



Egyptian Herbal Monograph

Volume 3

Medicinal Plants used in Egypt

Egyptian Drug Authority (EDA)

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Matricaria chamomilla L.

بابونج

1. Names & Synonyms

Matricaria chamomilla L. (1,2).

Family: Asteraceae (Compositae) (1).

Syns.: *Chamomilla recutita* (L.) Rausch., *Chamomilla officinalis* K. Koch, *Matricaria recutita* L. and others (1,3).

Arabic: Baboonig بابونج

English name: Matricaria Flower (4), Blue Chamomile, Hungarian Chamomile, Matricaria, Sweet False Chamomile, Wild Chamomile (3), German Chamomile (5).

2. Parts used for medicinal purpose

Flowerheads (4-7).

3. Major chemical constituents

- **Essential oil:** α and β -Farnesene, α -bisabolol and its oxide, chamazulene, germacrene D, spiroether, proazulenes (matricarin and matricin) (5,8).

- **Phenolic compounds:** **Phenylpropanoids:** Chlorogenic and caffeic acids; **Flavonoids:** Apigenin, luteolin, quercetin (and their glycosides) and naringenin; **Coumarins:** γ -Herniarin and umbelliferone (9).

- **Others:** Polyacetylenes, polysaccharides, fatty acids, anthemic acid and triterpene hydrocarbons (e.g. triacontane) (5,9).

4. Medicinal Uses (Indications) (4,6)

Internal:

- A. Symptomatic treatment of minor digestive ailments such as dyspepsia, epigastric bloating, impaired digestion, and flatulence.
- B. Treatment of restlessness and mild cases of insomnia due to nervous disorders.



External:

- C. Treatment of minor inflammation of the skin (sunburn), superficial wounds, small boils (furuncles), skin cracks, bruises, frostbite and insect bites.
- D. Treatment of minor ulcers and inflammations of the mouth and throat.
- E. Irritations of skin and mucosa in the anal and genital, after serious conditions have been excluded by a medical doctor (10).

Inhalation:

- F. Symptomatic relief of irritations of the respiratory tract due to the common cold.

5. Herbal preparations correlated to medicinal use

1. **Comminuted herbal substance** (3-6).
2. **Fluid (liquid) extract**
 - 2.1 Ethanol 45% (1:1) (5,6).
 - 2.2 Ethanol 48% V/V (4).
 - 2.3 Ethanol 55% V/V (4).
 - 2.4 Ethanol 96% V/V: water: ammonia solution 10% m/m (50:47.5:2.5) (4).
 - 2.5 Ethanol 45% V/V: ammonia solution 10% m/m (14.7:1) (4).
3. **Dry Extract, extraction solvent:** ethanol 50% m/m (4).
4. **Tincture** (6,7,11).
5. **Oil** (10).

Herbal preparations (2-5) are in pharmaceutical dosage forms. The pharmaceutical form should be described by the pharmacopoeia full standard term.

6. Posology and method of administration correlated to medicinal use

Preparation 1

Indication A (as infusion) (4)

Adolescents, adults and elderly: 1.5 - 4 g in 150 ml of boiling water, 3 - 4 times daily.

Children (6 - 12 years): 1.5 - 3.0 g, 2 - 4 times daily.



Children (2 - 6 years): 1.0 - 1.5 g, 2 - 4 times daily.

Children (6 months - 2 years): 0.5 - 1.0 g, 2 - 4 times daily.

Indication B (as infusion)

Adults: 2 – 8 g, 3 times daily (5,6,11)

Adolescents and children from 3 years: 2 g, 3 times daily (6).

Indication C (4,6,12)

Adolescents, adults and elderly: Washings and impregnated dressings: 3 – 10% (30 – 100g/l water), several times daily.

Indication D

Adolescents, adults and elderly: Oromucosal use for rinsing and gargling: 1 – 5% (10 – 50g/l water) (4) or 3 – 10% (30 – 100g/l) (6,13), several times daily (4).

Children (6 - 12 years): 3 – 10% (30 – 100g/l) (13).

Indication E (4)

Adolescents, adults and elderly: 4.5 - 5 g/l water (irrigation), several times daily.

Indication F (4)

Adolescents, adults and elderly: 3 - 10 g in 100 ml hot water, several times daily.

Children (6-12 years): 2 - 5 g in 100 ml hot water, 1-2 times daily.

Preparation 2

Preparation 2.1 (6)

Indications A and B

Adults: 1 – 4ml, 3 times daily (5).

Children from 3 years: Single dose: 0.6 – 2ml.

Preparation 2.2 (4)

Indication A

Adolescents, adults and elderly: 1.5 ml in 150 ml water, 3 - 4 times daily.

Children (6-12 years): 0.7 – 1 ml in 150 ml water, 3 - 4 times daily.

Preparations 2.2 and 2.3

Indications C and E (4)

Adolescents, adults and elderly: 15 ml / l hot water. One to several times daily.

Indication D

Adolescents, adults and elderly: 1-2 ml in 150 ml water, 3 - 4 times daily (4) or 1% v/v fluid extract (1 ml of fluid extract per 100 ml of finished liquid formulation) (13).

Children (6-12 years): 0.5 – 1 ml in 150 ml water, 3 - 4 times daily (4).

or 1% v/v fluid extract (1 ml of fluid extract per 100 ml of finished liquid formulation) (13).



Indication F (4)

Adolescents, adults and elderly: 15 ml/l hot water, 1 - 2 times daily.

Preparation 2.3 (4)

Indications C and E

Adolescents, adults and elderly: Single dose: 15 - 30 ml/5l warm water for partial baths. One to several times daily.

Preparation 2.4 (4)

Indication A

Adolescents, adults and elderly: 2 g in 150 ml warm water, 3 - 4 times daily.

Preparation 2.5 (4)

Indication A

Adolescents, adults and elderly: 5 ml in 150 ml water, up to 4 times daily.

Children (6-12 years): 2.5 ml in 150 ml water, up to 4 times daily.

Indications C and E

Adolescents, adults and elderly: 20 ml/l water for compresses and irrigation **or** 10 ml/l water for partial baths, several times daily.

Indication D

Adolescents, adults and elderly: 2.5 ml in 125 ml water for gargling or rinsing, 3-4 times daily.

Indication F

Adolescents, adults and elderly: 5 ml in 150 ml hot water for inhalation, several times daily.

Preparation 3 (4)

Indication C

Adolescents, adults and elderly Single dose: in case of sunburns, few drops are applied in a thin layer on affected area, several times daily.

Preparation 4

Indications A and B

Adults: Tincture (1:5): 3 - 10 ml, 3 times daily (11).

Indication D

Children from 6 years of age, adolescents and adults: 5% v/v tincture (5 ml of tincture/100 ml of finished liquid formulation) (13).

Preparation 5

Indications C and E



Adolescents, adults and elderly: 5 drops per 100 ml of oil, or per 100 g of cream or ointment (11):

Indication E (10)

Adolescents, adults and elderly: Single dose: Use as bath additive: 0.5 – 1 mg/l.

Average daily dose

Full bath: One bath per day or every second day.

Partial bath: One or two times per day.

Duration of bath: 10 – 20 minutes.

Use as bath additive. Recommended temperature of bath: 35 – 38 °C.

Indication F

Adolescents, adults and elderly: 5 drops of essential oil in one l hot water (11).

Duration of use (4)

If the symptoms persist more than one week during the use of the medicinal product, a doctor or a pharmacist should be consulted.

Method of administration (4):

Indications A and B: Oral use.

Indications C and E: Cutaneous use.

Indications D: Oromucosal (buccal) use.

Indication F: Inhalation use.

7. Contraindications

Hypersensitivity to active substances and to other plants of the same family.

Use as bath additive (4,10):

- Full baths are contraindicated in cases of open wounds, large skin injuries, acute skin diseases, high fever, severe infections, severe circulatory disturbances and cardiac insufficiency.
- Partial baths or hip baths are contraindicated in cases of open wounds, large skin injuries, acute skin diseases, high fever and severe infections

8. Special warnings and precautions for use

If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.

- The oral use of the **herbal preparation 1** is neither recommended for indication A in children below 6 months of age nor indication B in children below 3 years of age (4).

- The use of the **herbal preparation 1** as mouth wash or steam inhalation is neither recommended in children below 6 years of age nor in partial bath or local cutaneous use in children below 12 years of age (4).
- The oral use of the **herbal preparation 2.1** is not recommended for in children under 3 years of age (6). Also; the oral use of the **herbal preparations 2.2 and 2.5** is not recommended in children under 6 years of age (4,13).
- As mouth wash or gargling, the **herbal preparations 2.2, 2.3 and 4** is not recommended in children under 6 years of age (4,13). Also, the **herbal preparation 2.5** is not recommended in children under 12 years of age (4).
- The **herbal preparations 2.2, 2.3 and 2.5** are not recommended in children under 12 years of age as partial bath, for local cutaneous use or as steam inhalation (4,13).
- The use of **oil, dry extract and herbal preparation 2.4** in children under 12 years of age is not recommended (4,10,14).

9. Interactions with other medicinal products and other forms of interaction

Oral use:

- For patients after renal transplantation taking high dosages for longer periods (about two months) interactions based on effects on CYP450 have been reported (4).
- Due to the content of hydroxy coumarins in *M. recutita*, there may be an additive effect when taken with warfarin (15).
- **CNS depressants:** Chamomile may increase the effects of other sedatives; concurrent use should be avoided (14,15).

Cutaneous, oromucosal use, inhalation, or as bath additive:

- None reported (4,10).

10. Fertility, pregnancy and lactation

- Safety during pregnancy and lactation has been established for **preparation 1**. If applied before nursing the baby, the nipples should be cleaned of Matricaria containing products for cutaneous use to prevent a sensitization of the baby (4).
- **For other preparations**, safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended (4,10).
- No fertility data available (4,10).



11. Effects on ability to drive and use machines

No studies on the effect on the ability to drive and use machines have been performed (4,10).

12. Undesirable effects

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Hypersensitivity reactions (4,6,10,15) including severe allergic reaction (dyspnoea, Quincke's disease, vascular collapse, anaphylactic shock) following mucosal contact with liquid chamomile preparations have been reported (4,10).
- Burning of the face, eyes and mucous membranes (topical) (14).

13. Overdose

No case of overdose has been reported (4,6, 10).

14. Relevant biological activities

Not required as per Egyptian guidelines for registration of herbal medicines.

15. Additional information

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16. Date of last revision

23/08/2022.

1	https://powo.science.kew.org .
2	https://www.herbalgram.org/resources/commission-e-monographs/approved-herbs/chamomile-flower-german/
3	Edwards, S. E., Rocha, I. D. C., Williamson, E. M. and Heinrich, M. (2015). <i>Phytopharmacy: An Evidence-Based Guide to Herbal Medicinal Products</i> . 1 st edition. John Wiley & Sons, Ltd.
4	European Union Herbal Monograph on <i>Matricaria recutita</i> L., Flos (2015). EMA/HMPC/55843/2011. Committee on Herbal Medicinal Products (HMPC).
5	Barnes, J., Anderson, L. A. and Phillipson, J. D. (2007). <i>Herbal Medicines</i> , 3 rd edition. Published by the Pharmaceutical Press. ISBN 978 0 85369 623 0.
6	WHO monographs on selected medicinal plants (1999). Monographs on selected medicinal plants 1 , 86-94.
7	Natural Health Product, German Chamomile – <i>Matricaria chamomilla</i> (2018). Health Canada. http://webprod.hcsc.gc.ca/nhpiddipsn/atReq.do?atid=cham.germ.oral. orale&lang=eng
8	Stanojevic, L. P., Marjanovic-Balaban, Z. R., Kalaba, V. D., Stanojevic, J. S. and Cvetkovic, D. J. (2016). Chemical composition, antioxidant and antimicrobial activity of Chamomile flowers essential oil (<i>Matricaria chamomilla</i> L.). <i>Journal of Essential Oil Bearing Plants</i> , 19 (8), 2017-2028, DOI: 10.1080/0972060X.2016.1224689.
9	Singh, O., Khanam, Z., Misra, N. and Srivastava, M. K. (2011). Chamomile (<i>Matricaria chamomilla</i> L.): An overview. <i>Pharmacogn. Rev.</i> , 5 (9), 82-95. doi: 10.4103/0973-7847.79103.
10	European Union Herbal Monograph on <i>Matricaria recutita</i> L., aetheroleum (2015). EMA/HMPC/278814/2010. Committee on Herbal Medicinal Products (HMPC).
11	Braun, L. and Cohen, M. (2014). <i>Herbs and Natural Supplements, an Evidence-Based Guide</i> . 3 rd ed. ISBN: 978 0 7295 3910 4.
12	Natural Health Product, German Chamomile – <i>Matricaria chamomilla</i> Topical (2018). Health Canada. http://webprod.hcsc.gc.ca/nhpiddipsn/atReq.do?atid=germ_chamom_ allem&lang=eng
13	Natural Health Product, German Chamomile – <i>Matricaria chamomilla</i> Buccal (2021). Health Canada. http://webprod.hcsc.gc.ca/nhpiddipsn/atReq.do?atid=germ_chamom_ allem_buccal&lang=eng
14	Skidmore-Roth, L. <i>Mosby's Handbook of Herbs and Natural Supplements</i> (2010). 4 th ed., ISBN: 978-0-323-05741-7.
15	PDR for herbal medicines (2002). Montvale, NJ: Medical Economics Company, 2 nd ed., ISBN 1-56363-361-2.