



Egyptian Herbal Monograph

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## Volume 3

## Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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## Herbal Formulations Used in Egypt

**Dandelion, Rosemary, Fennel, Peppermint, Glutamic acid, Betaine HCl**

**هندباء / روزماري / نعناع / شمر / حمض الجلوتاميك / بيتاين هيدروكلوريد**

### 1. Names & Synonyms

#### **Dandelion (1)**

***Taraxacum officinale* Weber**

**Family:** Asteraceae/Compositae (2 - 7).

**Syns.:** *Leontodon taraxacum* L., *Taraxacum vulgare* (Lam.) Schrank, *T. campyloides* G. E. Haglund. (1-2).

**Arabic:** Handebaa, Hindbeh, Hindiba هندباء

**English name:** Lion's Tooth (6, 8 -10), Common Dandelion (8, 9), Dandelion (1).

#### **Rosemary (1)**

***Salvia rosmarinus* Spenn.**

**Family:** Lamiaceae (Labiatae).

**Syn.:** *Rosmarinus officinalis* L. (11,12).

**Arabic:** Iklyl aljabal إكليل الجبل (13), Ḥaṣa l-ban حصى البان (14), Ruzmari روزماري (14,15).

**English:** Rosemary.

#### **Fennel (16)**

***Foeniculum vulgare* Mill.**

**Family:** Apiaceae (Umbelliferae).

**Syns:** *Anethum foeniculum* Clairv., *A. foeniculum* L., *A. rupestre* Salisb., *Feniculum commune* Bubani., *F. azoricum* Mill., *F. capillaceum* Gilib., *F. dulce* DC., *F. foeniculum* L. H. Karst., *F. officinale* All., *F. panmorium* DC., *F. piperitum* DC., *F. sativum* Bertol., *Ligusticum divaricatum*



Hoffmannsegg et Link, L., *Foeniculum* Crantz., *Meum foeniculum* L. Spreng., *Ozodia foeniculacea* Wight et Arn., *Selinum foeniculum* L. E.H.L.Krause.

**Arabic:** Shamar شمر

**English:** Fennel

**Peppermint (17)**

***Mentha piperita* L.**

**Family:** Lamiaceae.

**Arabic:** Ni'na نعناع

**English:** Peppermint.

## 2. Parts used for medicinal purpose

**Dandelion:** Leaves, roots and root with herb (whole plant) (3 - 7).

**Rosemary:** Fresh and dried leaves (18,19). Flowering aerial parts (20-23).

**Fennel:** Dried ripe fruits (24).

**Peppermint:** The fresh overground parts and the dried leaves (17, 25, 26).

## 3. Major chemical constituents

### Dandelion

Generally, dandelion plant is rich in polysaccharides, phenolic acids, flavonoids, terpenoids, minerals (particularly potassium), amino acids, and vitamins (9, 10, 27).

#### Roots:

- **Polysaccharides:** Inulin (9, 27).
- **Phenolic acids:** Chicoric, chlorogenic, caffeic, monocaffeoyltartaric, hydroxycinnamic, synergic, vanillic and *p*-hydroxyphenyl acetic acids (9, 27).
- **Sesquiterpene lactones:** 4,11 $\beta$ , 13, 15''-Tetrahydridentin B and taraxacolide-Oglucopyranoside (7, 28), 11,13-dihydrolactucin and ixerin D (29), and taraxinic acid Dglucopyranoside, its 11,13-dihydro-derivative (7) and ainslioside (28-30).



- **Minerals:** Mainly potassium (31).
- **Others: Sterols/Triterpenes:** Taraxasterol,  $\beta$ -taraxasterol, their acetates and their 16-hydroxy derivatives arnidol and faradiol,  $\beta$ -sitosterol,  $\beta$ -sitosterol-Dglucopyranoside and stigmasterol, and  $\beta$ -amyrin (28, 32, 33). A Triterpenoid: 3 $\beta$ hydroxylup-18(19)-ene-21-one in fresh roots (29).

#### Leaves:

- **Phenolic acids:** Chicoric, caffeic and chlorogenic acids (9).
- **Flavonoids:** Luteolin, quercetin, apigenin, and their glycosides (9).
- **Sesquiterpene lactones:** Taraxinic acid  $\beta$ -D-glucopyranoside and 11 $\beta$ , 13dihydrotaraxinic acid (34).
- **Coumarins:** Cichoriin and aesculin (9).
- **Minerals:** Mainly potassium (31).
- Others:** Polysaccharides and ascorbic acid (9).

#### Rosemary

- **Essential oil:** 1,8-Cineole,  $\alpha$ -pinene, camphor (35,36), limonene, camphene and linalool (37).
- **Phenolic acids:** Rosmarinic, caffeic and chlorogenic acids (11).
- **Diterpenes:** Carnosic acid, carnosol, epirosmanol and hinokiol (38).
- **Triterpenes:** Ursolic, oleanolic and betulinic acids (38).

#### Fennel (39)

- **Essential oil:** *trans*-anethole (+)-fenchone, estragole (methylchavicol), limonene, *p*-anisaldehyde,  $\alpha$ -pinene and  $\alpha$ -phellandrene.
- **Phenolic acids:** rosmarinic acid and caffeoylquinic acid derivatives.
- **Flavonoids:** eriodictyol-7-rutinoside, quercetin-3-rutinoside.
- **Others:** triterpenes, smaller terpenes (monoterpenoids, sesquiterpenoids and diterpenoids) and reducing sugars.



### Peppermint

- **Essential oils:** Menthol, menthone, menthyl acetate, menthofuran, and 1,8cineole (eucalyptol) (40).
- **Flavonoids:** Luteolin, luteolin-7-O-glucoside, naringenin-7-O-glucoside, isorhoifolin, eriodictyol, eriocitrin glycoside and apigenin (41).

## 4. Medicinal uses (Indications)

- A) Symptomatic treatment of mild digestive disorders (such as feeling of abdominal fullness, bloating, flatulence, and slow digestion) and temporary loss of appetite.
- B) Symptomatic treatment of minor spasms of the gastrointestinal tract, abdominal pain and irritable bowel syndrome.

## 5. Herbal preparations correlated to medicinal use

Combination of dandelion dry extract (Extraction solvent: Ethanol), rosemary dry extract (Extraction solvent: Ethanol& water), fennel dry extract (Extraction solvent: Water& Ethanol), peppermint dry powder extract (Extraction solvent: Ethanol& water), L-glutamic acid, betaine HCl.

**Herbal preparations 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

### Adults and elderly

Combination of 35 mg of dandelion extract, 35 mg of rosemary extract, 35 mg of fennel extract, 50 mg of peppermint extract, 120 mg of L-glutamic acid, 150 mg of betaine HCl, 2-3 times daily.

### Duration of Use:

As directed by physician.

**Method of administration:** Oral use.



## 7. Contraindications

- Hypersensitivity to the active substance(s) or to plants of the same families.
- Obstructions of bile ducts, cholangitis, liver diseases, gallstones, peptic ulcer and any other biliary diseases (4,6,7,18).
- The use in patients with renal failure, diabetes and/or heart failure should be avoided because of possible risks due to hyperkalemia (3,4).
- In case of gastroesophageal reflux (heartburn), because heartburn may increase (42).

## 8. Special warnings and precautions for use

- If the symptoms worsen or if complaints or symptoms such as fever, dysuria, spasms or blood in urine occur during the use of the medicinal product, a doctor or a pharmacist should be consulted (3-5).
- The use in children under 12 years of age is not recommended (3-5).
- It is not recommended in patients with conditions where reduced fluid intake is advised by a medical doctor (3-5).
- Bleeding disorders: The product might slow blood clotting; it might increase the risk of bleeding or bruising in people with bleeding disorders (43).

## 9. Interactions with other medicinal products and other forms of interaction (10)

- **Antacids, H2-blockers, proton pump inhibitors:** May decrease their action.
- **Anticoagulants, antiplatelets, NSAIDs, salicylates:** May increase bleeding when used with these products.
- **Antihypertensives, insulin, antidiabetics and hypoglycemic herbs:** May increase their effects; concurrent use should be avoided.
- **Diuretics and diuretic herbs:** May increase diuresis when used concurrently with diuretics, leading to fluid loss and electrolyte imbalances; concurrent use should be avoided.



- **Lithium:** Toxicity may occur as a result of sodium excretion if dandelion is used concurrently with lithium.
- **Ciprofloxacin:** concurrent use with Ciprofloxacin may affect the Absorption, distribution, and elimination of ciprofloxacin. If the two are used concurrently, their dosages should be separated by at least 2 hours (10, 22)

**Lab test:**

- **AST, ALT, alkaline phosphatase, APTT, INR, PT:** Dandelion may increase these levels.
- **Blood glucose:** Dandelion may decrease blood glucose levels.

## 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.

## 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.

## 12. Undesirable effects

- Nausea, anorexia, increased indigestion with hiatal hernia, exacerbation of biliary colic, bronchospasm, gastroesophageal reflux may worsen and heartburn may increase (10).
- Allergic reactions (contact dermatitis, rhinoconjunctivitis and occupational asthma) may occur in sensitive patients (3-5, 18).
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

## 13. Overdose

No case of overdose has been reported.



**14. Relevant biological properties**

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

**15. Additional information**

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**16. Date of compilation/last revision**

21/05/2026.





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