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Medicinal plants used in Egypt

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***Althaea officinalis* L.** **الخطمية**

1. Names & Synonyms (1,2).

***Althaea officinalis* L.**
Family: Malvaceae.
Syns.: *Malva althaea* E. H. L. Krause, *Malva officinalis* (L.) K. F. Schimp. & Spenn. (3).
Arabic: Marshmallow مارشمالو, Al khatmia الخطمية ,الختمية, Al Khatmy الخطمى , Khairu خيرو (4).
English: Marshmallow, White-mallow (5).

2. Parts used for medicinal purpose

Peeled or unpeeled dried root (1, 2, 6- 8) and leaves (1, 5).

3. Major chemical constituents

- **Acidic polysaccharides**: Mucilage (galacturono–rhamnans, arabinans, glucans, arabinogalactans) (1, 9).
- **Flavonoids:** Hypolaetin-8-glucoside, isoquercitrin, kaempferol (10).
- **Phenolic acids:** Caffeic, *p*-coumaric, ferulic, *p*-hydroxybenzoic and syringic acids (1, 9).
- **Others**: Starch, pectin, asparagine, calcium oxalate, coumarins (scopoletin), sucrose, amino acids and tannins (1, 9, 10).

4. Medicinal uses (Indications)

A. Demulcent preparation for the symptomatic treatment of oral or pharyngeal irritation associated dry cough (5, 6, 8).
B. Demulcent preparation for the symptomatic relief of mild gastrointestinal discomfort (5, 6, 8).

5. Herbal preparations correlated to medicinal use (6)

1. Comminuted herbal substance as herbal tea
1.1 Roots
1.2 leaves

2. Liquid extracts
    - **2.1.** extraction solvent water (roots)
    - **2.2.** extraction solvent ethanol 25% (V/V)
        - **2.2.1** Roots
        - **2.2.2** Leaves
3. Macerate for preparation of syrup (roots)
   * To make a macerate pour 150 ml of water (max. temp. 40°C) over one dose of comminuted marshmallow roots. Steep for 30 min., stirring frequently. The filtered macerate should be used immediately after preparation (11).
4. Dry extract, extraction solvent water (roots).
5. Tincture (1:5) in 25% ethanol (roots) (8).

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 1.1
Indication A
Adolescents, adults and elderly: 0.5 - 3 g in 150 ml of water as a macerate several times daily**.** Maximum daily dose: 15 g (5, 6, 11).
Children 6-11 years of age: 0.5–1.5 g in 150 ml of water as a macerate 3 times daily. Daily dose: 1.5 – 4.5 g (5, 6, 11).
Children 3-5 years of age
0.5 – 1.0 g in 150 ml of water as a macerate, 3 times daily
Daily dose: 1.5–3.0 g (5, 6, 11).

Indication B
Adolescents, adults and elderly: Herbal tea: 2 - 5 g in 150 ml of water as a macerate, 3 times daily. Maximum daily dose: 15 g (2, 5, 6, 11).

Preparation 1.2
Indications A and B
Adults: 2 - 15 g daily, not to exceed 5 g per a single dose (5).

Preparation 2.1
Indication A
Adolescents, adults and elderly:
Single dose: 4.6 g, 3 – 6 times daily. Daily dose: 13.8–27.6 g (6).
Children 6-11 years of age:
Single dose: 2.3 g, 5 times daily. Daily dose: 11.5 g (6).
Children 3-5 years of age:
Single dose: 1.9 g, 4 times daily. Daily dose: 7.6 g (6).

Preparation 2.2.1
Indications A and B
Adults and elderly:
Single dose: 2 – 5 ml, 3 times. Daily dose: 6–15 ml (1, 6).

Preparation 2.2.2
Indications A and B
Adults:
2 - 15 ml daily, not to exceed 5 ml per a single dose (5)
2 – 5 ml, 3 times daily (1).

Preparation 3
Indication A
Adolescents, adults and elderly
Single dose: 0.21 - 0.87 g of the herbal substance (10–15 ml of syrup), 3–5 times daily.
Daily dose: 0.63 - 2.9 g of the herbal substance (30–50 ml of syrup) (6).
Children 6-11 years of age
Single dose: 0.1 - 0.29 g of the herbal substance (5 ml of syrup) 3-5 times daily.
Daily dose: 0.32 - 1.45 g of the herbal substance (15–25 ml of syrup) (6).
Children 3-5 years of age
Single dose: 0.1 - 0.29 g of the herbal substance (5 ml of syrup), up to 4 times.
Daily dose: 0.21 - 1.16 g of herbal substance (10–20 ml of syrup), daily (6).

Preparation 4
Indication A
Adolescents, adults and elderly:
Single dose: corresponding to 0.5–3 g of herbal substance, several times daily.
Maximum daily dose: corresponding to 15 g of herbal substance (6).
Children 6-11 years of age
Single dose: corresponding to 0.5–1.5 g of herbal substance, 3 times daily
Daily dose: corresponding to 1.5–4.5 g of herbal substance (6).
Children 3-5 years of age
Single dose: corresponding to 0.5–1 g of herbal substance, 3 times daily
Daily dose: corresponding to 1.5–3 g of herbal substance (6).

Preparation 5 (8)
Indication A
Equivalent to 1-15 g dried root per day, not to exceed 5g per single dose (1:5; in 25% ethanol).

Method of administration (6):
Indication A: Oral or oromucosal use.
Indication B: Oral use

7. Contraindications

Hypersensitivity to the active substances and to other plants of the same family (6).

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.
- For **indication A**, the use in children under 3 years of age requires medical advice before use (6).
- The use of **preparation 2.2** is not recommended in children and adolescents under 18 years of age (6).
- For **indication B**, the use of preparation 1 is not recommended in children under 12 years of age (6).
- The use of **the solid dosage form** in children under 6 years of age is not recommended because of the pharmaceutical form.
- Absorption of concomitantly administered medicines may be delayed. As a precautionary measure, the product should not be taken ½ to 1 hour before or after intake of other medicinal products (2, 6).
- If dyspnoea, fever or purulent sputum occurs during the use of the medicinal product, a doctor or a pharmacist should be consulted (6).

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

- **Oral medications:** Marshmallow may reduce the absorption of oral medications; concurrent use should be avoided (2, 11, 12).
- **Antidiabetics** and **Hypoglycemic herbs:** Marshmallow may increase hypoglycemic action (12).
- **Iron salts:** Marshmallow may reduce the absorption of iron salts; separate by two hours (12).
- **Lab Test** (12): **Blood glucose:** Marshmallow decreases blood glucose.

10. Fertility, pregnancy and lactation

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.
- No fertility data available (6).

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 (6).

12. Undesirable effects

- If adverse reactions occur, a doctor or a pharmacist should be consulted.
- Hypoglycemia, nausea, vomiting, anorexia and hypersensitivity reactions (12).

13. Overdose

No case of overdose has been reported (6).

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 compilation/last revision

31/8/2022

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