

A comprehensive review of Heavy Menstrual Bleeding (*Kaṭhrat-i-Tamṭh*) in Unani Medicine – An evidence based approach

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Abstract:

Heavy menstrual bleeding (HMB) is a common gynaecological complain with multiple aetiology and diverse pathological origins. Approximately 30% of women suffer from HMB during their reproductive age, but only one third of these women are confined to have underlying pathology of a type widely recognized to cause HMB. In conventional medicine, the treatment for menorrhagia include both hormonal (combined oral contraceptive pills, cyclic progestogens) or non-hormonal (Tranexamic acid) etc. Despite a fair success rate of these medicines, each has a substantial adverse effect. Traditional system of medicine including Greeko Arabic medicine are gaining popularity due to long history of use and several other benefits. Medicinal plants are being used since long time to treat various gynaecological disorders and emphasis is made on research to validate the efficacy and safety of these drugs in the present scenario. Several *Habis* (Hemostatic) and *Qabid* (Astringent) drugs are found effective in treating menorrhagia. Therefore, aim of this article is to review the etiopathogenesis, diagnosis, and management of HMB in Unani system of medicine and to summarize the research done on HMB using Unani medicine.

Key words: Heavy menstrual bleeding, *Kaṭhrat-i-Tamṭh*, Unani system of medicine.

Introduction:

Heavy menstrual bleeding (HMB) is the most common clinical presentation of AUB.^{1,2} It is defined as excessive menstrual blood loss which interferes with the women's physical, emotional, social and maternal quality of life, and which can occur alone or in combination with other symptoms.³⁻⁴ In classical Unani text, *Kaṭhrat-i-Tamṭh* (HMB) is defined as excessive MBL either the bleeding is excessive in amount or duration. It is caused by *Sū'i-Miẓaj al-Rahim* (which causes weakness of uterine vessels leading to its rupture), *Qarha al-Rahim*, *Kharish al-Rahim*, *Bawasir al-Rahim*. Moreover, dilatation of uterine vessels is caused by *Riqqat-i-Khūn* due to *Ġhalaba-i-Balġham* or *Ḥiddat-i-Khūn* due to *Ġhalaba-i-Ṣafra* or *Sawda'* resulting in *Ḍu'f Quwwat-i-Masika al-Rahim* leading to increased MBL. Excessive

MBL leads to rapid pulse, giddiness, palpitation, increased thirst, generalised weakness and body ache etc. and if it is not treated may leads to complications such as *Sū'al-Qinya* (iron deficiency anaemia), *Istesqa* (ascites), *Du'f-al-Kabid* (liver dysfunction) etc.⁵⁻¹¹ The main goal of treatment in HMB is to improve QOL by controlling the bleeding,¹² to prevent and treat anaemia and to restore an acceptable menstrual pattern.¹³

In conventional medicine, various medical treatment options are available but side effects often limit compliance and efficacy. Nonhormonal options are limited to tranexamic or mefenamic acid, while hormonal options include the levonorgestrel-releasing intrauterine system (LNG-IUS), the combined oral contraceptive pill or progestogen preparations.¹⁴⁻¹⁵ Surgical approaches like hysterectomy is sometimes essential for HMB treatment but many women desired to preserve uterus for their potential childbearing.¹⁵⁻¹⁶ Hence, need for alternate treatment option is required to control HMB in the form of medicinal plants, which plays a vital role in health care system. In recent years, globally there has been a tendency towards using complementary and alternative medicines in the treatment of diseases due to easy availability, affordability, cost effective and fewer side effect. Herbal medicine is a component of traditional medicine, which is becoming popular today and common people generally believed on herbal remedies. A wide variety of herbs are used to treat HMB and many studies have demonstrated the beneficial effects of medicinal plants on HMB.¹⁷

Methods: Classical Unani text was extensively searched to compile the Unani concept of *Kaṭhrat-i-Tamṭh*. Then, a search was made on major scientific search engines such as Scopus, PubMed, Google Scholar and Science Direct with key words: Heavy menstrual bleeding, *Kaṭhrat-i-Tamṭh*, Unani drugs having astringent, haemostatic, antifibrinolytic, anti-inflammatory activities and scientific evidence of efficacy and safety of these Unani drugs in HMB.

Unani concept:

Definition: Increase menstrual blood loss either in amount or duration is known as *Kaṭhrat-i-Tamṭh*.^{5,7}

Etiology: *Kaṭhrat-i-Tamṭh* occur mainly due to weakness of retentive power (*Quwwat-i-Masika*) of uterus secondary to altered temperament of uterus (*Sū'i-Miẓaj al-Rahim*) or strong expulsive power (*Quwwat-i-Daf'ya*) of uterus secondary to *Khilt-i-Laḍha'* or *Kaṭhrat-i-Khūn* or both.^{5,6,8,9,17-19} Its causes are classified into two categories.

Causes pertaining to uterus: *Du'f al-Rahim* (uterine weakness) as in multiparity, abortion, and excessive intercourse,^{5,6,8-10,17,18} *Qarh al-Rahim* (uterine ulcer), *Bawasir al-Rahim* (uterine polyp), *Kharish al-Rahim*, *Shiqaq al-Rahim* (uterine rupture),^{5,19} Rupture or dilatation of uterine vessels secondary to *Sū'i-Mizaj al-Rahim*,^{5,6,19} *Ḍarba wa saqta Rahim* (trauma & injury to uterus) resulting in rupture of uterine vessels.^{6,20}

Causes pertaining to blood: *Imtela-i-Khūn or Kaṭhrat-i-Khūn*^{5,6-10,17} (either increased production of blood or decreased consumption of blood by the body), thus *Tab'iyat* eliminates excess amount of blood in the form of menstruation. Moreover, congestion of blood in uterine vessels stimulates the expulsive power of uterus which in turn causes *Kaṭhrat-i-Tamṭh*, resulting in *Tanqiya Badan* (detoxification of body).^{9,17} Blood is normal in quality or quantity but *Du'f' Badan* causes *Kaṭhrat-i-Tamṭh*.⁶ Even qualitative or quantitative changes in blood like *Riqqat-i-Khūn* (increased fluidity of blood) due to *Kaṭhrat-i-Ruṭubat Ma'ye or Latafat-i-Khūn*⁷ causes weakness of uterine vessels leading to HMB.^{5,6-9,17,19} Narrow path of vessels causes flow of thin and scanty blood and wider path of vessels causes flow of thick and profuse blood.⁶

Clinical presentation: During menstruation, initially thin & scanty blood flow occur followed by thick & heavy blood flow, if this continues for longer duration again thin and scanty blood flow occur.^{6,17} Associated symptoms are anorexia,^{6,8,17} indigestion, increased thirst, palpitation, generalized body ache, excessive tiredness, giddiness etc. clinical examination findings are pallor, rapid pulse, cold and clammy skin, high coloured urine, generalized edema.^{6,8}

Diagnosis: HMB can be diagnosed with history and clinical examination.^{5,6}

- ***Qarh al-Rahim:*** Thick and heavy bleeding during menstruation mixed with pus and associated with pain.¹⁷
- ***Bawasir al-Rahim:*** Scanty and dark coloured bleeding during menstruation or inter menstrual bleeding with pain and heaviness in head, pain in hypochondriac region.⁶
- ***Du'f al-Rahim:*** Fresh and painless bleeding associated with headache, nausea, increased thirst, pallor and rapid pulse.^{6,7,10,17}
- ***Imtela or Kaṭhrat-i-Khūn:*** Evident by signs of congestion like flushing of face, heaviness in the body, painful & continuous bleeding; women feel relief & energetic following the menstruation.^{5-7,10}

- **Hiddat-i-Khūn (Ghalba-i-Şafra):** Manifested in the form of burning sensation in the body, fever, weakness, excessive thirst, bitter taste in mouth, pallor, yellowish red and thin menstrual blood which flows frequently.⁵⁻⁷
- **Riqqat-i-Khūn (Ghalba-i-Balgham):** Exhibited as thin and pale menstrual blood associated with generalized weakness, palpitation, decreased thirst, increased salivation, puffiness of face, pallor and severe pain.^{5,7,10}
- **Du'f-i-Badan:** Manifested by malaise or fatigue, excessive tiredness and anaemia.

Differential diagnosis: *Kaḥrāt-i-Tamṭh*, is differentiated from *Istehāḍa* (DUB) in which bleeding is irregular, excessive in amount and for prolonged duration.

Principles of treatment: The treatment plan of *Kaḥrāt-i-Tamṭh*, in Unani system of medicine is mainly based on concept that, treat the actual cause of HMB (*Iẓāl'i-Sabab*), *Tanqiya-i-Badan* (detoxification of body) with *T'deel Mizaj* (change of temperament) in *Sū'i-Mizaj Sada* and *Istifraġh mada* (elimination of morbid matter) in *Sū'i-Mizaj Maddi*, use of *Ḥabis* (haemostatic) and *Qabiḍ* (astringent) drugs to control bleeding and finally use of *Muqauwwi al-Raḥim Advia* (uterotonics) to strengthen the uterus.⁶

Treatment:

Table-1: Treatment according to the cause of HMB

Cause	Diet	Drugs	
		Oral Use	Local use
Du'f al-Raḥim Use nutritive, astringent, flavoured dietary items & drugs ¹⁷	Allowed: Astringent & heavy food in diet like <i>Ḡhaura</i> , <i>Simaaq</i> , <i>Zarishk</i> , <i>Masūr</i> , <i>Falūda</i> , <i>Nishasta</i> , <i>Pudina</i> , <i>Gosht-i-Hiran</i> . ^{5,6}	Astringent Drugs e.g. <i>Mazū</i> , <i>Gil-i-Makhtūm</i> , <i>Gil-i-Armani</i> , <i>Shibb-i-Yamani</i> , <i>Dam-al-Akhwain</i> 3½ g, <i>Kafūr</i> 64mg, <i>sak</i> 500 mg mixed in 35 ml <i>Sharbat-i-Aas</i> . ⁵	-
Qarḥ al-Raḥim	Allowed: Light and nutritious diet like <i>shorba gosht bakri</i> , <i>chapati</i> , <i>khichdi moong daal</i> , milk, fruits and vegetables (<i>palak</i> , <i>khurfa</i> , <i>kaddu</i>) Restricted: Spicy ^{22,24} and oily food, <i>Jaggery</i> . ²⁴	Compound preparation of astringent, mucilaginous, and anaesthetic drugs. ¹⁷ <i>Qurs-i-Koharba</i> with <i>aabe bartang</i> . ⁶	Humūl: <i>Safaida</i> , <i>Gulnar</i> , <i>Murdar Sang</i> , mixed with <i>Qairūti</i> and <i>Roġhan-i-gul</i> . ⁸
Ḍarba wa Saqta Raḥim	-	<i>Qurs-i-Koharba</i>	<i>Qabiḍ huqna/ ḍimad/ shiyaf</i> Humūl: <i>Qairuti</i> prepared from <i>Gulnar</i> and <i>mom</i> mixed with <i>Roġhan-i-Gul</i> . ⁶
Hiddat-i-Khūn Use cold items in diet & drugs ⁶	In young & hot temperament person cold items in diet like <i>Kharbūza</i> , <i>Kaddu</i> , <i>Maġḥḍ Kakdi</i> , <i>Maġḥḍ Khayar</i> ,	<i>Tanqiya-i-Şafra</i> with <i>Shahitra</i> , <i>Halila Zard</i> followed by <i>Taskeen-i-Ḥararat</i> . Use haemostatic drugs, ⁷ such as <i>Sharbat-i-Anar</i> , <i>Sharbat-i-Himaḍ</i> ,	Apply the paste of cold drugs over the abdomen and back. ¹⁹

	<i>Tursh-i-Turanj</i> water and ice water with <i>sirka</i> . ⁷	<i>Sharbat-i-Zarishk</i> , <i>Sharbat-i-Saib</i> , <i>Sharbat-i-Behi</i> , <i>Sharbat-i-Rebas</i> . ⁶ Use <i>Munzij-i-Safra</i> followed by <i>Mushil-i-Safra</i> and <i>Mubarridat</i> (<i>Aab-i-Arg Khurfa</i> and <i>Bartang</i> , <i>Gil-i-Armani</i> , <i>Gulnar</i> . <i>Qurs-i-Kuharba</i> if no relief with aforementioned formulation. ⁶	
Riqqat-i-Khūn	Allowed: Use heavy food in diet such as <i>Masūr Musallam</i> with mutton <i>paya</i> ¹⁹	<i>Tanqia Badan</i> with <i>Mushil Balgham</i> (<i>Habbe Ayarij</i>) followed by <i>Mujaffif Advia</i> . Use <i>Gulqand Mushil</i> (as it is very beneficial), <i>Joshanda-i-Kateera</i> , <i>Samagh-i-Arabi</i>	<i>Dimad</i> with <i>Qabiḍ Advia</i> and <i>Sirka</i> . ¹⁷
Imtela' or Kaḥrat-i-Khūn General advice: Do not stop the bleeding until it causes weakness. ^{6,8,10,20}	Light, nutritious & easily digestible food such as half-fried egg & meat soup ¹⁰	Use <i>Muqawwi al-Raḥim</i> , and <i>Qabiḍ Advia</i> , followed by <i>Habis-al-Dam Advia</i> . ¹⁰	Humūl: <i>Sirsa</i> , <i>Gulnar</i> , <i>Shibb-i-Yamani</i> , <i>Tinkar</i> , <i>Mazu</i> , <i>Aqaqia</i> , and <i>Aab-i-Morid</i> Abzan: <i>Qabiḍ advia</i> . ⁶
Ḍu'f-i-Badan:	Allowed: Astringent & nutritive items in diet like meat soup, meat of chicks & other birds, half-fried egg, <i>Masūr</i> , <i>Samaqia</i> , <i>Zarashkiya</i> , <i>Hasramiya</i> , <i>Ḥamaze Utraj</i> , <i>Sattu</i> , <i>Kabab</i> etc. Fruits- <i>Behi Tursh</i> , <i>Anar Tursh</i> , <i>Ambar</i> , raw grapes ¹⁰	-	-

II-Use of *Qabiḍ*, *habis* & *muqawwi advia* (astringent, haemostatic & tonic drugs):

A- Single drugs for oral use:

- *Gulnar* is used by all Unani scholars to arrest HMB (*Jalinoos*).
- *Matbūkh Faranj-Mushk* or *Arq Faranj-Mushk*.
- Use fine powder of *Gandhak Amlasaar* 4 g in empty stomach for 1 week.
- *Safūf Pakhan Baid* is used to arrest bleeding.⁶
- *Post Naariyal* 3.5g is grinded and finely powdered, mixed with *Sirka* 3.5g and used for 3 days.²⁰
- *Aab-i- Barge Bansa*^{7,17}
- *Mazu* 7 g with curd
- Decoction of *Dana Anar* (*Dioscorides*).
- Decoction prepared from *Usara Bekh* and *Chaal Mastagi*.
- *Tukhm Bartang* prevent MBL if used either orally or locally in *huqna* form (*Dioscorides*).⁸

B- Compound formulations for oral use:

- **Qurs koharba:** It is very beneficial to arrest excessive MBL (*Nuskha: Kishneez Khusk Biryān, Tukhm Khashkash Siyah, wa Safaid* each 60g, *Koharba, Busd, Marwareed, Tukhm Khurfa Muqashshar* each 50g, *Shakh-i-Gozan Sokhta, Post Baiḍ-i-Murgh Sokhta, Kateera, Samaḡh-i-Arabi* each 30g, *Banj Bazrul Safaid* 20g and make *Qurs* in *Lu'ab Isapgol*.^{21,22}
- **Safūf Ḥabis-al-Dam:** *Dam-al-Akhwain, Samaḡh-i-Arabi, Gul-i-Surkh, Sang-i-Jarahat, Sadaf* all in equal quantity; finely powdered and used in a dose of 3g twice daily to prevent menstrual bleeding.²¹
- **Sharbat-i-Anjbar:** *Post Beekh-i-Anjbar* 35g, *Kharnūb Shami* 25g, *Burada Şandal Safaid wa Surkh* each 10g, *Ḥabbul Aas* 10g, *Aab Aahan Tab, Qand Safaid* 500g and use 25-50 ml to prevent menstrual bleeding.^{22,23}
- **Majun busud:** (*Nuskha: Busd, Koharba, Shubb-i-Yamani, Shadanj Maḡhsūl, Dam-al-Akhwain, Gil-i-Armani, Gil-i-Makhtūm, Gulnar Farsi* all in equal quantity and prepare *majun* and used 7-17.5g with *Aab Simaaq or Bartang or Khurfa*).⁷
- **Decoction:** *Juft Baloot* and *Tukhm Munaqqa* with *Sharab Qabiḍ* or *Kundur* or *Aqaqia* with *Sirka*.²⁰
- **Powder:**
 - ✓ *Gil-i-Makhtūm, Gil-i-Armani, Shubb-i-Yamani, Dam-al-Akhwain, Kafūr*, each 7g and used with *Sharbat-i-Morid*.⁷
 - ✓ *Sang-i-Jarahat, Mazu Sabz, Kath Safaid, Maeen*.
 - ✓ *Khar Mohra Sokhta, Shakh Gozan Sokhta, Khabsul Ḥadeed* each 18g, *Gulnar* 36g, *Kishneez, Zeera* each 10.5g, *Gile Qabrasi* 14 g, *Juft Balūt, Simaaq, Zarishk, Tukhm Khurfa* each 7g finely powdered and used in a dose of 4 ½g with *Aab Aahan tab*.⁶
 - ✓ *Khabsul Ḥadeed* and *Fishar-i-Kundur*, finely powdered and soak in *Sharab Khalis* for 3 days and used before and after meals.²⁴
 - ✓ *BazrulBanjl*-2g with sugar daily for 3 days.
- **Tablets:**
 - ✓ *Aqaqia, Gulnar, Mazu, Simaaq, Kundur* and used in a dose of 1¾g.⁶

- ✓ *Afyūn, Chhal Kundur, Gil-i-Armani, Koharba, Aqaqia* and use with *Aab Angūr Kham*.⁷
- **Infusion:** Use *lu'ab* of *Gond Babūl, Dhaniya Khushk* and *Tukhm Alsi* after soaking in hot water.⁷
- **Water:** *Aab Berg Khurfa* or *Aab Bartang* with *Gulnar* and *Gil-i-Armani*.⁷

Table 2: List of Unani drugs used locally in HMB

Abzan (Sitz bath)	<i>Matbūkh Kharnūb</i> . Decoction prepared with equal quantity of <i>Jaw Muqashshar Biryān, Brinj Biryān</i> and <i>Post Anaar</i> . ⁶ <i>Post Anar, Mazu, Gulnar, Shubb-i-Yamani, Juft Balūt, Post Chilghoza, Tarasees, Kundur, Usara Habbul Aas</i> . ¹⁰
Dimad (Paste)	<i>Post anar, Gulnar, Shubb-i-Yamani, Juft Balūt, Simaaq, Fishar-i-Kundur, Zeera Nabty</i> , each one part grinded and make a fine powder and prepare <i>Dimad</i> with <i>Aab Aas</i> . Apply paste of <i>Hina</i> and <i>Sirka</i> on suprapubic region. ⁶
Humūl (Pessary)	<i>Kafūr</i> is effective in <i>Kaḥrat-i-Tamṭh</i> due to <i>Hiddat-i-Khūn</i> . ¹⁷ <i>Sang-i-Surma, Gulnar Farsi, Shubb-i-Yamani, Suhaga</i> , all in equal quantity mixed with fresh water of <i>Habbul Aas</i> . ^{20,21} Grind and filter <i>Zeera Nisf Biryān</i> and <i>Nisf Kham</i> (which is half roasted and half crude) with <i>Aab-i-Matbūkh Brinj Sathi</i> . Pieces of <i>Post Anar</i> boiled in water. Powder prepared from 3.5g of <i>Samagh-i-Arabi</i> , and <i>Kafūr</i> with 10.5g of <i>Gulnar</i> and <i>Kishneez Taza</i> . ⁶
Farzaja (Tampoon)	<i>Kaḡhaz Sokhta, Aqaqia, Gulnar Farsi, Mazu, Aab Resha-i-Bargad, Gul-i-Surkh, Parchae Katan Sokhta</i> all in equal quantity mixed with <i>Sirka</i> . <i>Kafūr, Gil-i-Ladan, Makhtūm, Afyūn, Ladan</i> all in equal quantity mixed with <i>Aabi-Aas Taza</i> . ²⁰
Pichkari (Douche)	<i>Gil-i-Armani</i> with <i>Aab-i-Bartang</i> ⁶ <i>Bartang</i> ¹⁷
Shiyaf	<i>Aelwa, Murrh, Kundur, Anzarūt, Dam-al Akhwain</i> , with egg white. <i>Surma, Gulnar, Tinkar</i> with <i>Aab Morid</i> .
Humūl & Dimad	<i>Kundur, Gulnar Farsi, Mazu, Surma, Aqaqia, Shubb-i-Yamani</i> in equal quantity
Shiyaf, Farzaja, Dimad, Huqna	<i>Goand Babūl, Gil-i-Makhtūm, Gil-i-Armani, Aqaqia, Dam-al-Akhwain</i> with <i>Aab Bartang</i> . ⁷
Huqna	<i>Aab-i-Bartang (Jalinoos)</i> ^{6,10} <i>Aab Habbul Aas, Chawal, Bahi Simaaq, Aab Kharnūb, Nabty Kodi, Qarnulail Sokhta, Juft Balūt, or Aab Habbul Aas, Aab Bartang, Aab Laal Saag, Gil-i-Qabrasi, Usara-i-Layitutes, Sak, Ramak</i> , all in equal quantity. ¹⁰

Ilaj bil tadbeer (Regimenal Therapy):




- Patient is instructed to sleep in supine position with foot end elevation to prevent blood flow towards the uterus and cold fomentation with ice or alum mixed in cold water is recommended over the suprapubic region.²²
- If medical treatment fails to control the HMB, then application of tight bandage below the breast for *Imal-i-Madda* (diversion of humours) and to prevent blood flow towards the uterus.⁷
- Apply tight bandage to both hands & legs to prevent the menstrual blood loss, if it fails to control then apply *hijama* (cupping) to the breast.





- Application of *hijamat bila shrut* (dry cupping) below the breast to arrest menstrual blood loss; too large size cups are applied on inferior surface of breast as veins from uterus to breast reaches at this level. Moreover, large cups forcefully draw the blood away from the uterus.^{6,8,17}
- Excessive exercise,⁹ application of tight bandage on both the hands as well as on both the breast and dry cupping in between the buttocks to reduce pelvic congestion are recommended if HMB is due to *Imtela-i-Khūn*.^{6,8,9,17,20}

***Ilaj bil yad* (Surgical Treatment):**

- Venesection of *Rag-i-Basaleeq* (basilic vein) to divert the menstrual blood flow upwards and to prevent the menstrual bleeding,
- Venesection of *Rag-i-Qeefaal* (cephalic vein).^{7,11}
- Venesection of *Rag-i-Basaleeq* (basilic vein) or *Rag-i-Akhal* (median vein) to reduce pelvic congestion is recommended if HMB is due to *Imtela-i-Khūn*.^{7,10,11,20}

Table- 3: Evidence based Unani medicine for HMB

S. No	Unani medicine	Intervention	Result	Phytochemical constituents	Author
1	Ginger (<i>Zanjabeel</i>) (<i>Zingiber officinale</i>)- placebo controlled RCT (n=9) 	ginger capsules 250mg -TDS started 1 day prior to menses till D ₃ of menstruation for 4 consecutive cycles	The MBL decreased significantly in ginger group than compare to placebo (p < 0.001)	Ginger act as potent PG synthetase inhibitor, anti- inflammatory etc. Hence, consuming ginger as a dietary supplement can reduce HMB.	Kashefi F. <i>etal.</i> (2014) ²⁵
2	Myrtle fruit (<i>Habb-ul aas</i>) <i>Myrtus communis</i> L. randomised placebo- controlled pilot study (n=30) 	Fruit syrup 5 ml TDS from D ₁ - D ₇ of menstruation	It significantly reduced the MBL.	It acts as analgesic, anti- inflammatory, antioxidant, antihemorrhagic, antibacterial activities. It contains flavonoids, terpenoids, triterpene, tannins & fatty acids	Qaraaty <i>et</i> <i>al.</i> (2014) ²⁶
3	Gulnar <i>Punica granatum</i> Linn Standard controlled RCT (n= 94) 	<i>Gulnar</i> capsules 250 mg every 6 hours from D ₁ - D ₅ of menses for 3 cycles	<i>Gulnar</i> was as effective as tranexamic acid in reducing the mean (SD) PBAC score in women with AUB.	<i>Gulnar</i> exhibit hemopoietic, anti inflammatory, cardioprotective activities etc. ^{15,16} and contains flavonoids, alkaloids, genistin, diadzein, gallic acid, ellagic acid, ellagitanins, punicic acid and anthocyanidins. ^{15,16}	Goshtasebi <i>etal.</i> (2015) ²⁷

4	Quince (<i>Behi dana</i>) <i>Cydonia oblonga</i> Pilot study (n= 35) 	A tea spoonful of "Quince paste" was given for 2 months.	PBAC score decreased significantly from 264.2 ± 198.9 to 125.8±155.9) (p<0.001). QoL score decreased significantly from 30.28 ± 5.73 to 22.02 ± 3 (p<0.001).	Quince" act as anti-inflammatory & inhibit PG synthesis. It contains tannins, polysaccharides, glycosides, pectin, carotenoids, coumarin, flavonoids, malic acid, Vitamins A, B, &C	Bahman N. <i>et al</i> (2018) ²⁸
5	Tukhm Khurfa <i>(Portulaca oleracea</i> <i>Linn.)</i> Pilot study (n=30) 	Tukhm khurfa 2 g capsules TDS was given from D ₁ -D ₁₀ of cycle for 2 consecutive cycles.	Significant reduction in PBAC score, & improvement in SF-12 score (p< 0.001)	It acts as antioxidant, hepatoprotective, analgesic, anti-inflammatory, and contains alkaloids, terpenoids, flavonoids and organic acids.	Khanum B. <i>et al</i> (2018) ²⁹
6	Lentil (<i>Masoor</i>) <i>(Lens culinaris)</i> Standard controlled RCT (n= 56) 	lentil savigh -30 g from D ₁ -D ₇ of menstruation	It significantly reduced the AOF & improved the QoL as compared to tranexamic acid	Lentils have high antioxidant activity, high content of phytoestrogen, & nutrients like flavonoids, tannin, & phytic acid. Lentils contain significant amounts of tannin & vitamin K, both of which play an important role in controlling the menstrual bleeding. Tannin has styptic & astringent properties and can cause endothelium capillary contractions, thus prevents MBL.	Shafiee M. <i>etal</i> (2019) ³⁰
7	Chamomile <i>(Babuna)</i> Randomized, clinical trial, (n=118) 	Chamomile capsule 250 mg TDS starting from 7 days prior to menses till the onset of next period for one cycle.	The average amount of menstrual bleeding decreased in chamomile group after taking the capsule (p = 0.001).	Anti-inflammatory, sedative, antispasmodic due to the presence of flavones, glycosides & other constituents of volatile oil.	Mollabashi EN. <i>et al</i> (2020) ³¹

Proved Polyherbal formulations in HMB:

Singh MR. *et al*³² conducted the study on 55 cases of puberty menorrhagia who were divided in test (n=30) and control (n=25) groups and in test group *Safūf Habis* (*Dam-al-Akhwain, Samağh-i-Arabi, Sang-i-Jarahat, Gul-i-Surkh*) 3 g twice daily was administered orally from first day of cycle till bleeding stops for 3 cycles and in control group, tab styptocid (standard drug) one tablet twice daily was given for the same duration. Mean reduction in PBAC score was significant in test than compared to control group with p<0.001.

Geetha BN. *et al*³³ conducted the study on 40 diagnosed cases of DUB, who were randomly allocated to test (n=20) and control (n=20) groups. In test group, Unani formulations (*Safūf Habis* and *Majoon Muqawwi Rahim Sada*), each in a dose of 6 gm twice daily during an active bleeding phase and interval respectively; while in control group, standard drug (norethisterone acetate-5mg) three times daily during an active bleeding phase followed by

5mg once daily for 21 days. The above interventions were administered orally for three consecutive cycles. Menstrual regulation was achieved in 58.8% patients in test and 63.2% in control groups (P= 1.000); improvement in PBAC score was observed in 100% patients in both the groups (P = 1.000). Hence, these Unani formulations can be used as an effective alternative in patients with DUB.

Shahmeer KSK. et al³⁴ demonstrated the study on 30 diagnosed patients of HMB and Unani formulation comprises of *Khurma* (*Phoenix dactylifera* Linn), *Rasaut* (*Berberis aristata*), *Talmakhana* (*Asteracantha longifolia* Linn), *Lodh pathani* (*Symplocos racemosa* Roxb) was administered orally in powder form in a dose of 3g with 2g sugar, twice daily for seven days/cycle for three consecutive cycles. The authors reported clinical response of 30-50% in MBL and DOB in 86.7% and 56.7% patients respectively with $p < 0.001^{**}$ and improvement in Hb% and QOL in 16.7% ($p=0.228$) and 100% ($p < 0.001^{**}$) patients respectively. Hence, this formulation can be used as an alternate option in patients with HMB as it has a significant effect in controlling the bleeding by reduction in MBL and DOB.

Discussion: HMB is one of the most frequently encountered symptoms in gynaecology, which leads to a significant interference with women's physical, emotional, social and material quality of life, and a considerable economic burden on the healthcare system. Excessive regular blood loss of this magnitude leads to significant adverse impact on woman's iron metabolism causing iron deficiency anaemia. Most of the medicinal herbs contains tannins and are effective to control the bleeding. Tannins have an astringent action and can contract capillary endothelium, thus results in decreased exudation and menstrual blood loss. Several medicinal plants mentioned under the management of HMB in USM are rich in tannins, for example, Quince, Acacia, Coriander, Jasmine, Cypress, Dracaena, Millet, Sandal Wood, Rose, Lentil, Cedar, Myrtle, Sumac etc. Hence, these Unani drugs can be used in day to day clinical practice due to their beneficial effects since ancient times as mentioned in the literature. Further, randomized controlled trials on large sample size are recommended to proof the efficacy and safety of these Unani drugs in the management of HMB.

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