

THE ROLE OF WHITE HOREHOUND (*Marrubium
vulgare* L.) IN MODERN MEDICINE AND
TRADITIONAL FOLK HEALING

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Abstract: *White horehound (Marrubium vulgare L., Lamiaceae), as a medicinal plant, has long been widely used in folk medicine mainly for cough, to promote expectoration, for respiratory discomfort associated with colds, as well as for mild dyspepsia (abdominal bloating, meteorism/flatulence) and temporary loss of appetite. The Committee on Herbal Medicinal Products (HMPC) under the European Medicines Agency (EMA) notes that preparations made from the aerial parts of white horehound (Marrubii herba) may be used traditionally in adults and adolescents over 12 years of age: as an expectorant for cough associated with the common cold, for symptomatic relief of mild dyspeptic complaints, and for temporary loss of appetite. This article—based on scientific sources—describes the phytochemical composition of white horehound (especially marrubiin), possible mechanisms of action, the level of clinical evidence, preparation forms used in folk medicine, dosing approaches, and key safety considerations and restrictions.*

Keywords: *white horehound, Marrubium vulgare, Marrubii herba, cough, expectorant, dyspepsia, phytotherapy, HMPC/EMA, marrubiin.*

White horehound (*Marrubium vulgare* L.) is a plant belonging to the mint family (Lamiaceae). It grows in many regions of the world and has been used in phytotherapy since ancient times due to its medicinal properties. As

medicinal raw material, the above-ground parts of the plant (stems, leaves, flowering tops) are mainly collected, dried, and used in crushed form to prepare tea (infusion), in powder form, as well as in various dosage forms obtained by pressing the juice or producing a liquid extract. In the EMA public assessment (HMPC), these exact preparation methods—comminuting, powdering, liquid extract, and expressed juice—are indicated as the main technological approaches for white horehound preparations.

In folk medicine, the role of white horehound is especially evident in complaints related to the respiratory tract. In practical use, it is taken as a tea or as a mixture with honey to ‘soften’ cough, soothe the throat, relieve hoarseness, and facilitate the expulsion of mucus during colds. In many regions, sweet syrup prepared from white horehound and ‘horehound candy’ are also traditionally used for cough and wheezing. The historical continuity of such use is considered important in modern regulatory assessments as well.

In modern medicine, one of the most important sources on white horehound is the documentation of the Committee on Herbal Medicinal Products (HMPC) under the European Medicines Agency (EMA). In its assessment on ‘White horehound’, the HMPC states that these herbal preparations may be used traditionally in three main directions: (1) as an expectorant for cough associated with the common cold; (2) for symptomatic relief of mild dyspepsia, especially abdominal bloating and meteorism/flatulence; (3) for temporary loss of appetite. These conclusions are based on ‘traditional use’, meaning long-standing experience of use: even if evidence from clinical trials is insufficient, efficacy is considered plausible and historical data suggest safe use for at least 30 years (including at least 15 years within the European Union).

To understand the pharmacological basis of white horehound, its phytochemical composition is important. Scientific reviews emphasize that the plant may contain labdane-type diterpenes—especially marrubiin—as well as

phenolic compounds, flavonoids, and certain volatile components. Marrubiin is indicated as one of the characteristic compounds of the genus *Marrubium*. Such a phytochemical profile is associated with possible antioxidant properties, effects on inflammatory processes, and potential influences on mucosal secretions.

The HMPC public assessment also provides a mechanistic explanation: it notes that bitter substances and essential oils in white horehound may stimulate appetite and promote secretions from the respiratory tract mucosa. In practical terms, this suggests that white horehound may facilitate expectoration during mild colds accompanied by cough, and may reflexively stimulate digestion through its bitter taste. At the same time, these mechanisms are considered ‘possible’ and do not replace clinical efficacy data.

The HMPC monograph also provides clear dosage ranges and directions for use for white horehound preparations. As herbal tea: 1–2 g of comminuted herbal material is infused in 250 ml of boiling water and taken three times daily (total daily dose 3–6 g). As powder: 225–450 mg three times daily (total daily dose 675–1350 mg). As expressed juice: 10–20 ml three times daily (total daily dose 30–60 ml). As liquid extract: 1.5–4 ml three times daily. For indications (2) and (3) (dyspepsia and loss of appetite), it is recommended to take the product half an hour before meals. These data show that standardized and controlled use is important compared with the folk habit of ‘drinking a lot’.

Regarding safety and precautions, the HMPC monograph lists several important restrictions. First, the use of white horehound preparations is not recommended in children under 12 years of age due to insufficient data for this age group. It is also not recommended during pregnancy and breastfeeding because safety has not been established. Contraindications include allergy to plants of the *Lamiaceae* family, bile duct obstruction, cholangitis, liver diseases, and intestinal obstruction (ileus). In addition, patients with active

peptic ulcer disease, gallstones, or other biliary disorders should consult a physician before using white horehound.

The HMPC also provides specific recommendations regarding symptom duration: if a cold-related cough persists for more than 1 week while using white horehound, a doctor or qualified healthcare professional should be consulted; if dyspepsia or loss of appetite complaints last longer than 2 weeks, consultation with a specialist is also recommended. These requirements clearly define the place of white horehound: it is not a stand-alone treatment for severe or prolonged illness, but may serve as supportive help for mild and temporary symptoms.

An important difference between folk medicine and modern medicine is that in folk practice, white horehound is often mentioned for a broader range of issues—cough, ‘catching cold’, digestive heaviness, and sometimes even complaints related to blood pressure or blood sugar. Scientific reviews discuss various biological activities of white horehound (antioxidant, anti-inflammatory, and potential metabolic effects) at the preclinical level. However, to enter clinical practice, high-quality, well-designed human studies are required. Therefore, in healthcare systems, it is considered more appropriate to use white horehound within the traditional indications defined by the HMPC and with strict adherence to precautions.

In general, the role of white horehound in modern medicine and folk healing does not contradict one another; rather, with the correct approach, they complement each other. Folk medicine preserves many years of practical experience with white horehound, while modern medicine organizes this experience through regulatory assessment, safety restrictions, dosing guidance, and clinical reasoning. In the future, an increase in research aimed at clarifying active compounds, standardized extracts, and clinical effectiveness may further strengthen the scientific basis for its practical use.

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