

Comparison Between the Safety and Effectiveness of Al-Hijama (Cupping) and the Conventional Medical Therapy as Treatment for Sinusitis (II)

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Submission: 08 Oct 2019

Accepted: 16 Jan 2020

Citation

Ghazy EA, Al Muhayawi SM, Mourad SA.

Comparison between the safety and effectiveness of Al-Hijama (cupping) and the conventional medical therapy as treatment for sinusitis (II). JKAU Med Sci 2020; 27(1): 45-54.

DOI: 10.4197/Med. 27-1.7

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Abstract

Sinusitis has severe negative effects on the quality of life and on work productivity. Cupping (Al-Hijama in Arabic) is a historical, yet a successful, method of treatment for many health problems, and it is now an international evidence-based medical treatment. This study compared the effectiveness and the safety of the cupping therapy as an adjuvant or alternative to pharmacological therapy, based on clinical examinations and their corresponding laboratory results. A randomized and controlled clinical trial was conducted in the Prophetic Medicine Research Cupping Clinic of the King Abdulaziz University Hospital in Jeddah, Saudi Arabia, by recruiting 60 patients, who were suffering from chronic or recurrent acute sinusitis. The patients were divided into three groups: 1) those who had undergone Al-Hijama with drug therapy; 2) those who had Al-Hijama plus a salt nasal solution and an analgesic, when needed; and 3) those who were regularly treated with ordinary medicine. The groups were re-examined after three months of treatment. The results showed significant differences on the effects of cupping, based on the results of the clinical and the laboratory analyses (Eosinophil). Al-Hijama therapy was found to be effective, simple, affordable, acceptable, and safe, when used correctly.

Keywords

Sinusitis; Cupping; Al-Hijama; Prophetic medicine

Introduction

Sinusitis is considered as a common health problem that does not only affect certain general health-related problems, but also, can become a burden to

the economy, when a significant part of the population is affected by it. For example, it is known that 2% of the UK population suffers from sinusitis^[1]. Sinusitis is a nose inflammation that is either acute (sinusitis that lasts for 12 weeks or less), chronic (more than 12

weeks), or racerunner acute (attacks that occur several times within one year). However, its symptoms for all three types are almost similar. Acute sinusitis is due to infection, mainly allergy or structural nasal problem. Chronic sinusitis is mostly due to the repeated attacks of an acute sinusitis. Generally, sinusitis can be diagnosed adequately, based on the patient's medical history and clinical findings only. Two or more of the following major signs or symptoms have been consistently cited from all of the guidelines as the primary diagnostic indicators for acute sinusitis: nasal congestion, obstruction or blockage, anterior or posterior purulent rhinorrhea, facial pain, or pressure^[2]. Its clinical examination includes the incidence of tender sinuses.

Nasal endoscopy provides a better means of examination in the case of treatment failure, because it shows the inflammatory changes of the nasal mucosa, such as its redness, swelling, discharge, and congestion^[2]. Laboratory tests are generally undertaken for the examination of allergy and other inflammatory features, such as for neutrophils, Immunoglobulin E, and eosinophil. Moreover, a tissue sample can be taken for histological tests and for culturing, if treatment fails.

From the American Academy of Otolaryngology Head and Neck Surgery Guidelines^[3], radiography is considered neither useful nor cost effective. Computed tomography is also not recommended as a preferred imaging option in cases, where complications are suspected before surgery. However, this option was mentioned in some guidelines^[4]. Potential sinusitis complications include the speeding of the infection around the eye that may lead possibly to blindness, infection of the frontal bone, meningitis, and brain abscess^[5].

Al-Hijama was described as one of the best remedies by Prophet Muhammad (PBUH): "The best among what you use in therapy is Al-Hijama and Al-Qust Al-Bahri (white roots of *Saussurea lappa*)"^[6]. It is an effective, simple, economic, and time-saving remedy with no side effects. Based on the Taibah theory, it filters and clears the blood and the interstitial fluids from causative pathological substances (CPS). This occurs via a percutaneous pressure-dependent filtration of the capillary blood in the skin^[7]. During the process of Al-Hijama, the excretory skin functions are enhanced, congestion is removed, tissue adhesions are broken, and homeostasis is restored. Ecchymosis disappears within a few days, and all side effects of

the cupping are reversible^[7]. Al-Hijama has a synergic effect with pharmacological modern drugs, and it also increases the immunity of the human body^[8]. This explains why Al-Hijama can treat diseases from different pathogens. Majority of systematic reviews and randomized controlled clinical trials suggested a favorable effect of the wet cupping, when used either alone or in combination with the conventional treatment, especially for stress-related headaches and musculoskeletal pain^[9,10].

Al-Hijama is best practiced at the pathological sites for local clearance, at the back region, and the back of the neck for general blood clearance, based on prophetic medicine and on Salah's technique^[11]. This treatment has proved its benefits over thousands of years. It has evolved as an international evidence-based medical treatment, with which a majority of the western countries had set up specific centers to practice this technique. This has enhanced basic healing processes, even in geriatric patients, adding more to its acceptance worldwide^[12]. Cupping is recommended as a complementary treatment modality for many chronic medical conditions.

Previous studies about cupping had only focused on its impacts and its role in many similar health problems, without focus on sinusitis using clinical findings or laboratory results. Therefore, this present study was aimed to provide a comparative analysis between the effectiveness and the safety of cupping therapy as an adjuvant or alternative to pharmacological therapy among sinusitis patients.

Material and Methods

A randomized and controlled clinical trial was conducted at the Prophetic Medicine Research Cupping Clinic of the King Abdulaziz University Hospital in Jeddah, Saudi Arabia from January 2016 to March 2017. The trial was registered with the National Committee of Biological and Medical Ethics under entry no. HA-02-J-008.

This study involved adult patients, with chronic or recurrent acute sinusitis and with ages between 15 and 56 years old. Both male and female patients with stable cases of sinusitis were included. These patients did not suffer from any sort of sinusitis complications, neither were they treated with Al-Hijama before coming as outpatients of the ear, nose, and throat (ENT) clinic of the KAUH or the University Medical Services Center clinics. The patients, who had experienced severe

sinusitis complications or those beyond the age range, were excluded from this study. A total of 60 sinusitis patients were recruited and divided into three study groups, based on the modes of the treatment for each group.

The patients who fulfilled the criteria were referred to the Prophetic Medicine Clinic after obtaining their written consents on their participation in this study. Before commencing their participation, the patients were guided about the details of their participation, followed by the overview of their rights to withdraw from the study at anytime, without affecting the services provided to them. The study was carried out based on the ethical principles of the Helsinki Declaration. The Ethical Committee of the Faculty of Medicine in the King Abdulaziz University (KAU) in Jeddah approved the initiation of the cupping clinic as an outpatient clinic. The proposal of this study was approved by the Institutional Review Board of the KAUH, and the results had been displayed periodically. The registration number for this study at the National Committee of Bio and Medical Ethics was HA-02-J-008.

The participants of each group were selected by a simple randomization technique, i.e., by picking them based on their file numbers. The concept and process of Al-Hijama was made clear to all of the patients included in groups I and II. So, there is no blind sample in this study. The treatment modalities for the three groups are as follows:

- Group I received Al-Hijama as an adjuvant to the main sinusitis drug therapy.
- Group II received Al-Hijama as the main treatment, with a salt solution administered five times a day and with mild analgesic (paracetamol), when needed.
- Group III received a conventional sinusitis medication that was regularly administered for one week, which included a treatment with antibiotics, Amoxicillin 500 mg, taken three times a day for one week, with antihistamine once daily, with nasal spray, Flixonase™ or Nasonex, that contains corticosteroid, applied three times a day.

The patients made three visits to the clinic at a two-week interval within a one-month treatment. Each treatment session included cupping on eight points.

The six points included wet cupping above and medial to both eyebrows, over the sinuses, over the 7th cervical vertebra and 3 cm below it, and on both sides of the neck behind and below both ears. Two points of dry cupping was applied over the sinuses on both sides of the nose above the alae nasal.

Based on the steps outlined in the Taibah theory, shallow scarification incisions, approximately 1–2 mm long and < 0.2 mm deep, were made. Two venous blood samples were drawn from each patient, one before the first Al-Hijama session and another after the last session, for the analyses of complete blood cell counts (CBC). The Xn1000 device (Sysmex Corp., Kobe, Japan) and the WDF reagent (Sysmex Corp., Kobe, Japan) were used to measure the eosinophil's percentage.

The patients were then re-examined after three months from their last Al Hijama treatment. Questionnaires were filled out by the examining physicians, who were required to complete the questionnaire for all participants. The patients underwent clinical sinusitis examinations for sinus tenderness, nasal obstruction, swelling of the nasal mucosa, the presence of pus, the colored discharge, anatomical abnormality, and for the digital laboratory findings, i.e., for the eosinophils percentage (%) value – eosinophils. The data were then analyzed using the IBM SPSS Statistics for Windows, version 20 (IBM Corp., Armonk, NY USA). The qualitative data were expressed as frequencies and percentages.

Results

Initially, the study involved 77 patients. However, only 60 patients had completed the questionnaire, which represent a 78%-response rate. Table 1 provides the comparison between the study groups, based on their demographic profiles. The findings of the study indicate that 95% of the participants were females, and 50–70% of the participants were aged between 36 and 50 years. Eighty-five to ninety percent of them were Saudi nationals, and 70-95% patients had allergic complaints. Seventy-five to eighty-five percent of the patients had suffered from sinusitis for more than three years. The findings show that there is no statistically significant differences between the groups, based on their demographic data. Figure 1 illustrates the presence of deformity among the patients and shows that only 1.7% had nasal septal deviation, and the rest had no anatomical deformity.

Table 2 compares the clinical examination among the three groups, based on the treatments provided. The results demonstrate a statistically significant difference among the three groups, based on the clinical examinations conducted, which favor the

efficacy of the Al-Hijama therapy in treating patients with sinusitis.

Table 3 shows the comparative analysis between the examinations undertaken before and after the

Table 1. Comparison between the study groups based on their demographic data

Demographic Data	Groups						Chi-squared Test	
	Al-Hijama and Medication		Medication Only		Hijama with Salt Drops or Analgesic Only		χ^2	P-value
	No.	%	No.	%	No.	%		
<i>Age (years)</i>								
20–35 years	4	20.0	4	20.0	4	20.0	2.667	0.615
36–50 years	12	60.0	14	70.0	10	50.0		
51–65 years	4	20.0	2	10.0	6	30.0		
<i>Gender</i>								
Male	0	0	0	0	1	5.0	2.034	0.362
Female	20	100.0	20	100.0	19	95.0		
<i>Nationality</i>								
Saudi	18	90.0	17	85.0	17	85.0	0.288	0.866
Non-Saudi	2	10.0	3	15.0	3	15.0		
<i>Do you complain from allergy?</i>								
No	1	5.0	3	15.0	6	30.0	4.560	0.102
Yes	19	95.0	17	85.0	14	70.0		
<i>For how long are you suffering from sinusitis?</i>								
Less than 6 months	0	0	1	5.0	0	0	6.725	0.347
More than 6 months and less than one year	0	0	1	5.0	0	0		
More than one year and less than 3 years	4	20.0	1	5.0	5	25.0		
More than 3 years	16	80.0	17	85.0	15	75.0		

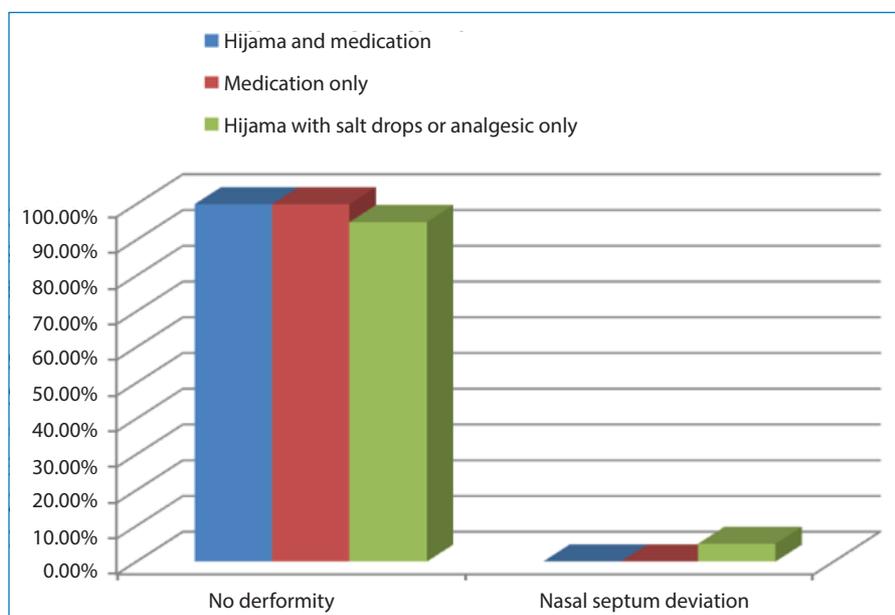


Figure 1. Bar chart comparison of the treatments on the groups, based on the presence of anatomical deformity.

Table 2. Comparative analysis of the clinical examinations of the three study groups after treatment

	Groups						Chi-squared Test	
	Al-Hijama and Medication		Medication Only		Hijama with Salt Drops or Analgesic Only		χ^2	P-value
	No.	%	No.	%	No.	%		
<i>What is the severity of pain with pressure after?</i>								
No tenderness	4	20.0	0	0	13	65.0	42.745	<0.001
Mild	10	50.0	2	10.0	5	25.0		
Moderate	6	30.0	10	50.0	2	10.0		
Severe	0	0	8	40.0	0	0		
<i>Is air coming out from both nasal opening after?</i>								
No air is felt from both nasal opening	2	10.0	4	20.0	0	0	22.000	<0.001
Air is felt from one opening only	4	20.0	12	60.0	2	10.0		
Air is felt from both nasal opening	14	70.0	4	20.0	18	90.0		
<i>Does the nasal mucosa show sign of inflammation after?</i>								
No	1	5.0	0	0	6	30.0	40.079	<0.001
Mild	12	60.0	2	10.0	13	65.0		
Moderate	7	35.0	10	50.0	1	5.0		
Severe	0	0	8	40.0	0	0		
<i>Is there any colored mucosal discharges after?</i>								
No	18	90.0	9	45.0	19	95.0	16.957	<0.001
Yes	2	10.0	11	55.0	1	5.0		
Dark	5	25.0	4	20.0	2	10.0		

Table 3. Comparison between before and after examination in each of Al-Hijama treated group

Examination	Al-Hijama and Medication				P*	Al-Hijama with Salt Drops or Analgesic Only				P*
	Before		After			Before		After		
	No.	%	No.	%		No.	%	No.	%	
<i>What is the severity of pain with pressure?</i>										
No Tenderness	0	0	4	20.0	<0.001*	0	0	13	65.0	<0.001*
Mild	2	10.0	10	50.0		1	5.0	5	25.0	
Moderate	10	50.0	6	30.0		11	55.0	2	10.0	
Severe	8	40.0	0	0		8	40.0	0	0	
<i>Is air coming out from both nasal opening?</i>										
No air is felt from both nasal opening	2	10.0	2	10.0	0.555	0	0	0	0	0.129
Air is felt from one opening only	7	35.0	4	20.0		7	35.0	2	10.0	
Air is felt from both nasal opening	11	55.0	14	70.0		13	65.0	18	90.0	
<i>Does the nasal mucosa shows sign of inflammation?</i>										
No	0	0	1	5.0	<0.001*	0	0	6	30.0	<0.001*
Mild	1	5.0	12	60.0		2	10.0	13	65.0	
Moderate	13	65.0	7	35.0		12	60.0	1	5.0	
Severe	6	30.0	0	0		6	30.0	0	0	
<i>Is there any colored mucosal discharges before?</i>										
No	13	65.0	18	90.0	0.129	10	50.0	19	95.0	0.005
Yes	7	35.0	2	10.0		10	50.0	1	5.0%	

*Using Chi-squared test: P-value <0.05 significant; P-value <0.001 highly significant

Hijama treatment that was administered to the two Al-Hijama groups. The findings revealed a high statistical difference in favor of Al-Hijama, specifically in reducing tenderness (P -value < 0.001) and the inflammation of the mucous membrane and in decreasing the discharge (P -value < 0.001). Therefore, it can be concluded that Al-Hijama proves to be an effective treatment, because it had reduced congestion and inflammation.

Table 4 compares the laboratory findings on the three study groups after providing them with different treatments. The results indicate statistically significant differences between the laboratory analysis of the patients, who were treated with Al-Hijama and those with pure pharmacological treatments. This difference favors the effects of the Al-Hijama treatment. The P -value of < 0.05 is significant for the automated eosinophils results after the three-time administration of the Al-Hijama treatment and for the automated eosinophils % results after the three-time Hijama treatment.

The comparison between the laboratory data obtained for the Al-Hijama treatment with salt drops of analgesic is illustrated in Table 5. The results show statistically significant differences between the laboratory analysis of the patients, who were treated before and after the Al-Hijama treatment. The P -value of 0.04 is significant for the automated eosinophils

results before and after the Al-Hijama, and the P -value of 0.005 is significant for the automated eosinophils percentage (%) results before and after the Al-Hijama treatment. These findings support that Al-Hijama is an appropriate treatment for patients with sinusitis.

Discussion

Our study compared the effectiveness and the safety of the cupping therapy as an adjuvant or alternative to pharmacological therapy. The results showed no statistically significant difference between the groups of patients based on their demographic data. However, the results have also clearly demonstrated the benefits of Al-Hijama in improving the clinical findings and the laboratory testing indicators of sinusitis. None of the participants had complained or had reported any adverse events after the Al-Hijama therapy. The significant difference between the groups treated with Al-Hijama and the group treated with medication only concludes that Al-Hijama has a real therapeutic effect, especially in reducing the tenderness and the inflammation of the mucous membrane and in decreasing the amount of discharge. Cupping resulted to have a real therapeutic effect in reducing congestion and inflammation. Similarly, the comparison of the laboratory results (eosinophils %-eosinophils) between the groups also showed statistically significant differences before and after the therapy in patients,

Table 4. Comparison of the laboratory findings among the three groups after treatment

	Hijama with Salt Drops or Analgesic Only	Hijama And Medication	Medication Only	T-test	P-Value
<i>The automated eosinophils results after three Al-Hijama?</i>					
Mean \pm SD	0.15 \pm 0.07	0.23 \pm 0.23	0.31 \pm 0.31	2.327	0.032
Range	0.03–0.34	0–0.9	0.08–1.28		
<i>The automated eosinophils percentage results after three Al-Hijama?</i>					
Mean \pm SD	2.59 \pm 1.24	3.29 \pm 2.64	4.79 \pm 4.45	2.679	0.019
Range	0.3–4.9	0–10.4	1.2–19.2		

Table 5. Comparison of the laboratory data on the treatment with Al-Hijama with salt drops or analgesic only

Laboratory data	Al-Hijama with Salt Drops or Analgesic Only		Mean Difference	T-test	P-value
	Mean	\pm SD			
The automated eosinophils results before Al-Hijama?	0.19	0.12	0.04	2.190	0.041
The automated eosinophils results after three-time Al-Hijama treatment?	0.15	0.07			
The automated eosinophils percentage results before Al-Hijama?	3.29	1.64	0.70	3.134	0.005
The automated eosinophils percentage results after three-time Al-Hijamas treatment?	2.59	1.24			

who were treated through Al-Hijama. This concludes that Al-Hijama has a real therapeutic effect as proven by the laboratory indicators.

The effectiveness of this study was evaluated by comparing the study results with previous studies. For example, Rossberg *et al.*^[13] showed that aquapuncture had reduced sinus soft tissue swelling in the conventional treatment group over a period of four weeks, and their health-related quality of life improved over a period of 12 weeks. There was just a single non-significant difference in the change of the symptom score over the periods of four and 12 weeks between the conventional medication and the traditional Chinese acupuncture^[13]. The technique, however, follows a method similar to that of cupping.

The attributive effect of acupuncture in the inflammatory disease was investigated by Zijlstra *et al.*^[14] Their results demonstrated that acupuncture has a beneficial effect in treating different diseases and painful conditions. It is known to be useful and serves as a complementary therapy to replace the generally accepted pharmacological intervention^[14]. This technique is further described as effective, because it is capable of reducing the nasal congestion in sinusitis^[15]. Sertel *et al.*^[15] reported a significant clinical improvement in the forced expiratory volume, from 3.01 to 3.50 l treated with acupuncture, with the discontinuation of the inhaled corticosteroid and with no asthma-related complaints among the patients with persistent allergic rhinitis that was complicated by rhinosinusitis and asthma^[16]. Several randomized controlled trials had demonstrated a specific effect of acupuncture on allergic rhinitis^[17].

Previous studies also showed the positive impact of Al-Hijama therapy, because it improves the immune system and cleans the blood, lymph, and the interstitial fluid from pathogenic, allergic, and inflammatory agents^[10]. It also relieves the congestion or stagnation of morbid matter^[18]. Wet cupping (Al-Hijama) is further effective in improving the health-related quality of life of the patients with chronic conditions. Therefore, cupping is recommended as a complementary treatment modality for chronic medical conditions, especially for pain^[19].

Acupuncture is practiced all over the world and was endorsed by the World Health Organization as a mode of treatment in 1979 for 40 diseases, including sinusitis. Acupuncture has a positive effect in treating

sinusitis and improving the quality of life of the patients. Complementary medical practitioners frequently use acupuncture in the treatment of patients with chronic sinusitis and nasal symptoms^[20]. Likewise, Al-Hijama has a positive effect in boosting the immune system and in the treatment of inflammatory and allergic and congested diseases, along with the ridding of the CPS^[8]. Ghazy *et al.*^[21] demonstrated the marked superiority of Al-Hijama therapy as an adjuvant or alternative treatment for sinusitis symptoms. Al-Hijama was found to be ten times more effective than acupuncture^[11]. If applied in the correct way, there is no expected complication from Al-Hijama. It serves as a possible mode of treatment due to its effectiveness, simplicity, safety margin, economic benefits, time-saving capability, and social acceptability as a treatment of sinusitis.

Conclusion

This study compared the effectiveness and the safety of cupping therapy as adjuvant or alternative to pharmacological therapy, based on the findings of the clinical sinusitis examination of the patients and their laboratory results. The results demonstrated a marked superiority of the Al-Hijama therapy on the treatment of the sinusitis patients, when used as an adjuvant or alternative treatment, based on the clinical findings and laboratory investigations. Al-Hijama is an effective, secure, simple, affordable, time-saving, economic, and a socially acceptable therapy, with no complications, if applied in the right way. It can be considered as an adjuvant or alternative to pharmacological interventions for sinusitis. Al-Hijama is likely to synergize all medical treatment modalities, increases the immunity of the human body, and removes the CPS that are targeted by medical treatment. This is likely to facilitate better therapeutic outcomes and shortens the way towards the cure. There was no chemical interaction between the Al-Hijama and the therapeutics taken for different diseases. Therefore, there would not be any disturbances in the therapeutic role exerted by the different drugs. Al-Hijama is a therapy that has evidence based on scientific and medical grounds.

This study recommends the adoption of Al-Hijama by the health officials as part of the health care regimen for sinusitis patients. It should be adopted in hospitals and specialized centers as an adjuvant or alternative treatment for sinusitis. This study has also emphasized the appropriate use of ancillary tests, including nasal endoscopy, computed tomography, and testing for

allergy and immune function, as well as reducing the inappropriate use of radiographic imaging. The Al-Hijama itself can be considered as a medical therapy (Hijamatology), to which scientific research should be directed in order to come up with a standard method to achieve its maximal therapeutic benefits. Al-Hijama carries a lot of hope in improving the therapeutic outcomes of many diseases that are still of dismal prognosis, including sinusitis. Future studies need to highlight the role of Al-Hijama in the treatment of various health problems, for which modern medicine has failed to find a cure yet, including sinusitis.

Acknowledgments

The authors would like to thank the staff of the Sheikh Yousef Abdul Latif Jameel Scientific Chair: Professor Soad Aljaouni, Dr. Eisha Ali, Mrs. Fatma, Mrs. Zakia, and Mrs. Sabria from the Al-Hijama Clinic. The authors would also like to thank all staff members of the University Medical Service Center, KAUH, and the ENT Department. Finally, the authors would like to give thanks to all the patients, who participated in this study. Before all, thank to Allah for helping and guiding our study.

Conflict of Interest

The authors declares that they have no conflict of interest that is related to this study and this article.

Disclosure and Funding

This work was not supported or funded by any drug company. This study was funded by the Sheikh Yousef Abdul Latif Jameel Prophetic Medicine Scientific Chair, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia, under the Grant No. MBK/5/437. The researcher did not receive any payment or material costs of any kind for the participants.

Ethical Approval

The study was approved by the Ethics Committee of the KAUH in Jeddah, Kingdom of Saudi Arabia, also known as the Institutional Review Board of Hospitals.

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مقارنة بين سلامة وفعالية العلاج بالحجامة والعلاج الدوائي التقليدي في مرضى التهاب الجيوب الأنفية (II)

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المستخلص. التهاب الجيوب الأنفية له آثار سلبية خطيرة ويؤثر على جودة حياة المصاب وإنتاجيته ، ويعتبر عبأ على الاقتصاد الوطني، و الحجامة علاج تاريخي ناجح للعديد من المشكلات الصحية، وهي الآن علاج دولي قائم على الأدلة والبراهين، ومتاح حول العالم، قارنت هذه الدراسة فعالية وسلامة العلاج بالحجامة كمساعد أو بديل للعلاج الدوائي في نتائج الفحص الإكلينيكي، ونتائج التحاليل المختبرية لمرضى التهاب الجيوب الأنفية، وقد أجريت تجربة سريرية عشوائية ذات شواهد في عيادة أبحاث الطب النبوي، كرسي عبد اللطيف جميل، مستشفى جامعة الملك عبد العزيز، جدة - المملكة العربية السعودية حيث اختيرت عينة من ٦٠ مريضاً يعانون من التهاب الجيوب الأنفية المزمن أو الحاد المتكرر، وقسموا بالتساوي إلى ٣ مجموعات: المجموعة الأولى عولجت بالحجامة مع الأدوية، والثانية عولجت بالحجامة ومحلول الأنف الملحي ومسكن خفيف عند اللزوم، وعولجت المجموعة الثالثة بأدوية التهاب الجيوب التقليدية بانتظام، وأعيد فحص المجموعات بعد ٣ أشهر من العلاج، حيث أظهرت النتائج فروقا ذات دلالة إحصائية على نتائج الفحص السريري والنتائج المختبرية (Eosinophil)، لصالح العلاج بالحجامة، فالعلاج بالحجامة علاج فعال، وبسيط، و متوفر بأسعار معقولة، و مقبول اجتماعياً و آمناً عند استخدامه بشكل صحيح، لذلك خلصت الدراسة إلى أن غالبية المرضى الذين يعانون من التهاب الجيوب الأنفية من المرجح أن يستفيدوا من العلاج بالحجامة.