Research Article

# Public perceptions of cupping therapy in Tabuk city, Saudi Arabia

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**Abstract**

**Background:** In spite of the great advances in modern medicine, cupping therapy is still used in the treatment of many medical conditions.

**Objective:** To evaluate the general perceptions and the level of awareness about cupping therapy in a sample of Tabuk population.

**Methods:** We conducted a cross-sectional study in Tabuk city, Saudi Arabia, among 200 adult subjects (101 males and 99 females), during the period from January to August 2015. Each participant responded to an anonymous self-administered questionnaire requesting information about his/her age, gender, educational level, as well as their knowledge, attitude, and perceptions of cupping therapy. We utilized the Statistical Package for the Social Sciences version 20 for data analysis.

**Results:** About 41% of the participants do not recommend cupping for children and only 3% do not recommend it for women. Less than 7% of all participants would try cupping before seeking medical advice, and about 8% prefer cupping instead of medications. The percentage of those who prefer specialized centers for cupping therapy were 49% and those who recommend cupping to be confined for certain diseases were 45%. The risk of contamination with the cupping instruments is known to 46% of all participants. All these results were not related to educational attainment ($P > 0.05$).

**Conclusion:** A considerable percentage of the community has a strong belief in cupping therapy as a modality of treatment for some medical conditions; however, the efficacy of cupping remains to be clarified.

**KEY WORDS:** Cupping therapy, knowledge, perception, Saudi Arabia

## Introduction

Traditionally, cupping therapy has been practiced in most cultures in one form or another. The Arabic name for cupping therapy is Al-Hejamah that means to reduce in size, that is, to return the body back to its natural state and this type of therapy is present in Islam religion.[1] The practice of Al-Hejamah 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 was 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, that is, venesection and to prick boils.[4]

This therapy was well known in the Islamic history. 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. In the West, the first and only published research trial to have explored the impact of cupping at a functional

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level was done by a research team at Kings College, London (British Cupping Society), which was looking for the effect of Cupping on knee pain.[5]

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.[6]

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 anesthesia 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 contraindicated. Also, cupping therapy cannot be applied to a site of deep vein thrombosis, where there are ulcers, arteries, or places where a pulse can be felt.[7]

This study aimed to evaluate the general perceptions and the level of awareness about cupping therapy in a convenient sample of Tabuk population.

## Materials and Methods

This is a cross-sectional study among a convenient sample of adult population (>18 years old) recruited from public places in Tabuk city, Saudi Arabia, during the period from January to August 2015. Tabuk city is located 2200 feet above sea level and has moderate climate in comparison with other Saudi cities climate. It has a population of 550,000 (2010 census). Each participant responded to an anonymous validated self-administered questionnaire requesting information about his/her age, gender, educational level, as well as their knowledge, attitude, and perceptions of cupping therapy. Study proposal has been approved by the Regional Research and Ethics Team in Tabuk city as well as verbal consent was obtained from every participant to voluntary participates in the study. We utilized the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL), version 20 for data analysis. Chi-square test was utilized to test for the association between categorical variables. *P*-value at or less than 0.05 was used for statistical significance.

## Results

The study included 101 (50.5%) males and 99 females (49.5%). Slightly less than half of them (48%) were university graduated. Almost half of them (49.5%) aged between 30 and 44 years. There was a significant association between age and educational level as 41.7% of those university educated aged between 45 and 59 years compared to 27.9% of those less than university educated, $p = 0.045$ [Table 1].

University graduated participants were more knowledgeable of the fact of existence of different types of cupping therapy compared to those less educated (43.8% vs 31.7%), $p < 0.001$ as seen in Table 2.

There was no statistically significant difference between university graduated and those less educated regarding their attitude and practice of cupping therapy as demonstrated in Table 3.

Females were more knowledgeable of the fact of existence of different types of cupping therapy compared to males (76.7% vs 57.4%), $p < 0.014$. Also, females were more knowledgeable than males of the fact that cupping is contraindicated in patients suffering from certain diseases (25.3% vs 11.9%), $p = 0.011$. On the other hand, males reported than females that cupping can cause prolonged bleeding (30.7% vs 13.1%), $p = 0.008$ [Table 3].

Almost all males (99%) compared to 84.8% of females had previous experience of cupping therapy, $p < 0.001$. Also, males agreed more than females that there is a recommend specific age for cupping (57.4% vs 27.3%), $p < 0.001$ and they recommended cupping instead of medications more than females (11.9% vs 5.1%), $p = 0.030$ [Table 4].

Males agreed to select a specialized center for cupping than females (51.5% vs 46.5%). The difference was statistically significant, $p < 0.035$. Women agreed more than males that there cupping should be allowed for women (78.8% vs 61.4%), $p = 0.020$ [Table 5].

## Discussion

Cupping therapy is a very common nonconventional therapy in the Arabic societies, which has been used in the treatment of a wide range of conditions, such as hypertension, rheumatic conditions, migraine, anxiety, and general physical and mental well-being.[8] This study investigated the general knowledge and perception of cupping therapy among a convenient sample of adult population from both genders in Tabuk city.

In this study, 78% of the participants were aware that cupping is a well-known form of alternative medicine and 70% of them were allowing cupping for women. In agreement with the relatively high attitude and practice observed in our study, Kaleem et al. revealed a statistically significance difference between the level of pain, well-being, and range of motion for patients with anterior knee pain pre- and postcupping.[9]

It is not possible to truly quantify the true impact of an intervention like cupping therapy 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 analogue scale similar to the Pain VAS was used in a study of Kaleem et al.[9] to quantify the perceived impact of cupping therapy on subject well-being. The mean well-being VAS scores had

**Table 1:** Age and sex distribution of the participants according to educational level

| | | Less than university graduated (*N* = 104) | University graduated (*N* = 96) | Total (*N* = 200) | *P* |
|---|---|---|---|---|---|
| Sex | Male | 59 (56.7) | 42 (43.8) | 101 | 0.067 |
| | Female | 45 (43.3) | 54 (56.2) | 99 | |
| Age (years) | 15–29 | 13 (12.5) | 11 (11.5) | 24 | 0.045 |
| | 30–44 | 60 (57.7) | 39 (40.6) | 99 | |
| | 45–59 | 29 (27.9) | 40 (41.7) | 69 | |
| | 60–75 | 2 (1.9) | 6 (6.2) | 8 | |

**Table 2:** Educational attainment in relation to cupping knowledge in the study group

| Knowledge | | Less than university graduated (*N* = 104) | University graduated (*N* = 96) | Total (*N* = 200) | *P* |
|---|---|---|---|---|---|
| Cupping is a well-known form of alternative medicine | Yes | 84 (80.8) | 72 (75.0) | 156 | 0.611 |
| | No | 1 (1.0) | 1 (1.0) | 2 | |
| | Do not know | 19 (18.2) | 23 (24.0) | 42 | |
| Cupping has different types | Yes | 33 (31.7) | 42 (43.8) | 75 | <0.001 |
| | No | 23 (22.1) | 3 (3.1) | 26 | |
| | Do not know | 48 (46.2) | 51 (53.1) | 99 | |
| Certain diseases can be transmitted by contaminated equipment | Yes | 45 (43.3) | 48 (40.0) | 93 | 0.631 |
| | No | 24 (23.1) | 20 (20.8) | 44 | |
| | Do not know | 35 (33.6) | 28 (29.2) | 63 | |
| Cupping is contraindicated in patients suffering from certain diseases | Yes | 15 (14.4) | 22 (22.9) | 37 | 0.180 |
| | No | 18 (17.3) | 20 (20.8) | 38 | |
| | Do not know | 71 (68.3) | 54 (56.3) | 125 | |

**Table 3:** Attitude and practice of cupping among university graduated and nongraduated subjects in the study group

| Attitude and practice | | Less than university graduated (*N* = 104) | University graduated (*N* = 96) | Total (*N* = 200) | *P* |
|---|---|---|---|---|---|
| Allow cupping for women | Yes | 71 (68.3) | 69 (71.9) | 140 | 0.795 |
| | No | 6 (5.8) | 6 (6.2) | 12 | |
| | Do not know | 27 (25.9) | 21 (21.9) | 48 | |
| Recommend cupping before medical consultation | Yes | 4 (3.8) | 9 (9.4) | 13 | 0.243 |
| | No | 87 (83.7) | 78 (81.2) | 165 | |
| | Do not know | 13 (12.5) | 9 (9.4) | 22 | |
| Recommend cupping for specific diseases | Yes | 50 (48.1) | 40 (41.7) | 90 | 0.422 |
| | No | 47 (45.2) | 45 (46.9) | 92 | |
| | Do not know | 7 (6.7) | 11 (11.4) | 18 | |
| Select a specialized center for cupping | Yes | 48 (46.2) | 50 (52.1) | 98 | 0.543 |
| | No | 43 (41.3) | 38 (39.6) | 81 | |
| | Do not know | 13 (12.5) | 8 (8.3) | 21 | |
| Recommend cupping instead of medications | Yes | 9 (8.6) | 8 (8.3) | 17 | 0.979 |
| | No | 66 (63.5) | 60 (62.5) | 126 | |
| | Do not know | 29 (27.9) | 28 (29.2) | 57 | |

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[10] (2004) supports this finding also. In accordance with these finding; in this study the majority of the participants (92%) have practiced cupping therapy. It is therefore reasonable to stipulate that the biological benefits of cupping therapy in conjunction

**Table 4:** A comparison between males and females regarding their knowledge about cupping

| Knowledge | | Male (*N* = 101) | Female (*N* = 99) | Total (*N* = 200) | *P* |
|---|---|---|---|---|---|
| Cupping is a well-known form of alternative medicine | Yes | 78 (77.2) | 78 (78.8) | 156 | 0.372 |
| | No | 2 (2.0) | 0 (0.0) | 2 | |
| | Do not know | 21 (20.8) | 21 (21.2) | 42 | |
| Cupping has different types | Yes | 58 (57.4) | 76 (76.7) | 134 | 0.014 |
| | No | 15 (14.9) | 7 (7.1) | 22 | |
| | Do not know | 28 (27.7) | 16 (16.2) | 44 | |
| Certain diseases can be transmitted by contaminated equipment | Yes | 47 (46.5) | 46 (46.5) | 93 | 0.075 |
| | No | 28 (27.7) | 16 (16.2) | 44 | |
| | Do not know | 26 (25.7) | 37 (37.3) | 63 | |
| Cupping can cause prolonged bleeding | Yes | 31 (30.7) | 13 (13.1) | 44 | 0.008 |
| | No | 29 (28.7) | 30 (30.3) | 59 | |
| | Do not know | 41 (40.6) | 56 (56.6) | 97 | |
| Cupping is contraindicated in patients suffering from certain diseases | Yes | 12 (11.9) | 25 (25.3) | 37 | 0.011 |
| | No | 16 (15.8) | 22 (22.2) | 38 | |
| | Do not know | 73 (72.3) | 52 (52.5) | 125 | |

**Table 5:** Attitude and practice of cupping in relation to gender distribution in the study group

| Attitude and practice | | Male (*N* = 101) | Female (*N* = 99) | Total (*N* = 200) | *P* |
|---|---|---|---|---|---|
| Previous experience of cupping | Yes | 100 (99.0) | 84 (84.8) | 184 | <0.001 |
| | No | 1 (1.0) | 15 (15.2) | 16 | |
| Recommend specific age for cupping | Yes | 58 (57.4) | 27 (27.3) | 85 | <0.001 |
| | No | 21 (20.8) | 43 (43.4) | 64 | |
| | Do not know | 22 (21.8) | 29 (29.3) | 51 | |
| Allow cupping for women | Yes | 62 (61.4) | 78 (78.8) | 140 | 0.020 |
| | No | 9 (8.9) | 3 (3.0) | 12 | |
| | Do not know | 30 (29.7) | 18 (18.2) | 48 | |
| Recommend cupping before medical consultation | Yes | 8 (7.9) | 5 (5.0) | 13 | 0.131 |
| | No | 78 (77.2) | 87 (87.9) | 165 | |
| | Do not know | 15 (14.9) | 7 (7.1) | 22 | |
| Recommend cupping for specific diseases | Yes | 45 (44.6) | 45 (45.4) | 90 | 0.634 |
| | No | 45 (44.6) | 47 (47.5) | 92 | |
| | Do not know | 11 (10.8) | 7 (7.1) | 18 | |
| Select a specialized center for cupping | Yes | 52 (51.5) | 46 (46.5) | 98 | 0.035 |
| | No | 44 (43.6) | 37 (37.4) | 81 | |
| | Do not know | 5 (4.9) | 16 (16.1) | 21 | |
| Recommend cupping instead of medications | Yes | 12 (11.9) | 5 (5.1) | 17 | 0.030 |
| | No | 55 (54.4) | 71 (71.7) | 126 | |
| | Do not know | 34 (33.7) | 23 (23.2) | 57 | |

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.[11] At a biological level like cupping therapy works by stimulating or activating (1) the immune system, (2) enkephalin secretion, (3) neurotransmitter release, (4) vaso-constriction and dilatation, and (5) the gates for pain in the central nervous system, which interpret pain sensation.[4,12] 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.[4,13] In this study, a considerable proportion of our cohort recommended cupping

for specific diseases and in special centers. However, majority of them did not recommend cupping before medical consultation.

In this study, educational level of the participants was not significantly associated with aspects of knowledge, attitude, or practice toward cupping therapy except the fact that cupping has different forms. Gender was significantly associated with some aspects of knowledge, attitude, and practice. Other studies have reported no significant effect of age on cupping therapy practice.[14,15] In another study, younger individuals had higher cupping therapy practice rates.[16] The greater tendency of young participants to use Complementary and alternative medicine therapies may be attributed to their favorable attitudes toward, and active efforts to incorporate CAM into, oriental medicine. This finding also suggests that in the future more CAM therapies may be used. However, in this study we did not investigate the impact of age onTraditional medicine practice.

Although cupping therapy "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 US and Japanese medical schools provide courses related to CAM.[17,18]

This study has two major limitations that should be mentioned. Study subjects may not represent the target population as we apply it on a convenient sample. Participants interested in cupping therapy may be more likely to respond to a survey. 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. Further studies with a prospective design may clarify this kind of temporal ambiguity between knowledge, attitudes, beliefs, and practice variables.

## Conclusion

In conclusion, the knowledge and attitude of Saudi general population toward cupping therapy (Hijamah) is insufficient in some aspects. However, there is a need for training of persons who practicing Hijamah. Majority of the participants experienced cupping therapy.

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