

Egyptian Herbal Monograph

Volume 2

Medicinal Plants used in Egypt

Egyptian Drug Authority (EDA)

2025



Egyptian Herbal Monograph

Medicinal Plants Used in Egypt

***Coffea arabica* L.**

قهوة خضراء

1. Names & Synonyms (1)

Coffea arabica L.

Family: Rubiaceae.

Syns.: *Coffea bourbonica* Pharm. ex Wehmer. *C. corymbulosa* Bertol. *C. laurifolia* Salisb. *C. moka* Heynh. *C. sundana* Miq. *C. vulgaris* Moench.

Arabic: Kahwa khadra قهوة خضراء.

English name: Green coffee.

2. Parts used for medicinal purpose

Unroasted beans (2).

3. Major chemical constituents

- **Phenolic acids and derivatives:** Chlorogenic acids (composed of four isomers where the most common isomer is 5-*O*-caffeoylquinic acid (5-CQA) (3), followed by di-caffeoylquinic (diCQA), feruloylquinic (FQA) and *p*-coumaroylquinic acids (4,5).
- **Alkaloids:** Caffeine and trigonelline (6).
- **Diterpenes:** Coffeol and 16-*O*-methyl-coffeol (7).
- **Lipids:** mainly as linoleic and palmitic acids (8).
- **Others:** Insoluble polysaccharides (8), proteins, fats, tannins, minerals (mainly potassium, calcium, magnesium), sterols (β -sitosterol, stigmasterol, campesterol, cholesterol, Δ^5 -avenasterol, $^7\Delta$ -avenasterol and Δ^7 -stigmastenol), anthranone compounds (mangiferin, isomangiferin), coumarin (scopoletin), and carotenoids (7).

4. Medicinal Uses (Indications) (2)

- A. Weight management during weight control diet program.
- B. Adjunct therapy in hypertension and cardiovascular diseases.

5. Herbal preparations correlated to medicinal use (2)

1. Comminuted herbal substance as decoction or infusion.
2. Liquid extract.
3. Dry extract.
4. Tincture.

Herbal preparations (2-4) are in a 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 (2)

Adults:

Preparations 1-4

Indication A

400 - 1000 mg daily, standardized to 45-50% chlorogenic acids and up to 4% caffeine.

Indication B

115 - 1000 mg daily, standardized to 45-50% chlorogenic acids and up to 4% caffeine.

Method of administration: Oral use.

Duration of use: Up to 12 weeks (9).

7. Contraindications

- Hypersensitivity to active substances and to other plants of the same family.
- Children and adolescent less than 18 years of age (2).

8. Special warnings and precautions for use

- If symptoms worsen during the use of the medicinal products, a doctor or pharmacist should be consulted.
- Patients with sensitive cardiovascular systems, kidney diseases, hyperthyroidism, higher disposition to convulsions and certain psychic disorders (including panic anxiety states) should consult the physician before use (10).
- Green coffee beans extract (maximum 4% caffeine) cannot be combined with caffeine or other medicinal or non-medicinal ingredients containing caffeine (2, 11).
- Caffeine should be used with caution in patients with type-2 diabetes and the blood sugar should be monitored (9).

- In osteoporosis, limit caffeine consumption to less than 300 mg daily. Caffeine can increase the amount of calcium that is flushed out in the urine; this might weaken the bones (9).
- People with epilepsy should avoid using caffeine in high doses; even low doses of caffeine should be used cautiously (9).
- Caffeine can increase pressure inside the eye, which can make glaucoma worse and might increase blood pressure in people with hypertension (9).

9. Interactions with other medicinal products and other forms of interaction (12)

- Concurrent use with stimulant drugs might cause too much stimulation and sometimes serious side effects and heart problems.
- Taking green coffee along with medications that slow blood clotting might increase the risk of bruising and bleeding.
- Taking caffeine along with nicotine/medications for depression (MAOIs) might increase heart rate and blood pressure.

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 is 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

- Green coffee does contain caffeine, which can have numerous side effects as anxiety, jitteriness and rapid heartbeat. (13)
- If adverse reactions occur a doctor or a pharmacist should be consulted.

13. Overdose (10, 13)

- Consuming a high dose of chlorogenic acid might increase homocysteine levels, which might be linked to conditions such as heart diseases.

- Caffeine when taken in large amounts can worsen diarrhoea in some people with irritable bowel syndrome and might make anxiety and bleeding disorders worse.
- Consuming large amounts of green coffee might cause caffeine-related side effects, including hyperacidity, reduced appetite, sleeplessness, anxiety, tremor, nervous restlessness, palpitations and withdrawal headaches.

14. Relevant biological activities

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

15. Additional information

Green coffee is considered as a source of antioxidants (2).

16. Date of last revision

08/06/2023.

References

1	www.powo.science.kew.org
2	Natural Health Product. Green Coffee Bean Extract (2018). Health Canada. https://webprod.hc-sc.gc.ca/nhp/nd-bdipsn/atReq.do?atid=greencoffeebean.ext.fevescafevert&lang=eng
3	Rojas-González, A., Figueroa-Hernández, C. Y., González-Rios, O., Suárez-Quiroz, M. L., González-Amaro, R. M., Hernández-Estrada, Z. J. and Rayas-Duarte, P. (2022). Coffee chlorogenic acids incorporation for bioactivity enhancement of foods. <i>Molecules</i> , 27 (11), 3400. doi: 10.3390/molecules27113400.
4	Farah, A. and Donangelo, C. M. (2006). Phenolic compounds in Coffee. <i>Braz. J. Plant Physiol.</i> , 18 , 23–36.
5	Pimpley, V., Patil, S., Srinivasan, K., Desai, N. and Murthy, P. S. (2020). The chemistry of chlorogenic acid from green coffee and its role in attenuation of obesity and diabetes. <i>Prep. Biochem. Biotechnol.</i> , 50 (10), 969-978. doi: 10.1080/10826068.2020.1786699.
6	Sualeh, A., Tolessa, K. and Mohammed, A. (2020). Biochemical composition of green and roasted coffee beans and their association with coffee quality from different districts of southwest Ethiopia. <i>Heliyon</i> , 6 (12), e05812. doi: 10.1016/j.heliyon.2020.e05812.
7	Saud, S. and Salamatullah, A. M. (2021). Relationship between the chemical composition and the biological functions of Coffee. <i>Molecules</i> , 26 (24), 7 634. doi: 10.3390/molecules26247634.
8	Solange I. Mussatto, S. I., Ercília M. S. Machado, E. M. S., Martins, S. and Teixeira, J. A. (2011). Production, composition, and application of Coffee and its industrial residues. <i>Food Bioprocess Technol.</i> , 4 , 661–672. doi 10.1007/s11947-011-0565-z.
9	https://medlineplus.gov/druginfo/natural/1264.html
10	Spiteri, M. (2011). Herbal monographs including herbal medicinal products and food supplements. Department of Pharmacy, University of Malta. Set and printed by Print Right Ltd, Qormi.
11	PDR for Herbal Medicines (2002). Montvale, NJ: Medical Economics Company, 2 nd ed., ISBN 1-56363-361-2.
12	GREEN COFFEE: Overview, Uses, Side Effects, Precautions, Interactions, Dosing and Reviews (http://www.webmd.com)
13	https://www.medicalnewstoday.com/articles/318611