suitable to treat some of the current diseases	5 (1.3)	24 (6.0)	105 (26.3)	177 (44.3)	89 (22.3)
Hijamah could transmit infectious diseases	17 (4.3)	30 (7.5)	92 (23.0)	146 (36.5)	115 (28.8)
I will perform Hijamah if I get disease	25 (6.3)	48 (12.0)	110 (27.5)	149 (37.3)	68 (17.0)

Table 4: Effect of Hijamah on treated conditions as mentioned by participants

Treated conditions	Improvement after Hijamah	
	Yes (n = 240)** No. (%)	No (n = 29)** No. (%)
Back pain (48)	47 (97.9)	1 (2.1)
Joint pain (48)	44 (91.7)	4 (8.3)
Fatigue (70)	59 (84.3)	11 (15.7)
Headache (89)	86 (96.6)	3 (3.4)
Hypersomnia (45)	40 (88.9)	5 (11.1)
Others (22)*	15 (68.2)	7 (31.8)

*Fever, dizziness, irritable bowel syndrome, gout, bronchial asthma, and hyperlipidemia.
**There are combinations of two or more conditions.
$\chi^2 = 22.78$, $p < 0.001$.

ones whereas only 13 participants (4.3%) mentioned that they are governmental centers. Most of them (78.3%) support the presence of Hijamah clinics in medical centers.

As shown in Table 5, the cupping therapy knowledge score is significantly higher among participants of university or above education than those illiterate, having primary or intermediate education level (20.37 ± 2.52 and 20.38 ± 2.74 vs. 18.36 ± 4.97, 19.06 ± 2.44, and 19.03 ± 3.05, respectively). Similarly, the knowledge score is significantly higher among governmental and nongovernmental employees than unemployed participants or those working in other jobs (20.51 ± 2.70 and 20.24±2.87 vs. 19.13±3.21 and 18.90±3.23, respectively). There was no significant association between cupping therapy knowledge score and age or source of information of the participants. As shown in Table 6, neither age, educational level, employment status, nor source of information of the participants are related to their attitude toward Hijamah therapy.

Discussion

Cupping therapy "Hijamah" is a very common nonconventional therapy in the Arabic societies that has been used in the treatment of a wide range of conditions, such as hypertension; rheumatic conditions ranging from arthritis, sciatica, and back pain; migraine; anxiety; and general, physical, and mental well-being.[9]

In this study, almost two-thirds of the participants had experience of Hijamah either personal or in friends/relatives.

Table 5: Factors affecting knowledge score of the participants about cupping therapy (5-25)

	Mean	SD	*P*-value*
Age in years			
18-29 (127)	19.77	2.92	
30-39 (123)	19.85	3.06	
40-49 (75)	20.73	2.92	
50-60 (51)	20.33	2.40	
>60 (24)	19.38	2.50	0.103
Educational level			
Illiterate (11)	18.36	4.97	
Primary (18)	19.06	2.44	
Intermediate (30)	19.03	3.05	
Secondary (125)	19.80	3.12	
University (182)	20.47	2.52	
Above university (34)	20.38	2.74	0.011**
Occupation			
Unemployed (52)	19.13	3.21	
Governmental employee (208)	20.51	2.70	
Non-governmental employee (42)	20.24	2.87	
Retired (35)	20.23	2.14	
Others (63)	18.90	3.23	<0.001**
Source of information			
TV	19.72	3.05	
Newspaper	20.00	2.81	
Doctors	20.36	2.35	
Internet	20.52	2.75	
Community	19.96	2.99	0.719

* ANOVA test, ** statistically significant.

Table 6: Factors affecting attitude score of the participants towards cupping therapy (10-50)

	Mean	SD	*p*-value
Age in years			
18-29 (127)	35.98	5.03	
30-39 (123)	36.23	4.92	
40-49 (75)	36.56	4.15	
50-60 (51)	35.20	4.21	
>60 (24)	34.92	3.61	0.379*
Educational level			
Illiterate (11)	34.36	7.81	
Primary (18)	36.11	2.40	
Intermediate (30)	35.47	3.69	
Secondary (125)	35.80	4.96	
University (182)	36.57	4.49	
Above university (34)	34.62	4.46	0.170
Occupation			
Unemployed (52)	36.00	5.50	
Governmental employee (208)	36.49	4.49	
Non-governmental employee (42)	35.76	3.66	
Retired (35)	35.00	3.89	
Others (63)	35.11	5.23	0.177
Source of information			
TV	35.89	5.57	
Newspaper	34.94	4.82	
Doctors	37.31	3.68	
Internet	36.26	4.34	
Community	35.88	4.62	0.241

* ANOVA test

The majority of them reported improvement of back pain, joint pain, and headache after performing Hijamah. In a study conducted by Kaleem et al., there was statistically significance difference between the level of pain, well–being, and range of motion for patients with anterior knee pain pre- and post-cupping.[4]

It is not possible to truly quantify the true impact an intervention like cupping therapy has on the life of an individual. A qualitative approach toward understanding the impact from a patient's perspective is perhaps a more accurate interpretation with respect to the general impact. However, an analog scale similar to the pain VAS was used in a study by Kaleem et al.[4] to quantify the perceived impact of cupping therapy on subject well-being. The mean well-being VAS scores had increased from 7.21 to 8.23; an overall increase of more than 1. The increase in well-being scores was maintained throughout the study therefore reflecting the idea that cupping therapy has a positive impact on well-being. Hennawy[5] supports this finding also. In accordance with that finding, in this study the majority of the participants were satisfied with Hijamah and ready to repeat it. It is, therefore, reasonable to stipulate that the biological benefits of cupping therapy in conjunction with the psychological uses of cupping collectively induce a feeling of physical and psychological well-being.

The reductions in pain scores can be attributed to sound rationale as cupping therapy can elicit the release of morphine like substances (endorphins), serotonin, or cortisol which can ultimately lead to pain relief and alter the physiological status of the individual.[10] Acupressure and acupuncture in fact are being utilized and proven useful in pain and addictive management.[10-12] At a biological level such as acupressure and acupuncture, cupping therapy works by stimulating or activating (1) the immune system; (2) enkephalin secretion; (3) neurotransmitter release; (4) vasoconstriction and dilatation; and (5) the gates for pain in the central nervous system which interpret pain sensation.[10,13] Finally, it is believed that stimulation of cupping points can lead to the pain gates to be overwhelmed by increasing frequency of impulses, therefore ultimately leading to closure of the gates and hence pain reduction.[11,13]

This study also showed a statistically significant improvement in pain for patients with headache after cupping and this is in agreement with a trial of acupuncture or cupping therapy that was done for management of headache[14-16] and also showed a decrease in pain score associated with headache after cupping. The mechanisms of reduction in pain score after cupping therapy are still not well investigated by a suitable number of researchers to formulate a basic knowledge and evidence base for such traditional therapy but theory says that the principles of acupuncture and acupressure are very similar to that of cupping therapy. The reductions in pain scores can

be attributed to sound rationale as cupping therapy can elicit the release of morphine-like substances (endorphins), serotonin, or cortisol which can ultimately lead to pain relief and alter the physiological status of the individual.[10]

Among those who suffered from fatigue and are probably sick of the painful joints and muscles, along with the increased anxiety and depression, cupping therapy may provide some relief to their symptoms of fatigue. Alternative therapies including cupping therapy are becoming more and more popular for fatigue sufferers. Cupping involves applying glass cups, hence the name, to the skin in order to help the body rid itself of toxins, pain, and increase circulation in addition to improving flexibility of muscles. Another benefit is reduced pain from trigger points and it can also help your anxiety level go down and help depression. Cupping is a safe treatment for fatigue when it is done by someone who is qualified.[17] In accordance with that findings, the majority of our participants reported improvement of their fatigue after applying Hijamah.

In this study, age of the participants was not significantly associated with knowledge or attitude toward cupping therapy. Other studies have reported no significant effect of age on cupping therapy practice.[18,19] In another studies, younger individuals had higher cupping therapy practice rates.[4,20] The greater tendency of young participants to use complementary and alternative medicine (CAM) therapies may be attributed to their favorable attitudes toward, and active effortsto incorporate CAM into, oriental medicine. This finding also suggests that in the future more CAM therapies may be used.

Although Hijamah is well known in the Islamic history, up to our knowledge, there is no medical schools in the Islamic world provide CAM courses whereas some of the USA and Japanese medical schools provide courses related to CAM.[21,22]

This study has two main major limitations. In spite of a systematic sampling process, study subjects may not represent the target population. Participants interested in cupping therapy may be more likely to respond to a survey on CAM.[23] This effect could bias the results by indicating greater knowledge of, more favorable attitudes toward, and increased practice experiences with cupping therapy than in fact exist. However, no information was collected on participants who rejected or chose not to participate in this study. Also, because this was a cross-sectional survey, more attention should be paid to arriving at definitive conclusions regarding cause-and-effect relationships. For example, it is unclear whether a rich knowledge of cupping therapy leads participants to use these types of therapy or whether chance exposure to cupping therapy practice has influenced the general amount of knowledge.[24] Further studies with a prospective design may clarify this kind of temporal ambiguity between knowledge, attitudes, beliefs, and practice variables.

To our knowledge, this study is the first Saudi attempt to study knowledge, attitudes, beliefs, and practice of cupping therapy.

Conclusion

Conclusively, the knowledge and attitude of Saudi population toward cupping therapy (Hijamah) is sufficient. However, there is a need for training of persons who practicing Hijamah. Almost two-thirds of the participants experienced Hijamah either personally or through friends or relatives. The majority of those experienced Hijamah have a good experience in improvement of back pain, joint pain, headache, and fatigue after Hijamah.

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