



KNOWLEDGE, ATTITUDE, AND PRACTICE OF CUPPING THERAPY AMONG OMANI POPULATION IN MUSCAT REGION-OMAN

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ABSTRACT

Background: Cupping therapy (CT) is a longstanding complementary and alternative medicine widely practiced in Oman's Muscat region. This study was undertaken to evaluate the knowledge, attitude, and practice of CT among the Omani population and to explore influencing factors and demographic variations.

Materials and Methods: A descriptive cross-sectional study was conducted from July to December 2022 in six primary healthcare centers in the Muscat Governorate. The study involved 290 randomly selected adults who completed a self-administered Arabic questionnaire. Descriptive and inferential analyses, including unpaired t-tests, were used to identify associations.

Results: Out of 290 participants, 97% were aware of CT, and 60.6% had used it, primarily for back pain and to stimulate circulation. Most participants considered CT safe and effective and were influenced by religious endorsement. Higher knowledge was associated with higher education, while higher practice was linked to females and education. The main sources of information were family and friends.

Conclusion: Cupping therapy is prevalent in Oman, with generally positive perceptions, but gaps in understanding persist. The study suggests a need to promote evidence-based practices and the safe integration of CT with conventional medicine.

KEYWORDS: Cupping Therapy, Knowledge, Attitude, Practice, Complementary Medicine.

1. INTRODUCTION

Cupping therapy (CT), also known as Al-Hijamah, is an ancient medical practice with a long history across diverse cultures, including Eastern and Western traditions.(1) It is primarily classified into wet and dry cupping.(2) Dry cupping is a non-invasive method without bloodletting, while wet cupping involves the extraction of blood through superficial skin incisions.(3) Wet cupping is particularly prevalent in regions like China, Korea, Germany, and among Muslim and Arab communities.(2,3) This therapy works by applying cups to the skin to create negative pressure, drawing blood to the surface.(4)

Several theories propose that CT enhances the immune system by eliminating toxins and pathogens from the blood. (2,5) Traditionally, Al-Hijamah is believed to expel harmful blood and prevent diseases. (1) Proposed mechanisms include stimulating innate and acquired immunity, promoting inflammatory cell migration, releasing endogenous opioids, improving blood flow, removing toxins, restoring neuroendocrine balance, and enhancing oxygen supply and tissue perfusion. (3)

CT is utilized for both general health maintenance and the treatment of specific ailments, such as herpes zoster, facial paralysis (Bell's palsy), fatigue, musculoskeletal pain, stroke recovery, and hypertension. (2,3,6) Meta-

analyses suggest its superiority over some traditional treatments for conditions like herpes zoster, facial paralysis, acne, and cervical spondylosis (6). It has also shown comparable efficacy to pharmacological treatments for short-term pain relief (7), with one study reporting a 66% reduction in headache severity with wet cupping.(3) Despite these potential benefits, definitive conclusions about CT's overall effectiveness remain elusive.(8-10) Systematic reviews often highlight a significant risk of bias, underscoring the critical need for high-quality, large-scale studies to fully validate CT's therapeutic efficacy.(6)

Generally, CT is considered a safe and straightforward treatment with minimal side effects, such as temporary redness, petechiae, ecchymosis, and bruising, which typically resolve within 1–2 weeks. (5,11,12) However, some patients remain apprehensive about the procedure, largely due to the visible marks it leaves. (11)

CT is widely practiced in Oman, reflecting its deep cultural and religious roots, similar to other Arab countries. Knowledge of CT among Arabs often stems from Hadith (sayings of the Prophet Muhammad) and traditional practices passed down through generations.(4) Its prominence is evident regionally; a 2019 study identified CT as the third most utilized complementary and alternative medicine practice in Pakistan.(13) Similarly, in Saudi Arabia, most participants acquired CT knowledge from community sources and perceived it as effective for treating and preventing diseases, with 85.8% willing to try or repeat it.(1) In Oman, a previous study noted that 85% of males and 15% of females in the surveyed population had undergone CT at least once, further underscoring its cultural significance.(14)

Despite its widespread use, comprehensive data on the specific knowledge, attitudes, and practices of cupping therapy among the general Omani population, particularly exploring influencing factors and detailed awareness levels, remains limited. Existing studies often focus on specific patient groups or do not provide a holistic overview from a public health perspective. Addressing this gap is crucial for informing targeted health education strategies and facilitating the safe integration of traditional practices with conventional medicine.

Therefore, this study aimed to evaluate the knowledge, attitudes, and practices of CT among the Omani population in the Muscat region, exploring associations with educational level and gender. Additionally, it aimed

to identify the primary sources of CT-related knowledge and the main medical conditions for which CT was employed.

2. METHODS

Study Design

This was a descriptive cross-sectional study.

Setting

The study was conducted among adult Omani patients aged 18 years and above, who were attending six primary healthcare centers in Muscat Governorate between July and December 2022. The selected healthcare centers included Al-Khoudh, Al-Seeb, Al-Hail, Al-Wattaya, Ruwi, and Al-Ghubra.

Study Population and Sampling Strategy

The study aimed to assess the knowledge, attitude, and practice of Cupping Therapy (CT) within this specific population. The required sample size for the study was calculated to be 323 participants, based on a 5% margin of error at a 95% confidence interval and an anticipated response rate of 30%. A multi-stage sampling technique was employed for participant recruitment. Six primary healthcare centers were selected from a total of 32 centers using a simple random sampling method. Within these centers, participants were recruited by inviting every second patient to voluntarily take part in the study.

Data Collection

Data were collected using a self-administered Arabic questionnaire that was developed and validated by the authors. The questionnaire was structured into four distinct sections to gather demographic details and assess participants' knowledge, attitudes, and practices regarding CT. For analysis purposes, knowledge scores were categorized as high ($\geq 70\%$ correct), moderate (50–69%), or poor ($< 50\%$). The questionnaire's reliability was assessed using Cronbach's Alpha, which yielded a score of 0.79, indicating strong internal consistency.

Data Analysis

Findings were presented using means and standard deviations for continuous variables, and frequencies and percentages for categorical variables. Unpaired t-tests were applied to determine the possible influence of demographic factors on knowledge, attitude, and practice scores. Statistical significance was set at $P < 0.05$. All data

analysis procedures were carried out using the Statistical Package for the Social Sciences (SPSS), Version 23.

Ethical Considerations

This study received ethical approval from the Research and Ethics Committee of the Ministry of Health (MOH/CSR/21/24711). Written informed consent was obtained from each participant prior to data collection.

3. RESULTS

A total of 450 questionnaires were distributed, of which 290 were completed, yielding a response rate of 64%. The majority of participants were females (70.3%), with a mean age of 33.57 ± 8.057 years. Most participants were university-educated (64.1%), while 34.1% had a school-level education. Additionally, 70.0% of participants were married. The demographic characteristics of the participants are presented in Table 1.

TABLE 1- Demographic Characteristics of The Study

Demographic feature		n (%)
Age	Mean \pm SD	33.57 \pm 8.057
Gender	Male	85 (28.1%)
	Female	204 (70.3%)
Educational level	Illiterate/just literate	5 (1.7%)
	School level	99 (34.1%)
	College & above	186 (64.1%)
Marital status	single	73 (25.2%)
	married	203 (70.0%)
	widowed	4 (1.4%)
	divorced	10 (3.4%)
Employment status	Employed	179 (61.7%)
	Un-employed	53 (18.3%)
	Homemaker	34 (11.7%)
	Student	12 (4.1%)
	Retired	12 (4.1%)
Do you suffer from any diseases?	Yes	54 (18.6%)
	No	236 (81.4%)

When asked about CT, almost all participants (97.0%) had heard of the practice. However, 87.4% were unaware of the different types of CT, and 86.5% believed there was a difference between CT and blood donation. Only a small proportion (7.67%) though CT works by stimulating physiological changes to control pain, while the majority believed it removes harmful or excess blood from the body (87% and 5.3%, respectively).

More than half of the participants (60.6%) reported using CT as a treatment, while others used it prophylactically (18.7%) or based on recommendations from friends and relatives (15.5%).

Participants generally demonstrated positive knowledge about CT. A fifth of the participants (21.9%) agreed that CT could treat some diseases, while 74.2% disagree or strongly disagree with the notion that CT is a myth. Additionally, 33.4% disagreed that CT should only be used when conventional treatment fails. Many participants were neutral regarding CT’s side effects (34.4%) and whether it delivers faster results than conventional therapy (43.3%). Approximately 31.5% did not believe CT could replace conventional medicine, while 53.6% viewed it as a natural healing method. Most participants (70.9%) did not think CT could spread

infectious diseases, and 21.5% believed CT has a placebo effect.

A total of 176 participants out of 290 gained their knowledge of CT from family, while 29 and 17

participants cited books and doctors, respectively. A small number (10 participants) reported learning about CT from other sources such as religious institutions and traditional treatment clinics (Figure 1).

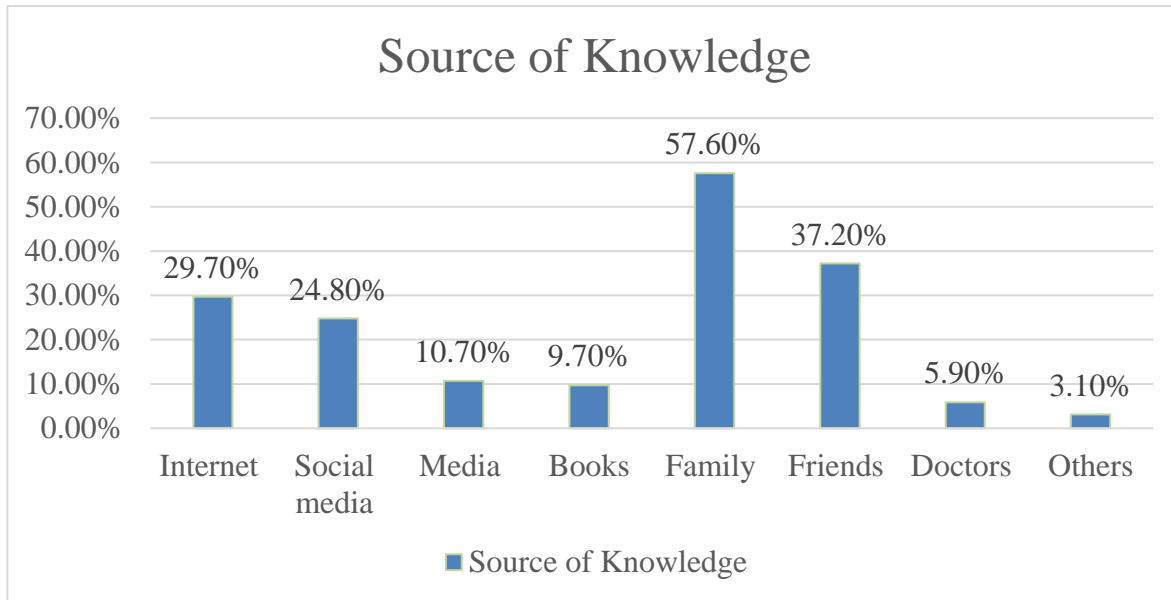


Figure 1- Source of Knowledge Related to Cupping Therapy Among Omanis In Muscat Region

The primary reasons for using CT among the Omani population were to treat back pain (206/302) and stimulate circulation (174/302), while diabetes was the least cited reason (43/302). Other reported uses included treating joint pain, headaches, sciatica, hypertension,

dysmenorrhea, varicose veins, and improving fitness. Participants identified religious endorsement as a significant factor influencing their decision to use CT, with nearly half (47.3%) citing this reason (Table 2).

TABLE 2- Which of The Following Factors Positively Influence Your Decision to Use Cupping Therapy?

	<i>Percent</i>
It is an effective treatment	15.7 %
It is safe and no side effect	16.0 %
Religiously recommended	47.3 %
Commonly used by the community	17.7 %
It can help in wide range of medical problems	1.7 %
Recommended by your family or friends	1.7 %

Regarding attitudes, 85.8% of participants indicated they would follow their physician’s advice to use CT, and 79.2% reported they would discuss their use of CT with their physician. Less than half (43.9%) trusted the effectiveness of CT, and 75.2% stated that they would not

rely on CT alone but would use it alongside modern medical treatments.

In terms of practice, 67.3% of participants had undergone CT at least once. Table 3 shows that 42.3% of participants were encouraged to use CT because they believed it was safe.

TABLE 3- What Do You Think the Main Reason, Encouraged People to Use Cupping Therapy?

	<i>Percent</i>
Lack of trust on pharmacological drugs	13.0 %
Poor physician-patient communication	3.8 %
Believe that cupping therapy is safe	42.3 %
Believe that cupping therapy is more effective than modern treatment	25.9 %
Easily available and cheap	5.8 %
other	9.2 %

Each survey question was scored, with correct answers receiving the highest scores. Overall, most participants demonstrated moderate knowledge (72%), attitude (46%), and practice (68%) of CT (Figure 2). Knowledge scores were significantly higher among participants with higher education levels ($P = 0.014$). However, no significant relationship was found between knowledge scores and age or gender. Similarly, attitude scores were not significantly associated with age, gender, or educational level. Practice scores were significantly higher among females and participants with higher education levels ($P = 0.017$ and $P < 0.00001$, respectively).

4. DISCUSSION

Cupping therapy (CT) has been practiced across cultures for centuries and is increasingly recognized as a complementary and alternative treatment for various health conditions.¹⁵⁻¹⁹ This study explored the knowledge, attitude, and practice of CT among the Omani population residing in the Muscat region, providing insights into its widespread acceptance and the factors influencing its implementation.

Key Findings

This study revealed high awareness and prevalent use of CT. The practice is commonly applied for musculoskeletal pain, particularly back pain, and for circulation enhancement. Perceptions of CT's safety and efficacy are generally positive, often influenced by religious endorsement. Knowledge scores correlated with higher education, while practice scores were significantly higher among females and more educated individuals. Family and friends emerged as the primary sources of CT-related information. Overall, participants demonstrated moderate levels of knowledge, attitude, and practice.

Discussion of Key Findings

4.1 Awareness of Cupping Therapy

The findings indicate that CT is highly prevalent in Oman, with 97.0% of participants reporting awareness of the practice. This aligns with its deep cultural and religious significance in Arab and Muslim communities, where CT is often perceived as both a traditional and religiously endorsed treatment. However, only 12.6% of participants demonstrated awareness of the different types of CT, and the majority (87.0%) associated it with the removal of "bad" or excess blood, rather than its physiological mechanisms for pain relief and therapeutic effects.²⁰ This suggests a significant gap in understanding the scientific basis and diverse applications of CT, highlighting the need for educational initiatives to address these misconceptions.²¹

The study further revealed that family members were the primary source of CT-related knowledge (60.7%), followed by books (10.0%) and healthcare professionals (5.8%). This underscores the traditional and community-driven nature of health knowledge in Oman, where cultural and familial influences play a pivotal role. Similar findings have been reported in other Arab countries, such as Saudi Arabia, where community and family are central to health-related decision-making.²² The relatively low contribution of healthcare professionals and formal education to CT knowledge underscores the potential for integrating CT education into medical curricula and public health programs. Such efforts could promote evidence-based awareness of CT's benefits and risks, fostering informed decision-making among the population.²³

4.2 Attitude towards Cupping Therapy

Participants exhibited a generally positive attitude toward CT, with 85.8% indicating they would follow their physician's advice on its use and 79.2% expressing a willingness to discuss CT with their doctor.²⁴ This

openness suggests a high level of trust in healthcare professionals and a readiness to consider CT as part of a broader healthcare strategy when endorsed by medical experts. Similar studies in Saudi Arabia have reported comparable findings, with participants valuing physicians' recommendations when considering CT.²⁵

interestingly, 75.2% of participants preferred using CT in conjunction with modern medicine, reflecting a pragmatic approach to healthcare. This trend highlights a growing interest in integrative medicine, where traditional and conventional treatments are combined to optimize outcomes.²⁶ Such integration not only enhances patient satisfaction but also mitigates concerns about the risks associated with exclusive reliance on alternative therapies.²⁷

4.3 Practice of Cupping Therapy

The study found that 67.3% of participants had practiced cupping therapy (CT) at least once in their lives. The most common reasons for its use were the treatment of back pain (68.2%) and the stimulation of circulation (57.6%), aligning with its widely recognized applications for musculoskeletal and pain-related conditions. These findings are consistent with existing literature, which highlights CT's potential benefits in addressing such health issues.²⁸ Conversely, diabetes was the least reported reason for using CT (14.2%), suggesting that its application for metabolic or chronic diseases remains limited. This underscores the need for further evidence-based validation of CT's efficacy in managing these conditions in clinical settings.²⁹

Religious endorsement was cited by 47.0% of respondents as a key factor influencing their decision to use CT. This finding reflects the cultural and religious significance of CT in Muslim-majority countries, where it is deeply rooted in Islamic traditions.³⁰ Religious beliefs often play a significant role in shaping health behaviors and the acceptance of alternative therapies, particularly in the Arab world. The integration of cultural and religious considerations into health education programs could further enhance the acceptance and appropriate use of CT within these communities.

4.4 Knowledge, Attitude, and Practice Scores

Participants demonstrated moderate levels of knowledge, attitude, and practice related to CT, with 72% showing moderate knowledge, 46% expressing a positive attitude, and 68% reporting engagement in CT practices. Higher

educational attainment was significantly associated with greater knowledge scores ($P = 0.014$), emphasizing the role of education in improving understanding and informed decision-making regarding CT. Interestingly, no significant correlation was observed between knowledge scores and gender, diverging from previous studies that have reported gender-based differences in health-related knowledge. However, both female participants and those with higher educational levels were more likely to engage in CT practices, as evidenced by their significantly higher practice scores ($P = 0.017$ and $P = 0.000007$, respectively). This suggests that women and individuals with greater educational attainment may have a stronger inclination toward exploring and adopting complementary and alternative therapies, possibly due to increased health awareness or access to information.

4.5 Study Limitations

Several limitations of this study should be acknowledged. First, its cross-sectional design provides a snapshot of the population's knowledge, attitudes, and practices at a single point in time, precluding the ability to establish causality or observe temporal changes. Second, the reliance on self-reported data introduces the potential for response bias, as participants may have overestimated their knowledge or experience with CT. Additionally, the study sample was limited to six primary healthcare centers in the Muscat Governorate, which may not fully represent the broader Omani population. Future studies should consider expanding the sample size and geographic scope to enhance generalizability and address these limitations.

5. IMPLICATIONS OR RECOMMENDATIONS

Future longitudinal studies are recommended to track changes in attitudes and practices over time, especially as new evidence on CT safety and efficacy emerges. Further research should also explore the role of healthcare professionals in shaping public attitudes toward CT and assessing whether the inclusion of CT in formal medical education improves acceptance and understanding. Such studies could provide valuable insights into better integrating CT into modern medical practices. To address the identified gaps in understanding CT's mechanisms and types, public education campaigns are crucial. These efforts should promote evidence-based awareness of CT's benefits and risks, ensuring its safe and appropriate use within the Omani population.

6. CONCLUSION

This study affirms that cupping therapy is a widely recognized and practiced complementary therapy among the Omani population in the Muscat region, largely for musculoskeletal pain and circulation. Participants generally hold positive attitudes regarding its safety and

efficacy. While awareness of CT is high, a significant gap persists in understanding its diverse types and scientific mechanisms. Our findings highlight the need for targeted educational interventions and underscore the potential for safe integration of CT into conventional healthcare practices, ultimately enhancing public health knowledge and well-being.

Author contributions

Author name	contributions
Asma AL Shidhani	Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing-Original Draft, Writing – Review & Editing, Visualization, Supervision, Project administration.
Najjiya AL Maamaria	Methodology, Formal analysis, Investigation, Resources, Data curation, Writing-Original Draft,
Fatma Taqi	Methodology, Formal analysis, Investigation.
Mohammed AL Ghafari	Conceptualization, Methodology, Writing – Review & Editing
Abdul Aziz Al-mahrezi	Conceptualization, Methodology, Validation, Writing – Review & Editing
Maisa Al kiyumi	Validation, Writing – Review & Editing.

Conflict of interest

The authors declare that they have no conflicts of interest.

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Funding

No Funding was received for this research.

Data availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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