HERBAL MEDICINE: EXPANDED COMMISSION E MONOGRAPHS

Lavender flower - American Botanical Council (herbalgram.org)

Accessed 28 July 2022

Lavender flower

Latin Name:

Lavandula angustifolia

Pharmacopeial Name:

Lavandulae flos

Other Names:

English lavender, garden lavender, true lavender

Overview

Lavender is an aromatic subshrub native to the low mountains (800-1,800 meters) of the Mediterranean basin, cultivated in France, Bulgaria, Italy, Spain, the former Yugoslavia, the Netherlands, the United Kingdom, the United States, and Australia. The material of commerce comes mainly from France (Bruneton, 1995;Grieve, 1979; Leung and Foster, 1996;Wichtl and Bisset, 1994).

Lavender was used as an antiseptic in ancient Arabian, Greek, and Roman medicines. Its genus name comes from the Latin *lavare,* to wash,probably referring to its use as a bath additive for the purification of body and spirit. It was also used as a bactericide to disinfect hospitals and sick rooms in ancient Persia, Greece, and Rome. The ancient Greeks called the plant *nardus* and later the Romans called it *asarum*.In the time of Pliny the Elder (ca. 2379 B.C.E.), the blossoms sold for 100 Roman denarii per pound (Bown, 1995; Grieve, 1979; Savinelli, 1993). Knowledge of its healing abilities spread to India and then to Tibet. In the book *Makhzan-El-Adwiya,* it is called the broom of the brain, because it is reputed to sweep away all *kafa* impurities (Nadkarni, 1976). The *Gyu-zhi,* or *Four Tantras,* by Chandranandana is the earliest Indian medical text to be translated into Tibetan (eighth century B.C.E.). In it, lavender (*Pri-yangku* in Tibetan) is included in psychiatric formulas, still used today in Tibetan Buddhist medicine, for treating insanity and psychoses, in an edible ointment or medicine butter dosage form. (Clifford, 1984). The *Ayurvedic Pharmacopoeia* (AP) lists *Lavandula officinalis,* along with a related Indian species, *L. burmani,* and specifically indicates its use for depressive states associated with digestive dysfunction. The AP reports its actions as carminative, antispasmodic, antidepressant, sedative, and antirheumatic; oil is a rubefacient (Karnick, 1994).

In Germany, lavender is licensed as a standard medicinal tea for sleep disorders and nervous stomach.Lavender flower and extract are also used in sedative and cholagogue medical preparations.In Germany and the United States, the aqueous infusion is used in balneotherapy and the essential oil is used in aromatherapy. Additionally, lavender flower is often used in the United States as a component of dietary supplement products, mainly in aqueous infusions. Lavender oil is also official in the *United States National Formulary* (Leung and Foster, 1996;NF, 1985; Wichtl and Bisset, 1994).

Modern clinical studies have investigated the neurophysical effects of its essential oil (Tasev et al, 1969), its choleretic and cholagogic actions (Gruncharov, 1973), its use as a bath additive for perineal

discomfort and repair following childbirth (Dale and Cornwell, 1994; Cornwell and Dale, 1995), and its use as an alternative to tamoxifen (Ziegler, 1996).

The approved modern therapeutic applications for lavender are supportable based on its use in well established systems of traditional medicine, on phytochemical investigations, and on its documented pharmacological actions reported in *in vitro* studies and *in vivo* experiments in animals.

German pharmacopeial grade lavender flower must contain not less than 1.3% volatile oil and pass a botanical identity test determined by thin-layer chromatography (TLC). French pharmacopeial grade lavender flower must contain not less than 0.8% volatile oil. German pharmacopeial grade lavender oil must contain not less than35.0% ester, calculated as linalyl acetate, and must also pass a number of purity tests including detection of foreign esters. French pharmacopeial grade lavender oil must contain 2538% linalool, 2545% linalyl acetate, 0.10.5% limonene, 0.31.5% 1,8-cineole, 0.20.5% camphor, and 0.31.0% *a*-terpineol (DAB 1997; DAC, 1986; Ph.Fr.X., 1990; Wichtl and Bisset, 1994).

Description

Lavender flower consists of the dried flower of *Lavandula angustifolia* Miller [Fam. Lamiaceae], gathered shortly before fully unfolding, and its preparations in effective dosage. The preparation contains at least 1.5% (v/w) essential oil with linalyl acetate, linalool, camphor, *b*-ocimene, and 1,8-cineole as its main components. Furthermore, the preparation contains about 12% tannins unique to the Lamiaceae.

Note: In U.S. commerce, lavandin (L. xintermedia) is often interchanged with L. angustifolia (Tucker, 1999). However, the official species approved for medicinal use by the Commission E is L. angustifolia.

Chemistry and Pharmacology

Lavender flower contains 1.53% volatile oil, of which 2555% is linalyl acetate, 2038% linalool, 410% cis-*b*-ocimene, 26% trans-*b*-ocimene, 26% 1-terpinen-4-ol, <2% 3-octanone, 0.31.5% 1,8-cineole, 0.31% *a*-terpineol, 0.20.5% camphor, and 0.10.5% limonene; tannins (510%); coumarins; flavonoids (luteolin); phytosterols; and triterpenes (Bruneton, 1995; Leung and Foster, 1996; Wichtl and Bisset, 1994).

The Commission E reported sedative and antiflatulent activity.

Lavender oil exhibited central nervous system-depressive activities on experimental animals (Leung and Foster, 1996).

Uses

The Commission E approved the internal use of lavender for restlessness or insomnia and nervous stomach irritations, Roehmheld's syndrome, meteorism, and nervous intestinal discomfort. For balneotherapy: Treatment of functional circulatory disorders.

The German Standard License for lavender tea lists it for restlessness, sleeplessness, lack of appetite, nervous irritable stomach, meteorism, and nervous disorders of the intestines (Wichtl and Bisset, 1994). Lavender preparations are traditionally used to treat symptoms of neurotonic disorders, especially minor sleeplessness (Bruneton, 1995).

Contraindications

None known.

Interactions with Other Drugs

None known.

Side Effects

None known.

Use During Pregnancy and Lactation

No restrictions known.

Dosage and Administration

Unless otherwise prescribed: Tea extract, and bath additive.

Internal:

Infusion: 1-2 teaspoons (approximately 0.8-1.6 g) in 150 ml water (Note: 1 teaspoon flower = 0.8 g).

Essential oil: 1-4 drops (approximately 20-80 mg), e.g., on a sugar cube.

Note: Combinations with other sedative or carminative herbs may be beneficial.

External:

Bath additive: 20-100 g for a 20 liter bath.

References

- Bown, D. 1995. *Encyclopedia of Herbs and Their Uses*. New York: DK Publishing, Inc. 301302.
- Bruneton, J. 1995. *Pharmacognosy, Phytochemistry, Medicinal Plants.* Paris: Lavoisier Publishing.
- Clifford, T. 1984. *Tibetan Buddhist Medicine and Psychiatry.* York Beach, ME: Samuel Weiser, Inc. 171186.
- Cornwell, S. and A. Dale. 1995. Lavender oil and perineal repair. *Mod Midwife* 5(3):3133.
- Dale, A. and S. Cornwell. 1994. The role of lavender oil in relieving perineal discomfort following childbirth: a blind randomized clinical trial. *J Adv Nurs* 19(1):8996.
- *Deutsches Arzneibuch* (DAB 1997). 1997. Stuttgart: Deutscher Apotheker Verlag.
- *Deutscher Arzneimittel-Codex* (DAC). 1986. Stuttgart: Deutscher Apotheker Verlag.
- Grieve, M. 1979. *A Modern Herbal.* New York: Dover Publications, Inc.
- Gruncharov, V. 1973. [Clinico-experimental study on the choleretic and cholagogic action of Bulgarian lavender oil] [In Bulgarian]. *Vutr Boles* 12(3):9096.
- Karnick, C.R., 1994. *Pharmacopoeial Standards of Herbal Plants,* Vols. 12. Delhi: Sri Satguru Publications. Vol. 1:213214; Vol. 2:82.
- Leung, A.Y. and S. Foster. 1996. *Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics,* 2nd ed. New York: John Wiley & Sons, Inc.
- Nadkarni, K.M. 1976. *Indian Materia Medica.* Bombay: Popular Prakashan. 730.

- *National Formulary* (NF),16th ed. 1985. Washington, D.C.: American Pharmaceutical Association.
- *Pharmacope Franaise Xe dition* (Ph.Fr.X.). 19831990. Moulins-les-Metz: Maisonneuve S.A.
- Savinelli, A. 1993. *Plants of Power.* Taos, NM: Alfred Savinelli. 2629.
- Tasev, T., P. Toleva, V. Balabanova. 1969. Effet neuro-physique des huiles essentielles bulgares de rose, de lavande et de geranium [Neurophysical effect of Bulgarian essential oils from rose, lavender and geranium]. *Folia Med (Plovdiv)* 11(5):307317.
- Tucker, A. 1999. Personal communication to A. Goldberg. July 13.
- Wichtl, M. and N.G. Bisset (eds.). 1994. *Herbal Drugs and Phytopharmaceuticals.* Stuttgart: Medpharm Scientific Publishers.
- Ziegler, J. 1996. Raloxifene, retinoids, and lavender: 'me too' tamoxifen alternatives under study [news]. *J Natl Cancer Inst* 88(16):11001102.

Additional Resources

- Atanasova-Shopova, S. and K.S. Rusinov. 1970. [On certain central neurotropic effects of lavender essential oil]. *Izv Inst Fiziol Bulg Akad Nauk* 13:6976.
- Braun, R. et al. 1997. *Standardzulassungen f r FertigarzneimittelText and Kommentar.* Stuttgart: Deutscher Apotheker Verlag.
- *British Herbal Pharmacopoeia* (BHP).1983. Keighley, U.K.: British Herbal Medicine Association.
- Buchbauer, G., L. Jirovetz, W. Jager, H. Dietrich, C. Plank. 1991. Aromatherapy: evidence for sedative effects of the essential oil of lavender after inhalation*. ZNaturforsch* 46(1112):10671072.
- Delaveau, P., J. Guillemain, G. Narcisse, A. Rousseau. 1989. [Neuro-depressive properties of essential oil of lavender] [In French]. *C R Seances Soc Biol Fil* 183(4):342348.
- *Deutsches Arzneibuch* (DAB 1998). 1998. Stuttgart: Deutscher Apotheker Verlag.
- *Food Chemicals Codex,* 2nd ed.(FCC II).1972. Washington, D.C.: National Academy of Sciences.
- Frohlich, E. 1968. [Lavender oil, review of clinical, pharmacological and bacteriological studies. Contribution to clarification of the mechanism of action] [In German]. *Wien MedWochenschr* 118(15):345350.
- Guillemain, J., A. Rousseau, P. Delaveau. 1989. Effets neurodepresseurs de l'huile essentielle de *Lavandula angustifolia* Mill [Neurodepressive effects of the essential oil of *Lavandula angustifolia* Mill]. *Ann Pharm Fr* 47(6):337343.
- Hnsel, R., K. Keller, H. Rimpler, G. Schneider (eds.). 19921994. *Hagers Handbuch der Pharmazeutischen Praxis,* 5th ed. Vol. 46. Berlin-Heidelberg: Springer Verlag.
- Karrer, W. 1958. *Konstitution und Vorkommen der Organischen Pflanzenstoffe (exclusive Alkaloide).* Basel: Birkhuser Verlag.

- Kustrak, D. and J. Besic. 1975. Aetheroleum Lavandulae und Aetheroleum Lavandulae hybridae in Ph. Jug. III. [In German]. *Pharm Acta Helv* 50(11):373378.
- List, P.H. and L. Hrhammer (eds.). 19731979. *Hagers Handbuch der Pharmazeutischen Praxis,* Vols. 17. New York: Springer Verlag.
- McGuffin, M., C. Hobbs, R. Upton, A. Goldberg. 1997. American Herbal Product Association's *Botanical Safety Handbook.* Boca Raton: CRC Press.
- Reynolds, J.E.F. (ed.). 1982. *Martindale: The Extra Pharmacopoeia,* 28th ed. London: The Pharmaceutical Press.
- Steinegger, E. and R. Hnsel. 1992. *Pharmakognosie,* 5th ed. Berlin-Heidelberg: Springer Verlag.
- Wichtl, M. (ed.). 1997. *Teedrogen,* 4th ed. Stuttgart: Wissenschaftliche Verlagsgesellschaft.

- This material was adapted from *The Complete German Commission E MonographsTherapeutic Guide to Herbal Medicines*. M. Blumenthal, W.R. Busse, A. Goldberg, J. Gruenwald, T. Hall, C.W. Riggins, R.S. Rister (eds.) S. Klein and R.S. Rister (trans.). 1998. Austin: American Botanical Council; Boston: Integrative Medicine Communications.
- 1) The Overview section is new information.
- 2) Description, Chemistry and Pharmacology, Uses, Contraindications, Side Effects, Interactions with Other Drugs, and Dosage sections have been drawn from the original work. Additional information has been added in some or all of these sections, as noted with references.
- 3) The dosage for equivalent preparations (tea infusion, fluidextract, and tincture) have been provided based on the following example:
    - Unless otherwise prescribed: 2 g per day of [powdered, crushed, cut or whole] [plant part]
    - Infusion: 2 g in 150 ml of water
    - Fluidextract 1:1 (g/ml): 2 ml
    - Tincture 1:5 (g/ml): 10 ml
- 4) The References and Additional Resources sections are new sections. Additional Resources are not cited in the monograph but are included for research purposes.
- This monograph, published by the Commission E in 1994, was modified based on new scientific research. It contains more extensive pharmacological and therapeutic information taken directly from the Commission E.