



Dry Cupping Therapy: A Way Forward in the Management of Primary Dysmenorrhoea

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Authors' contributions

This work was carried out in collaboration among all authors. Author HN designed the study, performed the statistical analysis, wrote the protocol and wrote first half of manuscript, author AA wrote the second half of manuscript and draft of the manuscript, managed the analyses of the study and the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JPRI/2021/v33i33A31770

Editor(s):

(1) Dr. Somnath D. Bhinge, KES'S, Rajarambapu College of Pharmacy, India.

Reviewers:

(1) Chew Kah Teik, Hospital Canselor Tuanku Muhriz Universiti Kebangsaan Malaysia, Malaysia.

(2) Muhammad Rusda, Universitas Sumatera Utara, Indonesia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/65644>

Received 01 January 2021

Accepted 24 February 2021

Published 23 June 2021

Review Article

ABSTRACT

Dysmenorrhea is a common gynaecological problem in women of reproductive age; in general, it begins with the first ovulation cycle and occurs about two years after menarche and most of the severe episodes occurs before 25 years of age. Primary dysmenorrhoea (*Usre Tams Tashannuji*) is one of the most common gynaecologic disorders, refers to painful menstruation. In classical Unani texts dysmenorrhoea is defined under topics like *Ehtebas-e-tams* and *Waja-u-zahar* and *aujae rehm*. *Hijama* (dry cupping) over the umbilicus removes the blood and fluid from the site of inflammation to give relief from the menstrual pain. It also diminishes swellings.

Keywords: Primary dysmenorrhoea; cupping; ehtebas-e-tams; waja-u-zahar.

1. INTRODUCTION

Dysmenorrhoea is a Greek word, [1,2] Dys means "difficult," "painful," or "abnormal"; meno is "month"; and rheais "flow," meaning difficult

monthly flow [3,4]. The term dysmenorrhea refers to severe painful cramping sensation in the lower abdomen often accompanied by sweating, tachycardia, headache, nausea, vomiting, diarrhoea, and tremulousness occurring just

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before or during the menses [5]. Primary dysmenorrhea is defined as painful menses in women with normal pelvic anatomy usually begins during adolescence [6] and it occur about 50% of menstruating females [7].It is unusual for symptoms to start within first six months after menarche. Affected women experience sharp, intermittent spasm of pain usually concentrated in the supra pubic area. Pain may radiate to the back of the legs or the lower back. Pain usually develops within hours of the start of the menstruation and peaks as the flow becomes heaviest during the first day or two of the cycle [8].

2. INCIDENCE

More than 50% of post pubescent menstruating women are affected by dysmenorrhoea, with 10–12% of them having severe dysmenorrhoea with incapacitation for 1–3 days each month [9] Dawood [10]. Dysmenorrhoea is most common in women between the ages of 20 and 24 years, with most of the severe episodes occurring before 25 years of age [11].

2.1 Etiopathogenesis of Dysmenorrhoea

One reason that has been suggested as an explanation for primary dysmenorrhea is an increased production of uterine prostaglandins derived from cyclooxygenase (COX)-2 activities [12,13]. Studies have shown that an inhibition of prostaglandin synthesis occurs through inhibition of COX-2 that could be exerted by nonspecific non-steroidal anti-inflammatory drugs (NSAIDs). These drugs have useful effects such as anti-inflammatory, antipyretic and analgesic [14,15]. Moreover studies have indicated that the conventional treatment for primary dysmenorrhea has a failure rate of 20% to 25%. [16]. The risk factors for dysmenorrhea are; age<20 years, nulliparity, heavy menstrual flow,smoking, high/upper socioeconomic status; attempts to lose weight, physical activity, disruption of social networks, depression and anxiety [11]. The conventional medicines prescribed for treatment of dysmenorrhea are NSAID and OCPs (prostaglandin inhibitors) that have notable side effects like nausea, stomach irritation, gastrointestinal ulcers and renal blood flow etc [4].

2.2 Unani Concept of Dysmenorrhoea

In Unani system of medicine dysmenorrhea is described under the heading of *Usre Tams* According Hakim Ajmal Khan, stated that Patient

may become unconscious or faint due to severity of pain, restlessness. Patient feels heaviness in the pelvic area & pain in thighs, hips and in back.Back ache, heaviness in lower abdomen, pain occur before menstruation, nausea, vomiting. [17]. According to Hippocrate, *usre tams* occurs due to stagnation of menstrual blood secondary to cervical obstruction and causes painful menstrual period. According to Shaikhur Rayees Abu Ali Husain bin Abdullaha bin Sina *Usre Tams* occurs due to obstruction in the menstrual blood flow. He also described that if the menstrual blood is balanced in quality and quantity, the cycle is regular [18].

2.3 Classification of Dysmenorrhoea

2.3.1 Spasmodic or primary dysmenorrhoea

It is usually life-long. It can cause severe and frequent menstrual cramping from severe and abnormal uterine contractions. In Unani, it is called "*Usre Tams Tashannuji*". The cause of primary dysmenorrhea is not well established. However, the responsible cause has been identified on the hyper-production of uterine prostaglandins, particularly of PGF_{2a} and PGF₂ [19]. While exploring the Unani literature in depth it is observed that the condition of spasmodic dysmenorrhoea is very much mimicking to *balghami khilt* or *saudavi khilt* [20].

2.3.2 Congestive or secondary dysmenorrhoea

This type is due to some physical cause. It usually starts later in life. It may be caused by another medical condition, such as pelvic inflammatory disease or endometriosis. In Unani, This type of dysmenorrhoea is known by the name of "*Usre Tams Iltehabi*".

2.4 Management of Dysmenorrhoea

Treatments for primary dysmenorrhoea are predominantly based on the three main theories of aetiology.

- On account of the PG-based etiology of primary dysmenorrhea, the current most common pharmacological treatment for dysmenorrhea is non-steroidal anti-inflammatory drugs (NSAIDs) [21,22]. However, long-term use of NSAIDs has been associated with side effects such as headache, dizziness, drowsiness, loss of appetite, nausea, vomiting, gastrointestinal bleeding, increased acute asthma, dysuria,

and acne but still it is used most commonly [23,24].

- Oral contraceptives often used as second-line therapy. The synthetic hormones in oral contraceptives suppress ovulation and reduce the thickness of the endometrial lining of the uterus, thereby reducing the volume of menstrual fluid, PG synthesis and dysmenorrheic pain [25-27]. However, a recent meta-analysis has confirmed the long-suspected association between oral contraceptive use and the risk of venous thromboembolism [28] and use in some women may therefore be contraindicated.
- Other currently available therapeutic approaches for the management of dysmenorrheic pain include: transcutaneous electric nerve stimulation, which alters the body's ability to receive or perceive pain signals; transdermal nitroglycerin patches, which inhibit uterine contractions; acupuncture/acupressure; and surgical interventions such as laparoscopic uterosacral nerve ablation surgery [27] [29,30]. Such therapeutical approaches, however, are not considered to be effective enough to be widely used in clinical practice and RCTs showing efficacy of such approaches are limited [30]. Many women also resort to alternative non-pharmacologic therapies. Alternative approaches include heating pads for cramps, extra bed rest or sleep, physical exercise, meditation, aromatic oils, ginger root tea, salt water, increased calcium intake, increased vitamin D intake and various food sources such as beans, tofu and salmon [24] [31,32].

In dealing with dysmenorrhea, medications such as prostaglandin synthesis inhibitors, non-steroidal anti-inflammatory drugs and contraception pills are used irregularly because of fear of their side effects. Therefore, there is an urge to develop new and simpler treatment for dysmenorrhea. For this purpose, dry cupping therapy can be used. As In classical Unani literature *hijamat bila sharat* (dry cupping) over the umbilicus has been used to relieve the colic pain of gaseous distension and the menstrual pain [33].

2.4.1 Cupping therapy

Cupping therapy is a complex therapy having multidimensional roles and benefits in various

diseases including acne, herpes zoster, paralysis, and pain management.

Cupping therapy is popular as '*Al-Hijama*' in Egypt and Arabic countries. It is an intervention of Asian medicinal systems such as Unani, Ayurveda, Chinese, Tibetan, and Oriental Medicine in Asia, the Middle East, and European countries. In Europe, cupping therapy was customarily used by monastery practitioners and folk healers up to the 19th century. It also finds a mention in the famous Egyptian *Papyrus Ebers* (1550 BC) in the west and ancient Greek medicine. Hippocrates (Greece) preached the cupping based treatments related with musculoskeletal diseases of the back and extremities, gynecological complaints, pharyngitis, ear ailments, and lung diseases. There are different cupping methods viz. weak/light cupping, medium cupping, strong cupping, moving cupping, needle cupping, moxa/hot needle cupping, empty/flash cupping, full/bleeding cupping, herbal cupping, and water cupping. Dry and wet cupping are commonly practiced in the Far East, Middle East, and Eastern Europe as well. Thus, cupping therapy maintains a strong historical account that needs to be rejuvenated in modern times [34].

2.4.2 Definition of cupping therapy

Cupping therapy is a therapy of alternative traditional medicine. Due to utilization of cups, it is called as cupping therapy. '*Hijama*' is alternative name of cupping therapy. It is Arabic word, which means 'to suck' [35].

Cupping (*Hijamat*) therapy is very well documented as a result of several thousand years of clinical experiences in Unani medicine. In this procedure, suction is created by various means either with or without bloodletting [36]. Cupping or *Hijamat* is a method used for local evacuation or diversion of morbid humors in which a horn (*singhi*) is attached to the surface of the skin of the diseased part through negative pressure created by vacuum [37].

2.4.3 Common types of cupping therapy

Two types of cupping therapy are commonly in use these are: cupping with bloodletting (*Hijamat bil shurt*) and cupping without bloodletting (*Hijamat bila shurt*) describe as follows:

- Dry cupping (*Hijamat bila shurt*) - This is the process of using a vacuum on different

areas of the body in order to gather the blood in that area without incisions (small, light scratches using a razor).

- Wet cupping (*Hijamat bila shurt*)—This is the process of using a vacuum at different points on the body but with incisions in order to remove 'harmful' blood which lies just beneath the surface of the skin. (It is recommended that wet cupping (*hijamat*) is only administered by a cupping therapist) [36] [37].

2.4.4 Indication and diseases that respond to cupping

Cupping has been used for a number of ailments. Different type of cupping is indicated in different diseases. *Hijamat bil shurt* is used in various diseases like heaviness of head, asthma, dyspnoea, migraine, quinsy, palpitation, headache, haemorrhoids, amenorrhoea, renal and ureteric colic, plethora, pustules and boils, sciatica, gout, pain of the knee, diseases of the liver, spleen and psoriasis, etc. *Hijamat bila shurt* is used in various diseases like excessive menstrual bleeding, removal of deep swelling, scrotal hernia, sciatica, piles, hydrocele, gout, renal calculi and epistaxis, etc [37].

In the East Chinese have been practicing the art of cupping for at least three thousand years. In the West cupping therapy has its birth in Egypt. The Ebers Papyrus written around 1550 BC states that bleeding by wet cupping removed foreign matter from the body [38]. Egyptian and Greeks have been practicing the art of cupping since ancient times. Both Hippocrates and Galen were staunch advocates and user of this therapy [38]. Prophet Mohammad (PBUH) sanctioned the use of cupping [20]. Cupping without bloodletting works on the principle of *Imala-e-mavad*, i.e. diversion of morbid humors from one site to the other [36]. In Unani medicine to relieve *usre tams hijamat bilashurt* is applied below the umbilicus as it works on the principle of *imala mavad* diversion of morbid materials [3].

2.4.5 Mechanisms of action involved in cupping therapy for reducing pain

Although the exact mode of action of cupping to reduce pain is not well understood, three main possible hypotheses and theories might explain mechanisms of pain reduction. These include:

1. "Pain-Gate Theory" (PGT): this theory comprehensively explains how the pain is transmitted from the point of its inception to

the brain, and how it is processed in the brain which sends back the efferent, protective signal to the stimulated or injured area. It is reported that local damage of the skin and capillary vessels acts as a nociceptive stimulus [39].

2. "Diffuse Noxious Inhibitory Controls (DNICs)": DNIC signifies inhibition of activity in convergent or wide dynamic range-type nociceptive spinal neurons triggered by a second, spatially remote, noxious stimulus. This phenomenon is thought to underlie the principle of counter-irritation to reduce pain [39].
3. "Reflex Zone Theory" (RZT): Only a suction stimulation is done on the disturbed point and thereafter the red blood cells from the vascular system are brought out to the surrounding tissue areas without injuring capillary vessels. This is known as dry diapedesis [39].

Several studies have been done which clearly signifies the positive result of Dry cupping therapy in primary dysmenorrhoea. Some of them are as follows:

1. In 2015, a pilot study done on 20 patients. In this study all the individuals were married. Results showed that there was significant relieve in pain in 75% of Patients and Relief in other symptoms were 100% for nausea, 90% for vomiting, 57.9% for fatigue, 80% for low backache, 81.2% for headache, 100% for constipation, 50% for flatulence [40].
2. A Randomized clinical trial was done by Taherpour to determine the effect of Dry Cupping on Primary Dysmenorrhoea. Results showed the significant decrease in primary dysmenorrhoea after dry cupping for three menstrual cycle [41].
3. In 2010, Sultana et al. [42] done a preliminary study to determine the Efficacy of Hijamat bila shurt (Dry cupping) on intensity of pain in dysmenorrhoea. Results were found significantly positive with the mean and standard error for mean pain in intensity before and after treatment was 6.48(0.32) and 2.21(0.32) respectively with $p < 0.001$ considered significant [42].
4. Another study done by Bhatt et al in 2013, [43] to determine the Efficacy of hijamat bila shurt (dry cupping) on pain relief in primary dysmenorrhoea. The results of the study found significantly positive with Mean and Standard Error Mean for pain intensity

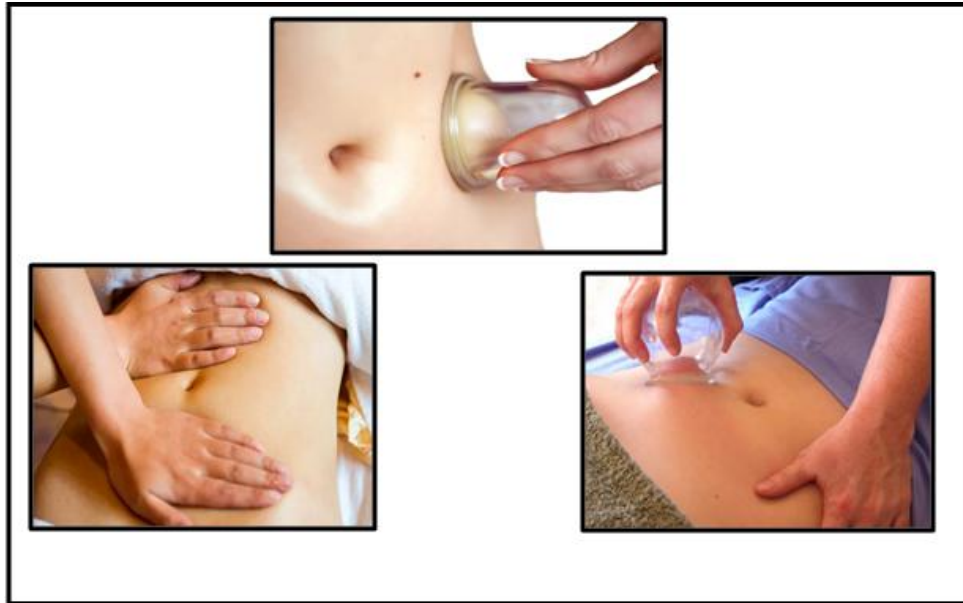


Fig. 1. Images demonstrating the cupping therapy in dysmenorrhoea

before and after the treatment was 8.75 (1.06) and 3.45 (1.79) respectively with $P < 0.001$ [43].

3. CONCLUSION

Cupping therapy is one of the ancient medicine practice. There is growing evidence of its potential benefits in the treatment of some diseases, especially pain-related conditions. In gynaecological disorders it is very effective in *Usre Tams Tashannuji* by different mechanism of actions. No single theory could explain its full spectrum of effects. The beneficial effects of cupping therapy need to be substantiated by large randomized clinical trials, systematic reviews and meta-analyses in future. Basic scientific innovative research is also needed to verify the discussed theories about cupping along with inventing new theories.

CONSENT

It's not applicable.

ETHICAL APPROVAL

It's not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. IbnSina..Al-Qanunfi'ITibb (Kantoori GH, Urdu Trans.). New Delhi, India: IdaraeKitabusShifa; 2010.
2. Ou MC, Hsu TF, Lai AC, Lin YT, Lin CC. Pain relief assessment by aromatic essential oil massage on outpatients with primary dysmenorrhea: A randomized, double-blind clinical trial. *Journal of Obstetrics and Gynaecology Research*. 2012;38(5):817–822. Available:<https://doi.org/10.1111/j.1447-0756.2011.01802.x>
3. Sultana A, Lamatunoor S, Begum M, Qhuddsia QN. Management of Usr-i-Tamth (Menstrual Pain) in Unani (Greco-Islamic) Medicine. *Journal of Evidence-Based Complementary & Alternative Medicine*. 2016;22(2):284–293. Available:<https://doi.org/10.1177/2156587215623637>
4. Sehar N, Ahmad T, Ahmad V, Sajwan S. Diagnosis and Management of Dysmenorrhea in Unani (Greeko-Arab) System of Medicine. *International Journal Of Advanced Ayurveda, Yoga, Unani, Siddha And Homeopathy*. 2015;4(1):252-261.
5. Yesuf TA, Eshete NA, Sisay EA. Dysmenorrhea among University Health

- Science Students, Northern Ethiopia: Impact and Associated Factors. *International Journal of Reproductive Medicine*. 2018;1–5. Available: <https://doi.org/10.1155/2018/9730328>.
6. French L. Dysmenorrhea. *American family physician*. 2005;71(2):285–291
 7. Lee SH, Cekanova M, Baek SJ. Multiple mechanisms are involved in 6-gingerol-induced cell growth arrest and apoptosis in human colorectal cancer cells. *Molecular Carcinogenesis*. 2008;47(3):197–208. Available: <https://doi.org/10.1002/mc.20374>
 8. Coco AS. Primary dysmenorrhea. *American family physician*. 1999;60(2):489–496.
 9. Dawood MY. Dysmenorrhea. *The Journal of reproductive medicine*. 1985;30(3):154–167.
 10. Dawood MY. Nonsteroidal anti-inflammatory drugs and changing attitudes toward dysmenorrhea. *The American Journal of Medicine*. 1988;84(5):23–29. Available: [https://doi.org/10.1016/0002-9343\(88\)90473-1](https://doi.org/10.1016/0002-9343(88)90473-1)
 11. Harlow SD, Park M. A longitudinal study of risk factors for the occurrence, duration and severity of menstrual cramps in a cohort of college women. *BJOG: An International Journal of Obstetrics and Gynaecology*. 1996;103(11):1134–1142. Available: <https://doi.org/10.1111/j.1471-0528.1996.tb09597.x>
 12. Rosenwaks Z, Seegar-Jones G. Menstrual pain: its origin and pathogenesis. *The Journal of Reproductive Medicine*. 1980;25(4):207–212
 13. Bieglmayer C, Hofer G, Kainz C, Reinthaller A, Kopp B, Janisch H. Concentrations of various arachidonic acid metabolites in menstrual fluid are associated with menstrual pain and are influenced by hormonal contraceptives. *Gynecological Endocrinology*. 1995;9(4):307–312. Available: <https://doi.org/10.3109/09513599509160464>
 14. Edwards JE, Moore RA, McQuay HJ. Rofecoxib for dysmenorrhoea: meta-analysis using individual patient data. *BMC Women's Health*. 2004;4(1). Available: <https://doi.org/10.1186/1472-6874-4-5>
 15. Daniels SE, Torri S, Desjardins PJ. Valdecocix for treatment of primary dysmenorrhea. *Journal of General Internal Medicine*. 2005;20(1):62–67. Available: <https://doi.org/10.1111/j.1525-1497.2004.30052.x>
 16. Zhu X, Proctor M, Bensoussan A, Wu E, Smith CA. Chinese herbal medicine for primary dysmenorrhoea. *Cochrane Database of Systematic Reviews*; 200. Available: <https://doi.org/10.1002/14651858.cd005288.pub3>
 17. Ajmal khan. Hazique New Delhi. Jaseen Book Depo. 1983;461-471.
 18. Twigg J. Dysmenorrhoea. *Current obstetrics & gynaecology*. 2002;12(6):341–345. Available: <https://doi.org/10.1054/cuog.2002.0290>.
 19. Bernardi M, Lazzeri L, Perelli F, Reis FM, Petraglia F. Dysmenorrhea and related disorders. *F1000Research*. 2017;6:1645. Available: <https://doi.org/10.12688/f1000research.11682.1>
 20. Mirza S, Naaz SA, Alim SM. Management of primary dysmenorrhoea by dr cupping: A Review. *Adv J Pharm Life sci Res*. 2016;4;1:1-5.
 21. Harel Z. Cyclooxygenase-2 specific inhibitors in the treatment of dysmenorrhea. *J Pediatr Adolesc Gynecol*. 2004;17:75–79
 22. Zahradnik HP, Hanjalic-Beck A, Groth K. Nonsteroidal anti-inflammatory drugs and hormonal contraceptives for pain relief from dysmenorrhea: a review. *Contraception*. 2010;81:185–196
 23. Rauh JL, Lucas P, Shepherd J. Dysmenorrhea in adolescence. *Med Aspects Hum Sex*. 1985;19:134–155
 24. Campbell MA, McGrath PJ. Non-pharmacologic strategies used by adolescents for the management of menstrual discomfort. *Clin J Pain*. 1999;15:313–320
 25. Dawood MY. Dysmenorrhea. *Endometrium*. 1995;6:363–377.
 26. Proctor ML, Roberts H, Farquhar CM. Combined oral contraceptive pill (OCP) as treatment for primary dysmenorrhoea. *Cochrane Database Syst Rev*; 2001. CD00 2120.
 27. Ruoff G, Lema M. Strategies in pain management: new and potential indications for COX-2 specific inhibitors. *J Pain Symptom Manage* 2003;25:21–31.
 28. Manzoli L, De Vito C, Marzuillo C, Boccia A, Villari P. Oral contraceptives and

- venous thromboembolism: A systematic review and meta-analysis. *Drug Saf.* 2012; 35:191–205.
29. Jones AE. Managing the pain of primary and secondary dysmenorrhoea. *Nurs Times.* 2004;100:40–43.
30. Proctor M, Farquhar C. Diagnosis and management of dysmenorrhoea. *BMJ.* 2006; 332:1134–113
31. Ogunfowokan AA, Babatunde OA. Management of primary dysmenorrhea by school adolescents in ILE-IFE, Nigeria. *J Sch Nurs.* 2010;26:131–136.
32. Lasco A, Catalano A, Benvenga S. Improvement of primary dysmenorrhea caused by a single oral dose of vitamin D: Results of a randomized, double-blind, placebo-controlled study. *Arch Intern Med.* 2012;172:366–367.
33. IbnaSina. *AlQanoon fit tib* vol. 3rd New Delhi institute of history of medicine and medical reaserch. 1981;323,868,869,877
34. Mehta P, Dhapte V. Cupping therapy: A prudent remedy for a plethora of medical ailments. *Journal of Traditional and Complementary Medicine.* 2015;5(3):127–134
Available:https://doi.org/10.1016/j.jtcme.2014.11.036
35. Hasan I. The value of cupping therapy as a treatment in present day medication, *Indian Journal of Novel Drug Delivery.* 2018;10(4):165-168.
36. Abbas Zaidi SM, Jameel SS, Jafri K, Khan SA, Ahmad E. Ilajbilhijamah (cupping therapy) in the Unani system of medicine: anecdotal practice to evidence based therapy. *Acta medico-historicaadriatica : AMHA.* 2016;14(1):81–94.
37. Akhtar J, Siddiqui MK. Utility of cupping therapy Hijamat in Unani medicine. *IJTK.* 2008;7(4).
Available:http://nopr.niscair.res.in/handle/123456789/2380.
38. Inanmdar W, Sultana A, Mubeen U, Rahman K. Clinical efficacy of *Trigonellafoenumgraecum* (Fenugreek) and dry cupping therapy on intensity of pain in patients with primary dysmenorrhea. *Chinese Journal of Integrative Medicine;* 2016.
Available:https://doi.org/10.1007/s11655-016-2259-x
39. Al-Bedah AMN, Elsubai IS, Qureshi NA, Aboushanab, T. S., Ali, G. I. M., El-Olemy, AT, Khalil AAH, Khalil MKM, Alqaed MS. The medical perspective of cupping therapy: Effects and mechanisms of action. *Journal of Traditional and Complementary Medicine.* 2019;9(2):90–97.
Available:https://doi.org/10.1016/j.jtcme.2018.03.003
40. Mustafa S. Clinical evaluation of dry cupping for the treatment of primary dysmenorrheal(Usre Tams Tashannuji) in married females: A 20 patients pilot study. *Indian journal of research.* 2015. 4(4):1-5.
41. Taherpour M. et al. The effects of dry cupping on primary dysmenorrheal: A randomized clinical trial. *Nursing and midwifery studies.* 2018;7(4):151-156.
42. Sultana A, Rahman K, Farzana M, Lone A. Efficacy of hijamat bila shurt (Dry Cupping) on intensity of pai in dysmenorrheal- a preliminary study. *Ancient science of life.* 2010;(38):47-48.
43. Bhat AS, Aquil H, Wani P, Zaheer MT. Efficacy of hijamat bila shurt(Dry cupping) On pain relief in primary dysmenorrheal. *Innovative journal of medical and health science.* 2013;71-75.

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Peer-review history:
The peer review history for this paper can be accessed here:
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