

Baboonah (Matricaria Chamomilla): A Comprehensive Review of Its Unani And Modern Therapeutic Potential.

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ABSTRACT:

Baboonah (*Matricaria chamomilla*), commonly known as chamomile, is a widely used medicinal plant in Unani Medicine for its calming, anti-inflammatory, and digestive properties. This review explores its botanical characteristics, traditional Unani uses, pharmacological activities, and current scientific evidence supporting its therapeutic applications. *Matricaria chamomilla* has shown promising potential in various conditions, including gastrointestinal disorders, sleep disturbances, and inflammatory diseases. This study aims to bridge traditional knowledge and modern pharmacological research, providing insights into its potential integration into contemporary therapeutic practices.

Key words : Baboonah

INTRODUCTION:

This herb is known under variety of names in different languages. Common names of *Matricaria chamomilla* in different languages include latin: *Matricaria chamomilla*, *Matricaria recutita*, *Chamomilum nobile*, English: Chamomile, German chamomile, Roman chamomile, English chamomile, Camomilla and Flos Chamomile. Arabic: Baboonaj, Baboonah Bengali: Babunphul, Gujarati: Babuna Hindi: Babunphul, Baboonah. Persian; Babunah Punjabi: Babunphul, Babuna. Suteigul, Urdu & Unani Tibbi Names: Babunaj, Baboonah, (Nadkarni AK.1976 , Wealth of India-1976, Chopra -1956). Baboonah belongs to domain- Eukaryota, Kingdom- Plantae, Phylum- Spermatophyta Class- Dicotyledonae, Order- Asterales, Family- Compositae (Asteraceae), Genus- *Matricaria* , and Species- *Chamomilla* (Nadkarni AK , Wealth of India-1976, Chopra -1956, CCRUM-1987, Hakeem-1311, Ibn-e-Sina- 1927, Ghani-1921, Singh-M.P-2005, Kabiruddin, Kirtikar-1996, Sala-1996, Lubhaya-1984, Multani, Linn fact sheet).

Medicinal plants have been utilised for thousands of years in traditional medical systems such as Unani Medicine. One such plant, baboonah (*Matricaria chamomilla*), is prized for its several therapeutic applications, primarily because to its properties as a nervine tonic (*Muqawwi-e-Asab*) and antipyretic (*Dafe Humma*) in Unani medicine. *Matricaria chamomilla* is also widely used in other traditional therapies across the world, such as Ayurveda and Traditional Chinese Medicine (TCM). Despite its lengthy history, there is still a growing need for modern pharmacological research to validate these uses. By combining ancient wisdom with recent findings, this study aims to demonstrate the potential use of baboonah in addressing contemporary health concerns. It has long been used as a herbal cure and is probably going to continue to be used since it contains a number of bioactive phytochemicals that may have therapeutic uses. There are primarily two types of it: German Chamomile (*Chamomilla recutita*) and Roman Chamomile (*Chamaemelum nobile*). The dried flowers of chamomile include a variety of terpenoids and flavonoids that contribute to its medicinal properties. Its formulations are commonly used to treat a wide range of human ailments, such as hay fever, inflammation, muscle spasms, irregular menstruation, insomnia, ulcers, wounds, gastrointestinal issues, rheumatic pain, and haemorrhoids. gastrointestinal problems, rheumatic pain, and haemorrhoids, are frequently treated with its formulations.

MORPHOLOGY & HABITAT:

It is a fragrant, glabrous plant that grows to a height of approximately 30 cm. Segments are almost filiform, leaves are 2-3-pinnatisect. Solitary, 1.3-2 cm in diameter, long-peduncled head. The root has carminative, tonic, and stimulating properties. (Kirtikar and Basu, 1987)

Flower has aphrodisiac, diuretic, attenuant, stimulant, tonic, discutient, and carminative properties. used to treat kidney stones and treat constitutional debility, hysteria, ophthalmia, chest discomfort, scabies, dyspepsia, and intermittent fever. Externally applied oil for rheumatism that works well for colic and flatulence (Kirtikar & Basu 1987, Chopra 2002, The Wealth of India 1998).

With various kind species flourishing in North America and North Africa, it is an annual plant that grows wild in open meadows, waste areas, and along roadside ditches from lowland to foothill altitudes, primarily in milder regions of Europe and West Asia. Germany, Spain, Bulgaria, Hungary, Argentina, Russia, and Egypt are among the countries that

commercially grow the plant. It was brought to India from its native Europe and has since flourished in numerous areas, including the upper Gangetic plains, Punjab, Himachal Pradesh, and Jammu & Kashmir.

The blooms are solitary, hemispherical, peduncled, 3-5 mm in diameter, yellowish brown in hue, and daisy-like, with white petals. The blossoms taste bitter and have a distinctively intense, pungent scent. The leaves are fluffy and very fine. The seeds are straw-colored, and the fruits are small. (Rajpal-2011).

PHYTOCHEMISTRY:

It contains many essential oils and Flavonoids. Essential oils like : Farnesene, Bisabolol, BisaboloxideA&B, Matricine and its artifact Chamazulene, Cis&trans-ene-ine-dicycloether. Flavonoids like Quercimetrin, apigenin-7-glucoside, luteolin quercetin and their glycosides. Coumarins: Herniarin, Umbelliferone. Other constituents include plant acids, Polysaccharides etc (Rajpal-2011).Depicted in (Table A)

TABLE (A): Therapeutic Constituents of different parts of *Matricaria chamomilla*

PLANT PART	PHYTOCHEMICAL CONSTITUENTS	REFERENCES
Essential oil of flowers	terpenoids α -bisabolol and its oxides, azulenes Chamazulene, Chamazulene carboxylic acid and Proazulenes. (E) - and (Z)-spiroethers, Farnesene, spathulenol and spiroethers, including the <i>cis/trans</i> -en-yn-dicycloethers, phenolic compounds, primarily the flavonoids apigenin, quercetin, patuletin, luteolin and their glucosides Coumarins and Dicycloethers, (Z) - and (E)-2-beta-D: -glucopyranosyloxy-4-methoxy cinnamic acids (GMCA), the precursors of phytoanticipin herniarin (7-methoxycoumarin).	Gupta,2010
	several phenolic compounds, primarily the flavonoids apigenin,quercetin, patuletin, luteolin and their glucosides.	Singh,2018
	α -bisabolol and its oxide azulenes, chamazulene and acetylene derivatives. angelic acid and tiglic acid Farnesene and α -pinene., apigenin, luteolin, patuletin, and quercetin, herniarin and umbelliferone	Srivastava,2010
Plant extract	coumarins: herniarin, umbelliferone; phenylpropanoids, chlorogenic acid, caffeic acid; flavones: apigenin,apigenin-7-O-glucoside, luteolin, luteolin-7-O-glucoside; flavonols: quercetin, rutin and flavanone: naringenin. 5, 7, 4'-trihydroxyflavone (apigenin), apigenin 7-O-glucoside (Ap-7-Glc), Ap-7-(6"-malonyl-Glc), Ap-7-(6"-acetyl-Glc), Ap-7-(6"-caffeoyl-Glc), Ap-7-(4"-acetyl-Glc), Ap-7-(4"-acetyl,6"-malonyl-Glc), and apigenin-7-(mono-acetyl/mono-malonylglucoside) isomer	Gupta,2010
Leaves	catechins, epigallo catechin (EGC) and epigallo catechin gallate (EGCG),	Singh,2018

MIZAJ AND THERAPEUTIC INDICATIONS IN UNANI:

Hot and Dry 2⁰ Muharrik (stimulant), Mulattif (attenuant) and Kasirr-e-Riyah (carminative). Used in Suda(h'ache),Suzak(gonorrhea),Ramad(ophthalmia),Wajussadr(chetpain),Jasb(scabies),Removes Hasate-Kulliyya wa Masana(urethral&renal gravels), Zofe-Aam(constitutional debility), Ikhtinaqur-Reham(hysteria),Su-e-Hazm(dyspepsia),Humma-e-Naubati (intermittent fever), And its important formulations such as Jawarish Baboonah, Roghan-e-Baboonah, Majoon-e-falasfa, Zimad-e-muhallil (CCRUM 1992)

PHARMACOLOGICAL ACTIONS:

The disinfectant, antiseptic properties and powerfully antiphlogistic action causes constriction of capillaries dilated through the inflammatory process. The glucoside influence the vegetative nerve-endings and paralyses the smooth musculature including that of uterus and intestine thereby relieving the spasms inhibiting the expulsion of intestinal gase. Intravenous inj lower the blood pressure. Flowers are stimulant, attenuant and discutient and their odour induce sleep Chamomile oil decreased the analgesic demand of patients with knee osteoarthritis. In addition, it may show some beneficial effects on physical function, and stiffness of the patients (Ruhollah Shoara et.al-2015). It has been the subject of study in Europe, it is used there as ingredients in medicinal teas as well as in a large number of pharmaceutical products.

Investigations range from chemical studies of volatile oil and its constituents to evaluation of the anti-inflammatory and antispasmodic action a comprehensive review devoted to studies conducted and published(Mann et al 1986). Its preparations are used not only for the treatment of gastro-intestinal spasm but also for the treatment of inflammation and irritation of the mucosa including the oral cavity, the gums, the respiratory tract, the anal , the genital area, sunburn, nappy rash and eczema(Isaac O 1980). The constituents of essential oil alpha-bisabolol, Chamazulene and its precursor Matricine have also been found to be responsible for anti-inflammatory activity (Isaac O et al, 1979. Jakovlev et al,1979&1983 and Hall et al, 1979)

THERAPEUTIC ACTIVITIES:

Anti-inflammatory and antiphlogistic properties:

The flowers of chamomile contain possess anti-inflammatory and antiphlogistic properties (Lemberkovics et al, 1998, Carnat et al,2004, Singh et al,2018, and Sakai et al 2005), A study in human volunteers demonstrated that chamomile flavonoids and essential oils penetrate below the skin surface into the deeper skin layers, (Merfort et al,1994) This is important for their use as topical antiphlogistic (anti-inflammatory) agents. One of chamomile's anti-inflammatory activities involve the inhibition of LPS-induced prostaglandin E(2) release and attenuation of cyclooxygenase (COX-2) enzyme activity without affecting the constitutive form, COX-1 (Srivastava et al,2010 and Ghizlane et al, Hajjaj), The freeze-dried extracts of chamomile (*Matricaria chamomilla* L.) and was found to suppress both the inflammatory effect and the leukocyte infiltration.(Shipochliev et al, 1981 and Al-Hindawi et al 1989).

Analgesic activity

Analgesic activity of Chamomile extract study was determined by Ahmed Haqi Ismael et al,2017, Sepide et al, 2016 and Nauman et al, 2012.

Anticancer activity

Tumor growth suppressed by chamomile involve studies with apigenin which is one of the bioactive constituents of chamomile, studies on preclinical models of skin, prostate, breast and ovarian cancer have shown promising growth inhibitory effects (Evans et al, 2009, Patel et al,2007, Gates et al, 2007).

Antipruritic effect

The single per oral administration of the ethyl acetate extract or essential oil of German chamomile (*Matricaria recutita* L.) showed remarkable antipruritic effects in the compound 48/80-induced itch-scratching test in mice(Kobayashi et al,2005)

Immunomodulatory activity

Intragastric and parenteral administration of heteropolysaccharides of *Chamomile* is found to normalize developing of the immune response upon air cooling and enhance) this process upon immersion cooling. The immunomodulating effect of the heteropolysaccharides upon cooling is attributed to initiation of immunostimulating properties (Uteshev et al, 1999).

Common cold

Studies indicate that inhaling steam with chamomile extract has been helpful in common cold symptoms,(Saller et al,1990).

Cardiovascular conditions

It has been suggested that regular use of flavonoids consumed in food may reduce the risk of death from coronary heart disease in elderly men.(Hertog et al,1993).

Colic/Diarrhea conditions

apple pectin-chamomile extract may help shorten the course of diarrhea in children as well as relieve symptoms associated with the condition and two clinical trials have evaluated the efficacy of chamomile for the treatment of colic in children (Gould et al, 1973).

Eczema

Topical applications of chamomile have been shown to be moderately effective in the treatment of atopic eczema (Nissen et al,1988) . It was found to be about 60% as effective as 0.25% hydrocortisone creams(Albring et al, 1983 and. Patzelt-Wenczler et al,2000).

Gastrointestinal conditions

Chamomile is used traditionally for numerous gastrointestinal conditions, including digestive disorders, "spasm" or colic, upset stomach, flatulence (gas), ulcers, and gastrointestinal irritation (Kroll et al,2006 and . Khayyal et al, 2006).

Hemorrhoids

Studies suggest that chamomile ointment may improve hemorrhoids. Tinctures of chamomile can also be used in a sitz bath format. Tincture of Roman chamomile may reduce inflammation associated with hemorrhoids(. Lyseng-Williamson et al, 2003 and Misra et al 2000).

Osteoporosis

Chamomile extract was evaluated for its ability to stimulate the differentiation and mineralization of osteoblastic cells. Chamomile extract was shown to stimulate osteoblastic cell differentiation and to exhibit an anti-estrogenic effect, suggesting an estrogen receptor-related mechanism.(Kassi et al,2004 and Singh et al, 2018)

Antihyperglycemic and Antioxidative activities

Studies suggest that chamomile ameliorates hyperglycemia and diabetic complications by suppressing blood sugar levels, increasing liver glycogen storage and inhibition of sorbitol in the human erythrocytes(Kato et al,2008). The pharmacological activity of chamomile extract has shown to be independent of insulin secretion. (Eddouks et al, 2005) and studies further reveal its protective effect on pancreatic beta cells in diminishing hyperglycemia-related oxidative stress(Cemek et al, 2008). *Its* ethanolic extract treatment protected the majority of the pancreatic islet cells and protected beta-cells in STZ-diabetic rats, in a dose-dependent manner, and diminished the hyperglycemia-related oxidative stress (Cemek et al, 2008)

Wound healingThe efficacy of topical use of chamomile to enhance wound healing was evaluated and it was judged to be statistically efficacious in producing wound drying and in speeding epithelialization (Glowania et al,1987)

TABLE (B): Pharmacological actions

S.No	Pharmacologycal actions (Afaal wa Khawas)	Unani references	Ethnobotanical references
1.	Muhallil (Anti-inflammatory)	Ibn-e-Sina -1927, Kabiruddin -1951, CCRUM -1992, Lubhaya – 1984, Ghani – 1921, Hakeem – 1311,	Lemberkovics-1998 , Carnat-2004, Singh-2018, Sakai-2005, Merfort-1994, Srivastava-2010, Ghizlane-2013, Shipochliev 1981, Al-Hindawi-1989. Gupta-2010
2.	Musakkin-e-Alam (Analgesic)	Ghani 1921, Kabiruddin -1951, Ibn-e-Sina -1927	Ahmed H.I-2017 Sepide Miraj-2016 Nauman- 2012 Srivastava-2010
3.	Anticancer activity	CCRUM 1992 Kbiruddin 1951, Ghani – 1921,	Way TD- 2004 Birt DF 1997 Patel 2007 Gates 2007 Shukla 2005 Evans 2009 Gupta-2010 Srivastava-2010
4.	Antipruritic effect	Ghani – 1921, Ibn-e-Sina -1927	Kobayashi -2005 Gupta-2010 Srivastava-2010
5.	Immunomodulatory activity	Kabiruddin -1951, Ghani – 1921,	Uteshev -1999 Gupta-2010 Srivastava-2010
6.	Antispasmodic	Ibn-e-Sina -1927, Ghani – 1921,	Kroll -2006 Srivastava-2010

7.	Antihyperglycemic	Kabiruddin -1951, CCRUM -1992, Lubhaya – 1984, Ghani – 1921, Hakeem – 1311,	Kato- 2008 Eddouks -2005 Cemek-2008 Gupta-2010 Srivastava-2010
8.	Antioxidative activity	Ghani – 1921, Hakeem – 1311	Cemek-2008 Singh-2018, Srivastava-2010
9.	Wound healing activity	Kabiruddin -1951, Ibn-e-Sina -1927	Glowania-1987 Gupta-2010 Srivastava-2010
10.	Anti-allergic activity	Ghani – 1921, Hakeem – 1311	Saller-1990 Gupta-2010 Srivastava-2010
11.	Antimicrobial activity	Ibn-e-Sina -1927, Kabiruddin -1951,	Gupta-2010 Srivastava-2010
12.	Antiulcer activity	Ibn-e-Sina -1927, Hakeem – 1311	Gupta-2010 Srivastava-2010

TOXICOLOGY AND SAFETY PROFILE:

While generally considered safe, chamomile may cause allergic reactions in individuals sensitive to the Asteraceae family. Additionally, interactions with anticoagulant medications warrant caution because of its anti-platelet activity . (McKay DL, Blumberg JB. A review of the bioactivity and potential health benefits of chamomile tea (*Matricaria recutita* L.). *Phytother Res.* 2006;20(7):519-30.)

CONCLUSION:

The therapeutic potential of *Baboonah* (Chamomile) is well-documented in both traditional Unani medicine and modern scientific studies, with its broad-spectrum applications across various health domains. This paper has highlighted *Baboonah's* significant efficacy as a natural anti-inflammatory, antispasmodic, and anxiolytic agent, attributed to its bioactive compounds, including flavonoids and terpenoids. The evidence underscores *Baboonah's* relevance in treating digestive disorders, insomnia, stress-related conditions, and inflammatory ailments, aligning with classical Unani texts that advocate its use in managing diverse conditions. Moreover, its safety profile and minimal adverse effects make it a viable candidate for therapeutic applications in both preventative and curative Unani regimens. However, further clinical trials and pharmacological studies are necessary to substantiate its mechanisms and optimize dosage recommendations, bridging traditional knowledge with modern scientific insights. This research invites continued exploration of *Baboonah* integrative potential, paving the way for its standardized use in clinical Unani practice used and well documented medicinal plants in the world. Continued research is necessary to explore its full therapeutic potential and expand its applications in integrative medicine

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